



# Ethiopian TVET-System



## **IT SUPPORT SERVICE LEVEL II**

Based on May 2011 Occupational Standards

October, 2019



**Module Title: Operating Database Application**

**TTLM Code: ICT ITS2TTLM 1019v1**

**This module includes the following Learning Guides**

**LG10: Create Database Objects**

**LG Code: EIS ITS2 M04 1019 LO1-LG10**

**LG11: Customize basic settings**

**LG Code: EIS ITS2 M04 1019 LO2-LG11**

**LG12: Create database Report**

**LG Code: EIS ITS2 M04 1019 LO3-LG12**

**LG13: Create database Forms**

**LG Code: EIS ITS2 M04 1019 LO4-LG13**

**LG14: Create database Queries**

**LG Code: EIS ITS2 M04 1019 LO5-LG14**

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## Instruction Sheet

## LG10: Create Database Objects

This learning guide was developed to provide you the necessary information regarding the following

- Basic Design Principles
  - Opening And Designing Database Application
  - Database Object
  - Creating Database Object
  - Modifying Database Object
  - Creating Relationship
  - Adding, Modifying And Deleting Records
  - Saving And Compiling Database Objects
- This guide will also assist you & you will be able to
- Know Basic Design Principles
  - Opening And Designing Database Application
  - Database Object
  - Modify Database Object
  - Create Relationship
  - Add, Modify And Delete Records
  - Save And Compile Database Objects

### Learning Instructions

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 34.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask your teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” in page 7.
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.

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8. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
9. Accomplish the “Self-check 2” in page 10.
10. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
11. Read the information written in the “Information Sheets 3 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.  
Accomplish the “Self-check 3” in page 12.
12. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
13. Read the information written in the “Information Sheets 4 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
14. Accomplish the “Self-check 4” in page 15.
15. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 4).
16. Read the information written in the “Information Sheets 5 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
17. . Accomplish the “Self-check 5” in page 17.
18. Read the information written in the “Information Sheets 6 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
19. Accomplish the “Self-check 6” in page 26.
20. Read the information written in the “Information Sheets 7 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
21. Accomplish the “Self-check 7” in page 29.  
Read the information written in the “Information Sheets 8. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding
22. Accomplish the “Self-check 8” in page 31.
23. Read the “Operation Sheet 1” in page 32 and try to understand the procedures discussed.
24. If you earned a satisfactory evaluation proceed to “Operation Sheet 2” in page 33.  
However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
25. Read the “Operation Sheet 2” and try to understand the procedures discussed.

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26. If you earned a satisfactory evaluation proceed to “Operation Sheet 3” in page 37. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
27. Read the “Operation Sheet 3” and try to understand the procedures discussed.
28. If you earned a satisfactory evaluation proceed to “Operation Sheet 4” in page 38. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
29. Read the “Operation Sheet 4” and try to understand the procedures discussed
30. If you earned a satisfactory evaluation proceed to “Operation Sheet 5” in page 50. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
31. Read the “Operation Sheet 5” and try to understand the procedures discussed
32. If you earned a satisfactory evaluation proceed to “Operation Sheet 6” in page 52. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
33. Read the “Operation Sheet 6” and try to understand the procedures discussed
34. Do the “LAP test” in page 53 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advise you on additional work.

Information Sheet-1

Database Design Principles

The Database Design Principles

. Usability: Any information which we are storing in any organization should be meaningful for that organization. If we are storing those factors which are actually not fit with organization’s requirement then this is just waste of resources.

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**Extensibility:** As we know that everyday new business requirements come up and every day there is a need to change or enhance information system to capture new requirements. So information design should be extensible so that it can adopt new requirements without much efforts or without major breaking changes.

**Data Integrity:** Now at this point we understand that information is very much important for any organization. Based on the historic information, every organization makes different strategies, decisions for growth. One small mistake in data can lead to major issues with any organization's key decision and hence a big risk for growth.

**Entity Integrity:** Involves the structure (primary key and its attributes) of the entity. If the primary key is unique and all attributes are scalar and fully dependent on the primary key, then the integrity of the entity is good. In the physical schema, the table's primary key enforces entity integrity.

**Domain Integrity:** It defines that data should be of correct type and we should handle optional data in correct way. We should apply Nullability to those attributes which are optional for organization. We can define proper data types for different attributes based on organization's requirement so that correct format data should present in system.

**Referential Integrity:** This defines if any entity is dependent on another one then parent entity should be there in the system and should be uniquely identifiable. We can do this by implementing foreign keys.

**User defined integrity:** There are few business rules which we cannot validate just by primary keys, foreign keys etc. There has to be some mechanism so that we can validate complex rules for integrity. We can implement these rules in following ways:

**Performance:** As we know that information should be readily available as requested. Performance of the system should be up to the mark. As data is increasing day by day so at some time there will be impact on performance if database design is poor or we'll not take any actions to improve performance.

**Availability:** The availability of information refers to the information's accessibility when required regarding uptime, locations, and the availability of the data for future analysis. Disaster recovery, redundancy, archiving, and network delivery all affect availability.

**Security:** For any organizational asset, the level of security must be secured depending on its value and sensitivity. Sometime organizations has suffered a lot because of data leaks which results in loss of faith and tends to business risk. So security is one of the most important aspect of good database design.

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Self-Check -1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

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1. Which of the following is the basic principle of a database ?(2)
  - A. Data Integrity
  - B. Extensibility
  - C. Usability
  - D. All
  
2. -----I Involves the structure (primary key and its attributes) of the entity (2)
  - A. Data integrity
  - B. Entity integrity
  - C. A&B
  - D. None
  
3. Which integrity defines any entity is dependent on another (2)
  - A. Data integrity
  - B. Referential
  - C. Entity
  - D. All of the above

**Note: Satisfactory rating - 3 and 5 points**

**Unsatisfactory - below 3 and 5 points**

You can ask you teacher for the copy of the correct answers.

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Information Sheet 2	Opening& Designing Database Application
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- Introduction to Database
  - A database can best be described as a way of storing large amounts of information.
  - The data can be retrieved and we can even ask questions of the data and get answers.

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- ✓ For example: You may want to know how many Students enrolled in every occupational level.
- MS Access (MS Office Access 2007) is a database management tool that enables one to store relevant data.
- This also has the capabilities to retrieve, sort, summarize report and result immediately and effectively.
- It can combine data from various files (*tables*) through creating relationships and can make data entry more efficient and accurate through the use of *forms*.
- Microsoft Access (MS Access) enables to manage all important information from a single database file.
- Within the file, can use the different objects/items:
- **The design process**
  - ✓ Determine the purpose of your database. This helps prepare you for the remaining steps.
  - ✓ Find and organize the information required. Gather all of the types of information you might want to record in the database, such as product name and order number.
  - ✓ Divide the information into tables. Divide your information items into major entities or subjects, such as Products or Orders. Each subject then becomes a table.
  - ✓ Turn information items into columns . Decide what information you want to store in each table. Each item becomes a field, and is displayed as a column in the table. For example, an Employees table might include fields such as Last Name and Hire Date.
  - ✓ Specify primary keys. Choose each table's primary key. The primary key is a column that is used to uniquely identify each row. An example might be Product ID or Order ID.
  - ✓ Set up the table relationships. Look at each table and decide how the data in one table is related to the data in other tables. Add fields to tables or create new tables to clarify the relationships, as necessary.
  - ✓ Refine your design. Analyze your design for errors. Create the tables and add a few records of sample data. See if you can get the results you want from your tables. Make adjustments to the design, as needed.

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- ✓ Apply the normalization rules. Apply the data normalization rules to see if your tables are structured correctly. Make adjustments to the tables, as needed.

<b>Self-Check -2</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Which can be described as a way of storing large amounts of information. (2)
  - A. Application
  - B. Database
  - C. Excel
  - D. All

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2.----- is a database management tool that enables one to store relevant data.( 2)

- A. Data integrity
- B. **MS-Access**
- C. A&B
- D. None

3. ----- is a column that is used to uniquely identify each row (2)

- A. Forigen key
- B. **Primary key**
- C. A&B
- D. All of the above

**Note: Satisfactory rating - 3 and 5 points**

**Unsatisfactory - below 3 and 5 points**

You can ask you teacher for the copy of the correct answers.

### Answer Sheet

Score = _____
Rating: _____

<b>Information Sheet:3</b>	<b>Database OBJECTS</b>
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### What does *Database Object* mean?

A database object in a relational database is a data structure used to either store or reference data. The most common object that people interact with is the table. Other objects are indexes, stored procedures, sequences, views and many more.

When a database object is created, a new object type cannot be created because all the various object types created are restricted by the very nature, or source code, of the relational database model being used, such as Oracle, SQL Server or Access. What is being created is instances of the objects, such as a new table, an index on that table or a view on the same table.

### The different type of Database objects

. Tables: - Recently, we define it as a **file** but technically, it was defined as a **container** or a **worksheet-like container** where the collection of data has been stored.

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**Tables** - A table is a collection of data about a specific topic, such as products or suppliers

- Basic Component of a Table:
  - ✓ Meta Data – Database Structure
  - ✓ Field – Column – Data
  - ✓ Fieldname
  - ✓ Record - Row - Information

**Metadata** – is a “**data about data**” or synonymously called table structure that defines what type of data your data is?

**Queries** –Queries used to view, change, and analyze data in different ways. You can also use them as a source of records for forms, reports.

**Forms** - A form is a type of a database object that is primarily used to enter or display data in a database. You can also use a form as a switchboard that opens other forms and reports in the database, or as a custom dialog box that accepts user input and carries out an action based on the input.

**Reports** - A report is an effective way to present your data in a printed format. Because you have control over the size and appearance of everything on a report,

<b>Self-Check -3</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page

1. -----provide a means of organizing and summarizing data and used to present your data in a printed format.
  - A. Report
  - B. Form
  - C. Query
  - D. Module
2. ----- used to view, change, and analyze data in different ways a.( 2)
  - A. Queries
  - B. MS-Access
  - C. A&B

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3. ----- is a type of a database object that is primarily used to enter or display data
- A. Form
  - B. Queries
  - C. Table

**Note: Satisfactory rating - 3 and 5 points**

**Unsatisfactory - below 3 and 5 points**

You can ask you teacher for the copy of the correct answers.

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

<b>Information Sheet-4</b>	<b>Creating Data base Objects</b>
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Data Base Tables: - Recently, we define it as a **file** but technically, it was defined as a **container** or a **worksheet-like container** where the collection of data has been stored.

- Before we proceed to creating your first table, we need to know first the basic components of a table:
  - ✓ Meta Data – Database Structure
  - ✓ Field – Column – Data
  - ✓ Fieldname
  - ✓ Record - Row - Information

### Data types in Microsoft Access

- The different kinds of MsAccess2007 data types are:

- ✓ **Text:** allows for the storage of any kind of data, characters, digits and special characters.

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- ✓ **Memo:** is used for texts of more than 255 characters such as comments or explanations.
- ✓ **Number:** for numerical data used in mathematical calculations.
- ✓ **Date/Time:** for the introduction of date and time from the year 100 to 9999.
- ✓ **Currency:** For monetary/economic values and numerical data used in mathematical calculations in which the data involved contains between one and four decimals.
- ✓ **Autonumber:** a unique sequential number (increasing one by one), or a number that Access assigns every time it adds a new record to a table.
- ✓ **Yes/No:** Yes and No values, and fields that contain one of two values (Yes/No, True/False or Activated/Deactivated).
- ✓ **OLE Object:** an object such as a Microsoft Excel spreadsheet, a Microsoft Word document, graphics, images, sounds, or other binaries.
  - Used to embed or link to documents from other programs like Excel and Word.
- ✓ **Hyperlink:** text or a combination of text and numbers stored as text and used as a hyperlink address.
- ✓ **Attachment:** Used to store files in an Access database.
  - The attachment data type lets you store one or more files per record.
- ✓ **Lookup wizard...:** A lookup wizard field lets the user choose from a predefined set of options, like a "male" or "female" selection or a "country" selection.

### **Designing a table involves:**

- Entering unique names of the columns of the table in the “**field name**” column of the design view. N
- Names of fields and objects in Microsoft Access can be up to **64 characters long**.
- They **can include** any combination of letters, numbers, spaces, and special characters except a period (.), an exclamation point (!), an accent grave (`), and brackets ([ ]). They also can't begin with leading spaces.

### **Normalization**

- Normalization is the process of efficiently organizing data in a database.
- There are two goals of the normalization process:
  1. Eliminating redundant data (for example, storing the same data in more than one table) and
  2. Ensuring data dependencies make sense (only storing related data in a table).

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- Both of these are valuable goals as they reduce the amount of space a database consumes and ensure that data is logically stored.

<b>Self-Check -4</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page

1. -----is **a container** or a **worksheet-like container** where the collection of data has been stored .(2)  
A. Data base tables  
B. Form  
C. Query  
D. Module
- 2.----- Which one of the following is the component of table.( 2)  
A. Mete data  
B. Field  
C. Records  
D. All of the above
- 3.--- --allows for the storage of any kind of data, characters, digits and special characters.(2)  
A. Memos

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- B. Texts
- C. Number
- D. All of the above

**Note: Satisfactory rating - 3 and 5 points      Unsatisfactory - below 3 and 5 points**

You can ask you teacher for the copy of the correct answers.

### Answer Sheet

Score = _____
Rating: _____

<b>Information Sheet-5</b>	<b>Modifying Database Object</b>
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Modify your new database created from a template

Every template that is included with Access is a complete tracking application that contains predefined tables, forms, reports, queries, macros, and relationships. These templates are designed to be immediately useful out-of-the-box, so that you can create a new database that is based on a template and get up and running quickly. However, there might be times when you want to modify your new database — for example, to add or rename a field, or change a report. You can easily add a field to a table in Datasheet view. However, you can also add a field to a table in Design view. To learn more about adding a field to a table in Datasheet view, see the article [Add or delete a column in a datasheet](#). When you add a new field to a table, the field is not automatically added to your existing forms and reports. You must manually add the field to those forms and reports in order for it to appear in them.

If possible, you should avoid deleting a field from a database that was generated from one of the supplied templates — it is likely that the field is employed in other database objects, such as forms and reports. Thus, deleting the field will create consequences when you attempt to use the other database objects that employ the field — the database objects will not work as expected. You will have to remove any references to the field from all of the objects that employ it in order for those other objects to work correctly.

When you decide that you must delete a field from a database that was generated from a template, you can do so in either Datasheet view or Design view. Remember that if other database objects reference the deleted field, you must modify those other objects to remove the reference. For example, if a report includes a control that is bound to the deleted field and you run the report, an error message appears, because Access cannot find the data for the field.

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Before you can delete a field, you must ensure that it doesn't participate in any table relationships. If you try to delete a field for which relationships exist, Access warns you that you must first delete the relationships.

Self-Check -5	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

- 1 Which one of the following is a database object?(2)
  - A. Form
  - B. Table
  - C. Query
  - D. All of the above
- 2 Before you can delete a field, you must ensure that it doesn't participate in any Table relationships (2)
  - A. True
  - B. False

**Note: Satisfactory rating - 2 and 4points      Unsatisfactory - below 2 and 1 points**

You can ask you teacher for the copy of the correct answers.

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## Answer Sheet

Score = _____
Rating: _____

<b>Information Sheet-6</b>	<b>Create Data base Relation ship</b>
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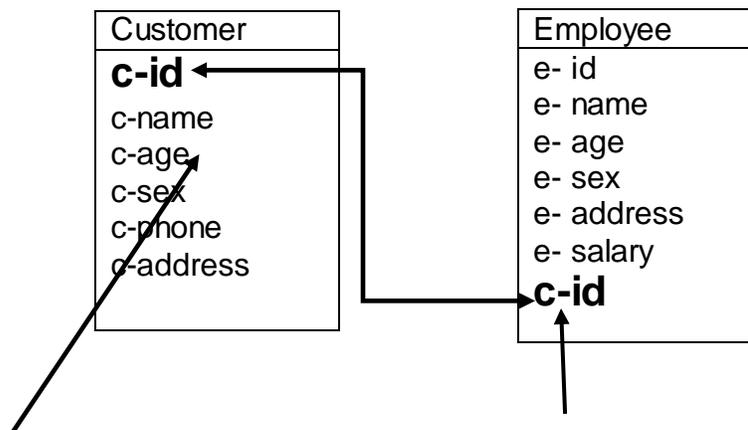
- Table Relationship
  - Newcomers to the world of databases often have a hard time seeing the differences between a database and a spreadsheet.
  - They see tables of data and recognize that databases allow you to organize and query data in new ways, but fail to grasp the significance of the **relationship** that gives relational database technology & its name.
  - Relationships allow you to describe the connections between different database tables in powerful ways.
  - Once you've described the relationships between your tables, you can later leverage that information to perform powerful cross-table queries, known as joins.
  - A relationship is a logical connection between two tables.
  - Keys are fields that are part of a table relationship. There are two kinds of keys
- **Primary key**
  - A table can have only one primary key.
  - A primary key is used to identify each record that you store in the table.
  - It will not allow a duplication of the Primary Key thus make it unique.
  - Primary Key is the unique identification of one record. There is a uniquely identification number, such as
    - ID number
    - A serial number
    - A code that serves as a primary key

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- **Foreign key**

- A table can also have one or more foreign key.
- A foreign key contains values that correspond to values in the primary key of another table
- You use table relationship to combine data from related table



### Primary key

### Foreign key

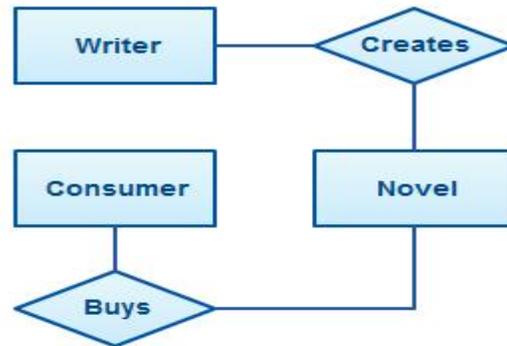
- Types of Database Relationships
  - ✓ One-to-one relationships: occur when each entry in the first table has one, and only one, counterpart in the second table.
  - ✓ **One-to-many relationships:** Is the most common type of database relationship. .
  - ✓ **Many-to-many relationships:** occur when each record in the first table corresponds to one or more records in the second table and each record in the second table corresponds to one or more records in the first table.

### ER Diagrams (Entity Relationship Diagrams)

- An Entity Relationship Diagram (ERD) is a visual representation of different data using conventions that describe how these data are related to each other.

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- For example, the elements writer, novel, and consumer may be described using ER diagrams this way:

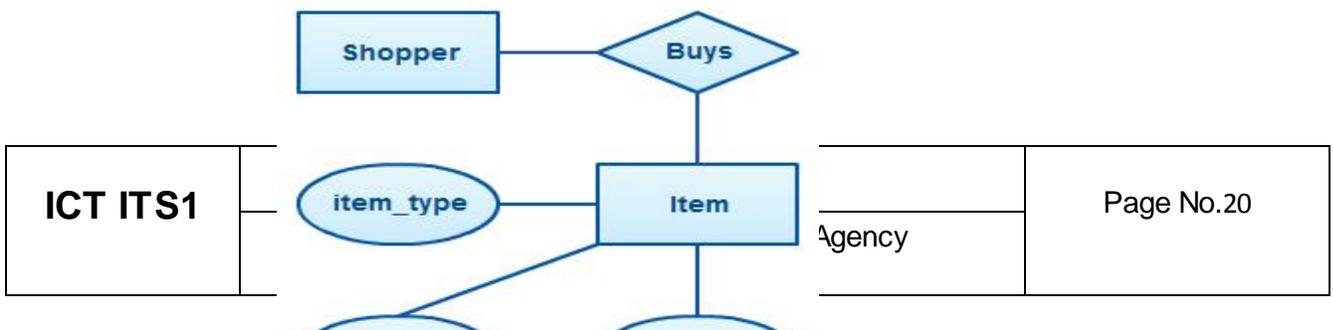


### *ER diagram with basic objects*

- In the diagram, the elements inside rectangles are called entities while the items inside diamonds denote the relationships between entities.
  - This ER diagram tutorial for beginners covers most things related to ER diagram, for quick navigation use the links below.
    - ✓ ER Diagram Usage
    - ✓ ER Diagrams Symbols and Notations
    - ✓ How to Draw ER Diagrams
    - ✓ ER Diagram Templates
    - ✓ Benefits of ER Diagrams

### ER Diagrams Usage

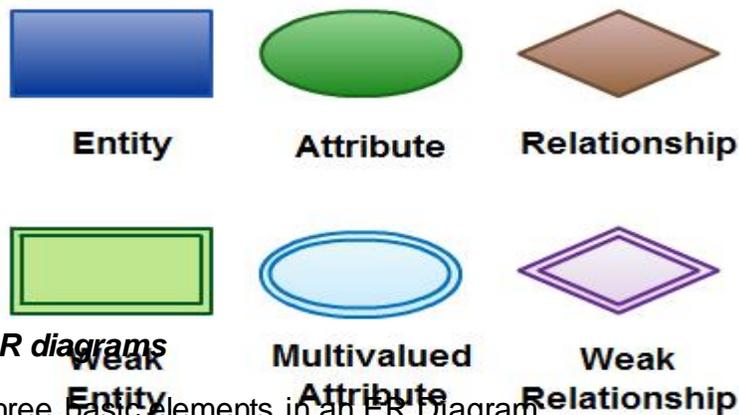
- ER diagrams are most often associated with complex databases that are used in software engineering and IT networks.
- In particular, ER diagrams are frequently used during the design stage of a development process in order to identify different system elements and their relationships with each other.
- For example, inventory software used in a retail shop will have a database that monitors elements such as purchases, item, item type, item source and item price. Rendering this information through an ER diagram would be something like this:



### ER diagram example with entity having attributes

In the diagram, the information inside the oval shapes is attributes of a particular entity.

#### 1.1.1 ER Diagram Symbols and Notations



#### Elements in ER diagrams

➤ There are three basic elements in an ER Diagram.

1. Entity
2. Attribute
3. Relationship

➤ There are more elements which are based on the main elements.

- Weak entity
- Multivalve attribute
- Derived attribute
- Weak relationship and
- Recursive relationship.

➤ Cardinality and ordinality are two other notations used in ER diagrams to further define relationships.

#### Entity

- An entity can be a person, place, event, or object that is relevant to a given system.
- For example, a school system may include students, teachers, major courses, subjects, fees, and other items.
- Entities are represented in ER diagrams by a rectangle and named using singular nouns.

## Weak Entity

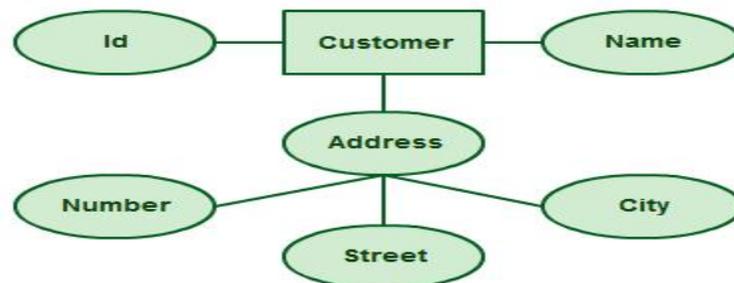
- A weak entity is an entity that depends on the existence of another entity.
- In more technical terms it can be defined as an entity that cannot be identified by its own attributes.
- It uses a foreign key combined with its attributes to form the primary key.
- An entity like order item is a good example for this. The order item will be meaningless without an order so it depends on the existence of order.



*Weak Entity Example in ER diagrams*

## Attribute

- An attribute is a property, trait, or characteristic of an entity, relationship, or another attribute.
- For example, the attribute Inventory Item Name is an attribute of the entity Inventory Item. An entity can have as many attributes as necessary.
- Meanwhile, attributes can also have their own specific attributes.
- For example, the attribute “customer address” can have the attributes number, street, city, and state.
- These are called composite attributes.
- Note that some top level ER diagrams do not show attributes for the sake of simplicity.
- In those that do, however, attributes are represented by oval shapes.



*Attributes in ER diagrams, note that an attribute can have its own attributes (composite attribute)*

## Multivalued Attribute

- If an attribute can have more than one value it is called a multivalued attribute.
- It is important to note that this is different to an attribute having its own attributes. For example a teacher entity can have multiple subject values.



*Example of a multivalued attribute*

### Derived Attribute

- An attribute based on another attribute.
- This is found rarely in ER diagrams.
- For example for a circle the area can be derived from the radius.



*Derived Attribute in ER diagrams*

### Relationship

- A relationship describes how entities interact.
- For example, the entity "carpenter" may be related to the entity "table" by the relationship "builds" or "makes".
- Relationships are represented by diamond shapes and are labeled using verbs.



*Using Relationships in Entity Relationship Diagrams*

### Recursive Relationship

- If the same entity participates more than once in a relationship it is known as a recursive relationship.
- In the below example an employee can be a supervisor and be supervised, so there is a recursive relationship.



*Example of a recursive relationship in ER diagrams*

## Cardinality and Ordinality

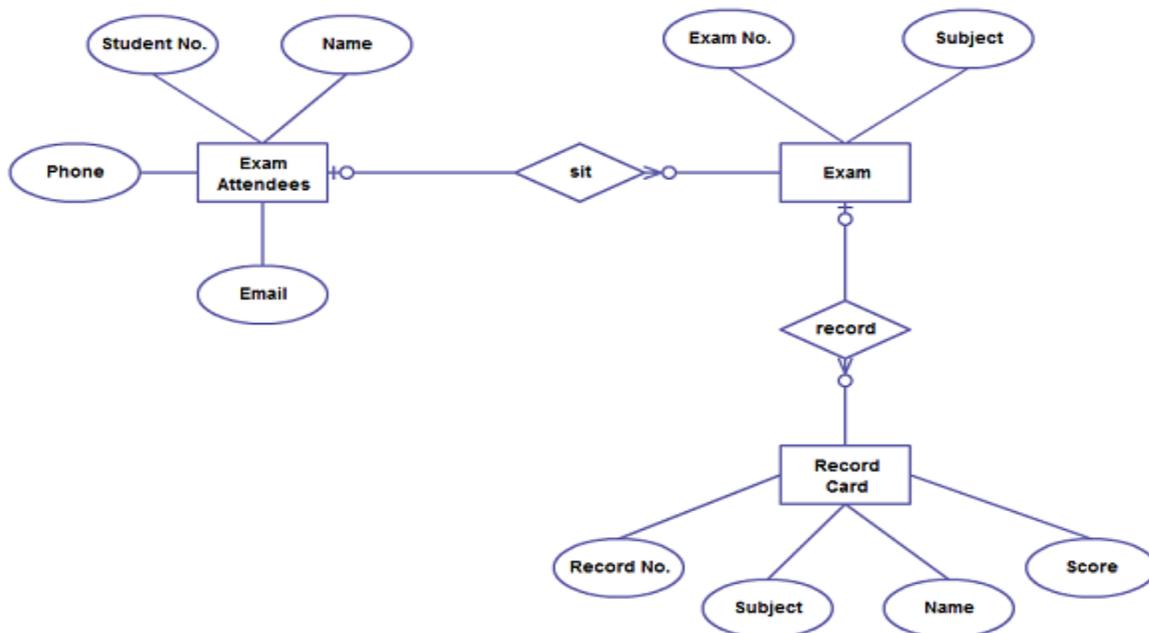
- These two further defines relationships between entities by placing the relationship in the context of numbers.
- In an email system, for example, one account can have multiple contacts.
- The relationship in this case follows a “one to many” model.
- There are number of notations used to present cardinality in ER diagrams.
- Chen, UML, Crow’s foot, Bachman are some of the popular notations. [Creately](#) supports Chen, UML and Crow’s foot notations. The following example uses UML to show cardinality.



*Cardinality in ER diagrams using UML notation*

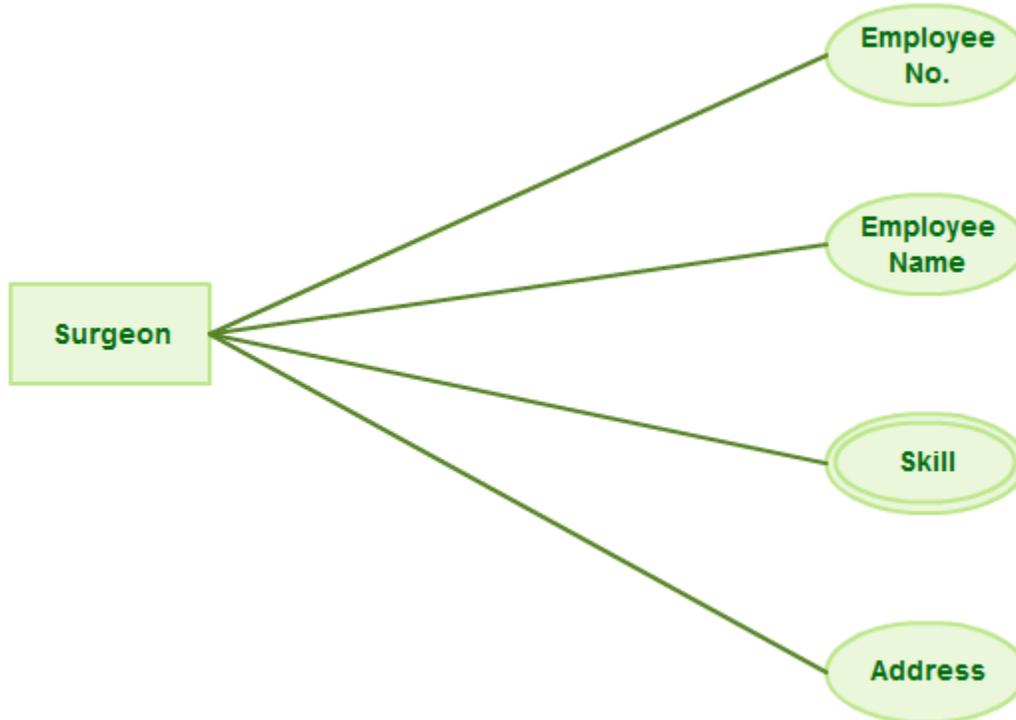
### 1.1.2 ER Diagram Templates

- Below are some ER diagram templates so you can get started quickly.
- Clicking on the image and in the new page that opens click the “Use as Template” button.
- For more templates check out [ER diagram templates](#) article.



*ER Diagram Template of exam database (Click on the image to use as template)*

➤ A basic ER diagram template for a quick start



***Basic ER Diagram template (Click to use as template)***

### 1.1.3 Benefits of ER diagrams

- ER diagrams constitute a very useful framework for creating and manipulating databases.
- First, ER diagrams are easy to understand and do not require a person to undergo extensive training to be able to work with it efficiently and accurately.
- This means that designers can use ER diagrams to easily communicate with developers, customers, and end users, regardless of their IT proficiency.
- Second, ER diagrams are readily translatable into relational tables which can be used to quickly build databases.
- In addition, ER diagrams can directly be used by database developers as the blueprint for implementing data in specific software applications.
- Lastly, ER diagrams may be applied in other contexts such as describing the different relationships and operations within an organization.

<b>Self-Check -6</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. The relation between course to student is
  - A. One - to – one
  - B. Many - to - one
  - C. One - to – many
  - D. Many - to – Many
2. Which one of the following is true about the primary key?
  - A. Should Not Null
  - B. It should be both Null and not Null
  - C. It should be Null
  - D. Cannot have character data type
3. ---describes how entities are related and it help to view information from two or more table at the same time.
  - A. Entity
  - B. Form
  - C. Table
  - D. Relationship

**Note: Satisfactory rating - 3 and 5 points      Unsatisfactory - below 3 and 5 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

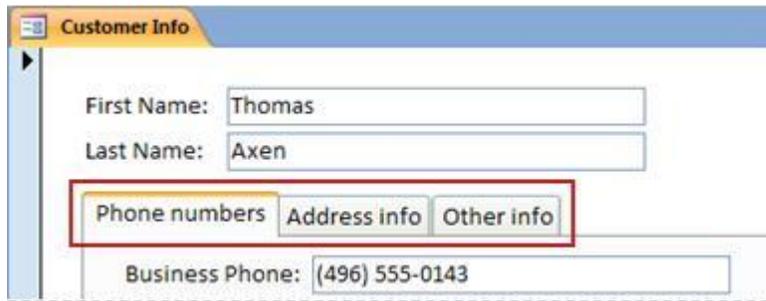
Score = _____
Rating: _____

<b>Information Sheet-7</b>	<b>Adding ,Modifying&amp; Deleting Records</b>
----------------------------	--

Ways to Add, Edit, and Delete records

There are several ways to update data in an Access database. You add a record to your database when you have a new item to track, such as a new contact to the Contacts table. When you add a new record, Access appends the record to the end of the table. You also change fields to stay up-to-date, such as a new address or last name. To maintain data integrity, the fields in an Access database are set to accept a specific type of data, such as text or numbers. If you don't enter the correct data type, Access displays an error message. Finally, you can delete a record when it is no longer relevant and to save space.

You use a form to manually update data. Data entry forms can provide an easier, faster, and more accurate way to enter data. Forms can contain any number of controls such as lists, text boxes, and buttons. In turn, each of the controls on the form either reads data from or writes data to an underlying table field.



Datasheets are grids of data that look like Excel worksheets. You can change data by working directly in Datasheet view. If you are familiar with Excel, datasheets should be relatively easy to understand. You can change data in tables, query result sets, and forms that display datasheets. Typically, you use datasheets when you need to see many records at once.

ID	First Name	Last Name	Field3	Add New Field
3	Kari	Hensien	10/9/2009	
*	(New)			

**Understanding data entry symbols**

The following table shows some of the record selector symbols you might see when updating data and what they mean.

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#### Symbol Meaning



This is the current record; the record has been saved as it appears. The current record is indicated by a change in color in the record selector.



You are editing this record; changes to the record aren't yet saved.



This record is locked by another user; you can't edit it.



This is a new record in which you can enter information.



This is the primary key field and contains a value that uniquely identifies the record.

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<b>Self-Check -7</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Describe the reason why we add, modify and delete data records (5)
2. Describe about data entry forms (5)

**Note: Satisfactory rating - 5 and 10 points**

**Unsatisfactory - below 5**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

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**Information Sheet 8**

Saving a database or an object in a different format:

Saving a database

Saving your work in Access is a little different from saving in most Office apps. Changes to data, the primary reason for saving your work in most apps, are automatically saved in In Access, instead of saving data changes, you save changes to the database design, or you save the whole database, data and all, with a new filename as a backup, or in a different format, such as an earlier Access file format, a database template, or a compiled database (a database where you can't change the design). You can also save individual database objects as new objects.

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**Self-Check -8**

**Written Test**

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

3. To retrieve Information Saving is important(3)

- A. True
- B. False

4. Saving your work in Access is a little different from saving in most Office apps.(3)

- A. False
- B. True

**Note: Satisfactory rating - 3 and 5 points      Unsatisfactory - below 3 and 5 points**

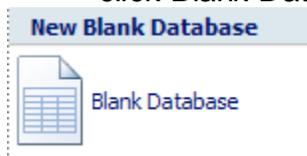
You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

- Steps to create Create a blank database  
On the Getting Started with Microsoft Office Access page, under New Blank Database, click Blank Database.



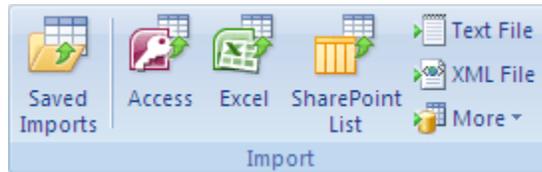
- ✓ In the Blank Database pane, type a file name in the File Name box. If you do not supply a file name extension, Access adds it for you. To change the location of the file from the default, click Browse for a location to put your database  (next to the File Name box), browse to the new location, and then click OK.
  - ✓ Click Create.
  - ✓ Access creates the database with an empty table named Table1, and then opens Table1 in Datasheet view. The cursor is placed in the first empty cell in the Add New Field column.
  - ✓ Begin typing to add data, or you can paste data from another source, as described in the section Copy data from another source into an Access table.
- 
- Steps to Open an existing Access database
    - ✓ Click the Microsoft Office Button ,
    - ✓ click Open. In the Open dialog box, browse to the database that you want to open.
    - ✓ Double-click the database to open it in the default mode specified in the Access Options dialog box or the mode that was set by an administrative policy.
    - ✓ Click Open to open the database for shared access in a multi-user environment so that you and other users can read and write to the database.
    - ✓ Click the arrow next to the Open button and then click Open Read-Only to open the database for read-only access so that you can view but not edit it. Other users can still read and write to the database.
    - ✓ Click the arrow next to the Open button
    - ✓ click Open Exclusive to open the database with exclusive access. When you have a database open with exclusive access, anyone else who tries to open the database receives a "file already in use" message.

## Operation Sheet-2

## Creating Database Objects (Tables )

- Steps to Create a new table in a new database
  - ✓ Click the **Microsoft Office Button** , and then click **New**.
  - ✓ In the **File Name** box, type a file name for the new database.
  - ✓ To browse to a different location to save the database, click the folder icon.
  - ✓ Click **Create**.
- **Steps to Create a new table in an existing database**
  - ✓ Click the **Microsoft Office Button** , and then click **Open**.
  - ✓ In the **Open** dialog box, select the database that you want to open, and then click **Open**.
  - ✓ On the **Create** tab, in the **Tables** group, click **Table**.
- Steps to Create a new table by using a table template
  - ✓ Click the **Microsoft Office Button** , and then click **Open**.
  - ✓ In the **Open** dialog box, select and open the database in which you wish to create a table.
  - ✓ On the **Create** tab, in the **Tables** group, click **Table Templates** and then select one of the available templates from the list.
- StepsTo Create a new table by importing or linking to external data
  - ✓ Click the **Microsoft Office Button** , and then click **Open**.
  - ✓ In the **Open** dialog box, select and open the database in which you wish to create a new table.

- ✓ On the **External Data** tab, in the **Import** group, click one of the available data sources.



- ✓ Follow the instructions in the dialog boxes that appear at each step.
- Steps to Use a SharePoint site to create a table
  - ✓ Click the **Microsoft Office Button** , and then click **Open**.
  - ✓ In the **Open** dialog box, select the database in which you want to create the new table, and then click **Open**.
  - ✓ On the **Create** tab, in the **Tables** group, click **SharePoint Lists**.
- **Steps to Create a SharePoint list that is based on a template**
  - ✓ Click either **Contacts**, **Tasks**, **Issues**, or **Events**.
  - ✓ In the **Create New List** dialog box, type the URL for the SharePoint site where you want to create the list.
  - ✓ Enter a name for the new list and its description in the **Specify a name for the new list** and **Description** boxes.
  - ✓ To open the linked table after it is created, select the **Open the list when finished** check box (selected by default).
- **Steps to Create a new custom list**
  - ✓ Click **Custom**.
  - ✓ In the **Create New List** dialog box, type the URL for the SharePoint site where you want to create the list.
  - ✓ Enter a name for the new list and its description in the **Specify a name for the new list** and **Description** boxes.

- ✓ To open the linked table after it is created, select the **Open the list when finished** check box (selected by default).
  
- **Steps to import the data from an existing list**
  - ✓ Click Existing SharePoint List.
  - ✓ In the Get External Data dialog box, type the URL for the SharePoint site that contains the data that you want to import.
  - ✓ Click Import the source data into a new table in the current database, and then click Next.
  - ✓ Select the check box next to each SharePoint list that you want to import.
  
- **Steps to Link to an existing list**
  - ✓ Click Existing SharePoint List.
  - ✓ In the Get External Data - SharePoint Site dialog box, type the URL for the SharePoint site that contains the list to which you want to link.
  - ✓ Click Link to the data source by creating a linked table, and then click Next.
  - ✓ Select the check box next to each SharePoint list to which you want to link.
  
- **Steps to set or change a table's primary key**
  - ✓ Select the table whose primary key you want to set or change.
  - ✓ On the **Home** tab, in the **Views** group, click **View**, and then click **Design View**.
  - ✓ In the table design grid, select the field or fields that you want to use as the primary key.
  - ✓ On the **Design** tab, in the **Tools** group, click **Primary Key**.
  - ✓ A key indicator appears to the left of the field or fields that you specify as the primary key.
  
- **Steps to Remove the primary key**
  - ✓ Select the table whose primary key you want to remove.
  - ✓ On the **Home** tab, in the **Views** group, click **View**, and then click **Design View**.
  - ✓ Click the row selector for the current primary key. If the primary key consists of multiple fields, hold down CTRL, and then click the row selector for each field.

- ✓ On the **Design** tab, in the **Tools** group, click **Primary Key**.
  
- Steps to Set a table's properties
  - ✓ Select the table whose properties you want to set.
  - ✓ On the **Home** tab, in the **Views** group, click **View**, and then click **Design View**.
  - ✓ On the **Design** tab, in the **Show/Hide** group, click **Property Sheet**.The table property sheet is shown.
  - ✓ On the property sheet, click the **General** tab.
  - ✓ Click the box to the left of the property that you want to set, and then enter a setting for the property.
  - ✓ To save your changes, press CTRL+S.
  
- Steps to Add a field by using a field template
  - ✓ On the **Home** tab, in the **Views** group, click **View**, and then click **Datasheet View**.
  - ✓ On the **Datasheet** tab, in the **Fields & Columns** group, click **New Field**.
  - ✓ Select one or more fields in the **Field Templates** pane, and then drag them to the table where you want to insert the new column.
  
- Steps to Open a table in Datasheet view
  - ✓ In the Navigation Pane, right-click the table that you want to open.
  - ✓ On the shortcut menu, click **Datasheet view**.
  
- Steps to Rename a field
  - ✓ Right-click the heading of the field that you want to rename (for example, Field1).
  - ✓ On the shortcut menu, click **Rename Column**.
  - ✓ Enter the new name in the field heading.
  
- Steps to Change a field's data type
  - ✓ On the Ribbon, click the Datasheet tab .
  - ✓ In the Data Type list, in the Data Type & Formatting group, select the data type that you want.

- Steps to Set other field properties
  - ✓ In Datasheet view, click the field for which you want to set the property.
  - ✓ On the Datasheet tab, in the Data Type & Formatting group, select the properties that you want.
  
- Steps to Set field properties in Design view
  - ✓ Open a table in Design view
  - ✓ In the Navigation Pane, right-click the table.
  - ✓ On the shortcut menu, click Design view.
  - ✓ Change a field's data type
  - ✓ In the table design grid, locate the field for which you want to set the data type.
  - ✓ In the Data Type column, choose a data type from the list.
  
- To save your changes, press CTRL+S.
  - ✓ Find links to more information about data types and field properties in the See Also section.

- Turn on the Name AutoCorrect option
  - ✓ Click **File > Options**.
  - ✓ In the **Access Options** dialog box, in the left pane, click **Current Database**.
  - ✓ Under **Name AutoCorrect Options**, select the **Track name AutoCorrect info** check box, and then select the **Perform name AutoCorrect** check box.
  - ✓ If you want to keep a table that logs each change that is performed by Name AutoCorrect, select the **Log name AutoCorrect changes** check box.
  - ✓ Click **OK**.
  - ✓ To save your changes, click **Save** on the **Quick Access Toolbar**.
  
- Rename a field in Datasheet view
  - ✓ In the Navigation Pane, double-click the table in which you want to rename the field.
    - The table is opened in Datasheet view.
  - ✓ Right-click the column heading for the field that you want to rename, and then click **Rename Field** on the shortcut menu.
  - ✓ Type the new name for the field and then press ENTER.
  
- Rename a field in Design view
  - ✓ In the Navigation Pane, right-click the table in which you want to rename the field, and then click **Design View** on the shortcut menu.
  - ✓ Click the cell in the **Field Name** column for the field that you want to rename.
  - ✓ Edit the text to rename the field.
  - ✓ To save your changes, click **Save** on the **Quick Access Toolbar**.
  
- Rename a table
  - ✓ In the Navigation Pane, right-click the table that you want to rename ,and then click **Rename** on the shortcut menu.
  - ✓ Type the new name and then press ENTER.
  - ✓ To save your changes, click **Save** on the **Quick Access Toolbar**.
  
- Change the text that appears in a column heading
  - ✓ In the Navigation Pane, right-click the table in which you want to change the caption, and then click **Design View** on the shortcut menu.
  - ✓ Click the cell in the **Field Name** column for the field whose **Caption** property you want to set.
  - ✓ In the bottom section, under **Field Properties**, on the **General** tab, click **Caption**.
  - ✓ Type a new caption for the field.

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✓ To save your changes, click **Save** on the **Quick Access Toolbar**.

## Operation Sheet-4

## Creating Database Relationship

Create, edit or delete a relationship

After you have created a table for each subject in your database, you must provide Office Access 2007 with the means by which to bring that information back together again when needed. You do this by placing common fields in tables that are related, and by defining table relationships between your tables. You can then create queries, forms, and reports that display

- Steps to Create a table relationship by using the Relationships document tab
  - ✓ Click the Microsoft Office Button  , and then click Open.
  - ✓ In the Open dialog box, select and open the database.
  - ✓ On the Database Tools tab, in the Show/Hide group, click Relationships.

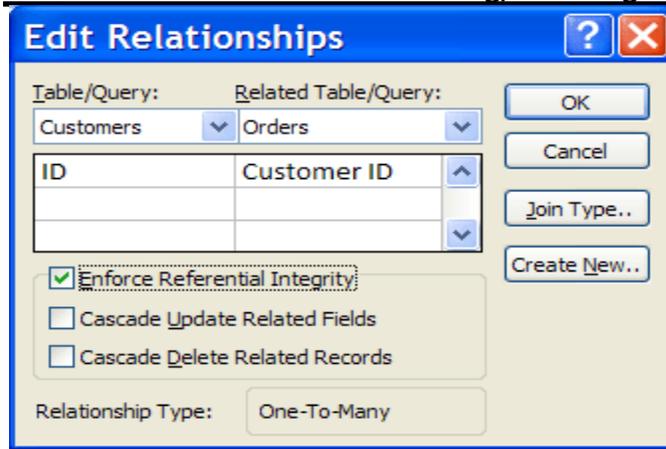
4. If you have not yet defined any relationships, the Show Table dialog box automatically appears. If it does not appear, on the Design tab, in the Relationships group, click Show Table.



The Show Table dialog box displays all of the tables and queries in the database. To see only tables, click Tables. To see only queries, click Queries. To see both, click Both.

5. Select one or more tables or queries and then click Add. After you have finished adding tables and queries to the Relationships document tab, click Close.
6. Drag a field (typically the primary key) from one table to the common field (the foreign key) in the other table. To drag multiple fields, press the CTRL key, click each field, and then drag them.

The Edit Relationships dialog box appears.

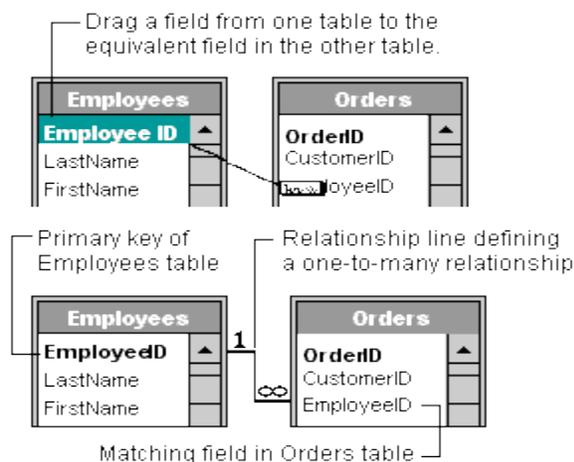


- Verify that the field names shown are the common fields for the relationship. If a field name is incorrect, click on the field name and select the appropriate field from the list.

To enforce referential integrity for this relationship, select the Enforce Referential Integrity check box. For more information about referential integrity, see the section Enforce Referential Integrity

- Click Create.

Access draws a relationship line between the two tables. If you selected the Enforce Referential Integrity check box, the line appears thicker at each end. In addition, again only if you selected the Enforce Referential Integrity check box, the number 1 appears over the thick portion on one side of the relationship line, and the infinity symbol ( $\infty$ ) appears over the thick portion on the other side of the line, as shown in the following figure.



## NOTES

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- To create a one-to-one relationship Both of the common fields (typically the primary key and foreign key fields) must have a unique index. This means that the Indexed property for these fields should be set to Yes (No Duplicates). If both fields have a unique index, Access creates a one-to-one relationship.
- To create a one-to-many relationship The field on the one side (typically the primary key) of the relationship must have a unique index. This means that the Indexed property for this field should be set to Yes (No Duplicates). The field on the many side should *not* have a unique index. It can have an index, but it must allow duplicates. This means that the Indexed property for this field should be set to either No or Yes (Duplicates OK). When one field has a unique index, and the other does not, Access creates a one-to-many relationship.

Create a table relationship by using the Field List pane

In Office Access 2007, you can add a field to an existing table that is open in Datasheet view by dragging it from the Field List pane. The Field List pane shows fields available in related tables and also fields available in other tables in the database. When you drag a field from an "other" (unrelated) table and then complete the Lookup Wizard, a new one-to-many relationship is automatically created between the table in the Field List pane and the table to which you dragged the field. This relationship, created by Access, does not enforce referential integrity by default. To enforce referential integrity, you must edit the relationship. See the section Edit a table relationship for more information.

Open a table in Datasheet view

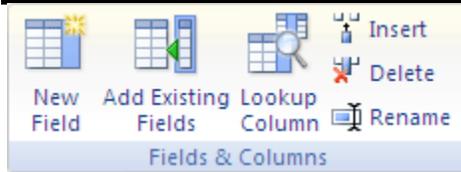
1. Click the Microsoft Office Button  , and then click Open.
2. In the Open dialog box, select and open the database.
3. In the Navigation Pane, right-click the table to which you want to add the field and create the relationship, and then click Datasheet View on the shortcut menu.

Open the Field List pane

- On the Datasheet tab, in the Fields & Columns group, click Add Existing Fields.

Steps to Add a field and create a relationship from the Field List pane

1. On the Datasheet tab, in the Fields & Columns group, click Add Existing Fields.



The Field List pane appears.

2. Under Fields available in other tables, click the plus sign (+) next to a table name to display the list of fields in that table.
3. Drag the field that you want from the Field List pane to the table that is open in Datasheet view.
4. When the insertion line appears, drop the field into position.

The Lookup Wizard starts.

5. Follow the instructions to complete the Lookup Wizard.

The field appears in the table in Datasheet view.

When you drag a field from an "other" (unrelated) table and then complete the Lookup Wizard, a new one-to-many relationship is automatically created between the table in the Field List and the table to which you dragged the field. This relationship, created by Access, does not enforce referential integrity by default. To enforce referential integrity, you must edit the relationship. See the section Edit a table relationship for more information. Steps to Edit a table relationship

You change a table relationship by selecting it in the Relationships document tab and then editing it.

1. Carefully position the cursor so that it points to the relationship line, and then click the line to select it.

The relationship line appears thicker when it is selected.

2. With the relationship line selected, double-click it.                    –or–

On the Design tab, in the Tools group, click Edit Relationships.

The Edit Relationships dialog box appears.

Open the Edit Relationships dialog box

1. Click the Microsoft Office Button , and then click Open.
2. In the Open dialog box, select and open the database.

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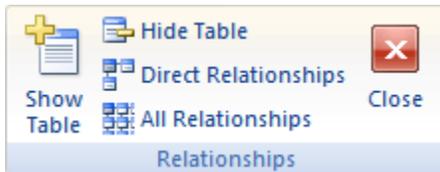
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3. On the Database Tools tab, in the Show/Hide group, click Relationships.

The Relationships document tab appears.

If you have not yet defined any relationships and this is the first time you are opening the Relationships document tab, the Show Table dialog box appears. If the dialog box appears, click Close.

4. On the Design tab, in the Relationships group, click All Relationships.



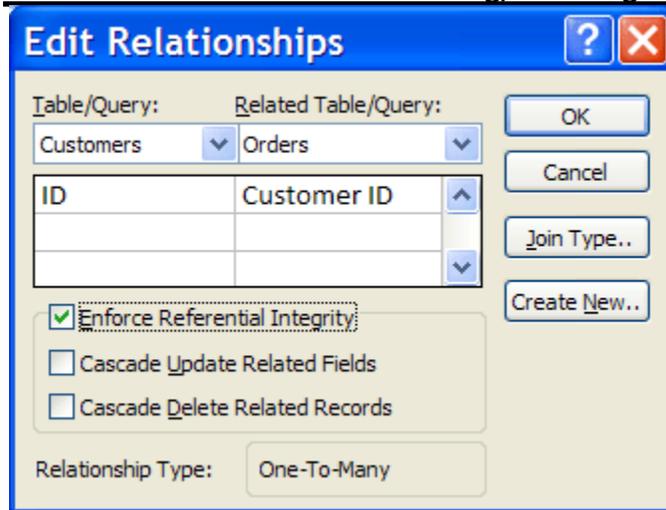
All tables with relationships are displayed, showing relationship lines. Note that hidden tables (tables for which the Hidden check box in the table's Properties dialog box is selected) and their relationships will not be shown unless Show Hidden Objects is selected in the Navigation Options dialog box.

For more information about the Show Hidden Objects option, see the article Guide to the Navigation Pane.

5. Click the relationship line for the relationship that you want to change. The relationship line appears thicker when it is selected.
6. Double-click the relationship line. -or-

On the Design tab, in the Tools group, click Edit Relationships.

The Edit Relationships dialog box appears.



7. Make your changes, and then click OK.

The Edit Relationships dialog box allows you to change a table relationship. Specifically, you can change the tables or queries on either side of the relationship, or the fields on either side. You can also set the join type, or enforce referential integrity and choose a cascade option. For more information about the join type and how to set it, see the section Set the join type. For more information about how to enforce referential integrity and choose a cascade option, see the section Enforce referential integrity.

#### Set the join type

You should think about the result you will most often want from a query that joins the tables in this relationship, and then set the join type accordingly.

#### Set the join type

1. In the Edit Relationships dialog box, click Join Type.

The Join Properties dialog box appears.

2. Click your choice, and then click OK.

The following table (using the Customers and Orders tables) shows the three choices that are displayed in the Join Properties dialog box, the type of join they use, and whether all rows or matching rows are returned for each table.

CHOICE	RELATIONAL JOIN	LEFT TABLE	RIGHT TABLE

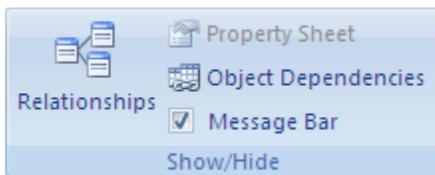
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1. Only include rows where the joined fields from both tables are equal.	Inner join	Matching rows	Matching rows
2. Include ALL records from 'Customers' and only those records from 'Orders' where the joined fields are equal.	Left outer join	All rows	Matching rows
3. Include ALL records from 'Orders' and only those records from 'Customers' where the joined fields are equal.	Right outer join	Matching rows	All rows

When you choose option 2 or option 3, an arrow is shown on the relationship line. This arrow points to the side of the relationship that shows only matching rows.

Make changes in the Join Properties dialog box

1. Click the Microsoft Office Button , and then click Open.
2. In the Open dialog box, select and open the database.
3. On the Database Tools tab, in the Show/Hide group, click Relationships.



The Relationships document tab appears.

If you have not yet defined any relationships and this is the first time you are opening the Relationships document tab, the Show Table dialog box appears. If the dialog box appears, click Close.

4. On the Design tab, in the Relationships group, click All Relationships.



All tables that have relationships are displayed, showing relationship lines. Note that hidden tables (tables for which the Hidden check box in the table's Properties dialog box is selected) and their relationships will not be shown unless Show Hidden Objects is selected in the Navigation Options dialog box.

For more information about the Show Hidden Objects option, see the article Guide to the Navigation Pane.

5. Click the relationship line for the relationship that you want to change. The relationship line appears thicker when it is selected.
6. Double-click the relationship line.            -or-

On the Design tab, in the Tools group, click Edit Relationships.

The Edit Relationships dialog box appears.

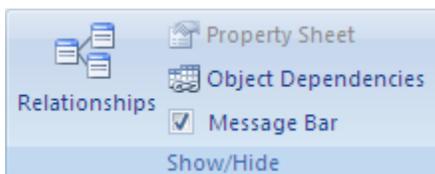
7. Click Join Type
8. In the Join Properties dialog box, click an option, and then click OK.



9. Make any additional changes to the relationship, and then click OK.

To Turn referential integrity on or off

1. Click the Microsoft Office Button , and then click Open.
2. In the Open dialog box, select and open the database.
3. On the Database Tools tab, in the Show/Hide group, click Relationships.



The Relationships document tab appears.

If you have not yet defined any relationships and this is the first time you are opening the Relationships document tab, the Show Table dialog box appears. If the dialog box appears, click Close.

4. On the Design tab, in the Relationships group, click All Relationships.

All tables with relationships are displayed, showing relationship lines. Note that hidden tables (tables for which the Hidden check box in the table's Properties dialog box is selected) and their relationships will not be shown unless Show Hidden Objects is selected in the Navigation Options dialog box.

For more information about the Show Hidden Objects option, see the article [Guide to the Navigation Pane](#).

5. Click the relationship line for the relationship that you want to change. The relationship line appears thicker when it is selected.
6. Double-click the relationship line. -or-

On the Design tab, in the Tools group, click Edit Relationships.

The Edit Relationships dialog box appears.

7. Check Enforce Referential Integrity.
8. Make any additional changes to the relationship, and then click OK.

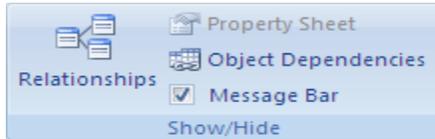
After you have enforced referential integrity, the following rules apply:

- You cannot enter a value in the foreign key field of a related table if that value doesn't exist in the primary key field of the primary table — doing so creates orphan records.
- You cannot delete a record from a primary table if matching records exist in a related table. For example, you cannot delete an employee record from the Employees table if there are orders assigned to that employee in the Orders table. You can, however, choose to delete a primary record *and* all related records in one operation by selecting the Cascade Delete Related Records check box.
- You cannot change a primary key value in the primary table if doing so would create orphan records. For example, you cannot change an order number in the Orders table if there are line items assigned to that order in the Order Details table. You can, however, choose to update a primary record *and* all related records in one operation by selecting the Cascade Update Related Fields check box.
- The common field from the primary table must be a primary key or have a unique index.
- The common fields must have the same data type. The one exception is that an AutoNumber field can be related to a Number field that has a FieldSize property setting of Long Integer.
- Both tables exist in the same Access database. Referential integrity cannot be enforced on linked tables. However, if the source tables are in Access format, you can open the database in which they are stored and enable referential integrity in that database.

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**Training, Teaching and Learning Material**

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- Steps to Turn cascade update and/or cascade delete on or off
  - ✓ Click the Microsoft Office Button , and then click Open.
  - ✓ In the Open dialog box, select and open the database.
  - ✓ On the Database Tools tab, in the Show/Hide group, click Relationships.



The Relationships document tab appears.

If you have not yet defined any relationships and this is the first time you are opening the Relationships document tab, the Show Table dialog box appears. If the dialog box appears, click Close.

- ✓ On the Design tab, in the Relationships group, click All Relationships.
- ✓ All tables that have relationships are displayed, showing relationship lines. Note that hidden tables (tables for which the Hidden check box in the table's Properties dialog box is selected) and their relationships will not be shown unless Show Hidden Objects is selected in the Navigation Options dialog box.
- ✓ For more information about the Show Hidden Objects option, see the article Guide to the Navigation Pane.
- ✓ Click the relationship line for the relationship that you want to change. The relationship line appears thicker when it is selected.
- ✓ Double-click the relationship line. -or-
- ✓ On the Design tab, in the Tools group, click Edit Relationships.
- ✓ The Edit Relationships dialog box appears.
- ✓ Select the Enforce Referential Integrity check box.
- ✓ Select either the Cascade Update Related Fields or the Cascade Delete Related Records check box, or select both.
- ✓ Make any additional changes to the relationship, and then click OK.

#### Steps to delete a table relationship

- ✓ To remove a table relationship, you must delete the relationship line in the Relationships document tab. Carefully position the cursor so that it points to the relationship line, and then click the line. The relationship line appears thicker when it is selected. With the relationship line selected, press DELETE. Note that when you remove a relationship, you also remove referential integrity support for that



- Add a record to a table or form
  - ✓ Open the table in Datasheet View or the form in Form View.
  - ✓ On the Home tab, in the Records group, click New, or click New (blank) record, or press Ctrl+Plus Sign (+).
  - ✓ Find the record with an asterisk in the record selector, and enter your new information.
  - ✓ Click or otherwise place the focus on the first field that you want to use, and then enter your data.
  - ✓ To move to the next field in the same row, press TAB, use the Right or Left arrow keys, or click the cell in the next field.
  - ✓ When you view another record or close the table or form, Access saves the new record that you added. To explicitly save changes to the current record, press Shift+Enter.
  
- To Delete a record

The deletion process is fairly simple, except when the record is related to other data and resides on the "one" side of a one-to-many relationship. To maintain data integrity, by default, Access does not let you to delete related data. For more information, see Guide to table relationships. Open the table in Datasheet View or form in For

- ✓ m View.
  - ✓ Select the record or records that you want to delete.
  - ✓ Press DELETE, select Home > Records > Delete, or press Ctrl+Minus Sign
- 
- To Edit data in a text box or field
    - ✓ Open the table or query in Datasheet View or form in Form View.
    - ✓ Click the field or navigate to the field by using the TAB or arrow keys, and then press F2.
    - ✓ Place the cursor where In Form view, you can click a field's label to select the field. In you want to enter information.
    - ✓ Enter or update the text that you want to insert. If you make a typing mistake, press BACKSPACE.
    - ✓ If a field has an input mask, enter the data according to the format.

- To reuse a database or a database object
  - ✓ Open the database or database object.
  - ✓ On the File tab, click Save As.
  - ✓ Do one of the following steps:
    - To save a database in a different format, click Save Database As.
    - To save a database object in a different format, click Save Object As.
  - ✓ Note: The option Save As Client Object is only available in a web database.
  - ✓ Click the format you want to use for the new copy.

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<b>LAP Test</b>	<b>Practical Demonstration</b>
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Name: \_\_\_\_\_

Date:

\_\_\_\_\_

Time started: \_\_\_\_\_

Time

finished:

\_\_\_\_\_

**Task 1**

- Show all the necessary steps & ways to open new MS Access 2007 Database. (5 Points)
  
- Show all the necessary steps to open Existing MS Access 2007 Database. (5 Points)

**Task 2**

- ✓ Create a new table in a new database
- ✓ Create a new table in an existing database
- ✓ Create a new table by using a table template
- ✓ Create a new table by importing/linking to external data
  - Set a table's primary key
  - Set or change the primary key
  - Remove the primary key
- ✓ Set a table's properties
- ✓ Table field
  - Add a field to a table
  - Add a field by entering data
  - Add a field by using a field template
  - Add a field from an existing table
  - Set field properties

✓ **Task 3**



- ✓ Rename a table
- ✓ Change the text that appears in a column heading
- ✓ Task4

First Create a Database name By ABC and Create the tables Below

- ✓ Creating a table called **TblStudent** that has fields with data types as shown below :
  - StudentID(Type=Text, Size=10, Primary Key)
  - StudentName(Type=Text,Size=20, Require=Yes)
  - Sex(Type=Text,Size=1,Require=Yes)
  - DOB(Type=Date/Time,Format=dd/mm/yy)
  - Address(Type=Text,Size=Default, Require=Yes)
  - Photo(Type=Text)
  - Phone(Type=Text)
- ✓ Creating a table called **TblTeacher** that has fields with data type as shown below :
  - TeacherID(Type=Text, Size=10, Primary Key)
  - TeacherName(Type=Text,Size=20, Require=Yes)
  - Sex(Type=Text,Size=1,Require=Yes)
  - Address(Type=Text,Size=Default, Require=Yes)
  - Photo(Type=OLE Object)
  - Phone(Type=Text)
- ✓ Creating a table called **TblSubject** that has fields with data type as shown below :
  - SubjectID(Type=Text, Size=10, Primary Key)
  - SubjectName(Type=Text,Size=30, Require=Yes)
  - Hour(Type=Text,Size=20)
  - Description(Type=Memo)
  - Fee(Type=Currency)
- ✓ Creating a table called **TblLab** that has fields with data type as shown below :
  - LabID(Type=Text, Size=10, Primary Key)
  - LabName(Type=Text,Size=30, Require=Yes)
  - Capacity(Type=Number)
- ✓ Creating a table called **TblTime** that has fields with data type as shown below :
  - TimeID(AutoNumber,Primary Key)
  - TimeAvailable(Type=Text,Size=20)
- ✓ Creating a table called **TblStudy** that has fields with data type as shown below :
  - StudyID(Type=Text, Size=10, Primary Key)
  - StudentID(Type=Text, Size=10)
  - TeacherID(Type=Text, Size=10)
  - StartDate(Type=Date/Time(dd/mm/yy))
  - EndDate(Type=Date/Time(dd/mm/yy))
  - Finished(Type=Yes/No)
  - GetCertificate(Type=Text,Size=50)
- ✓ Creating a table called **TblStudyDetail** that has fields with data type as shown below :
  - StudyDetailID(AutoNumber,Primary Key)



- StudyID (Number)
  - SubjectID (Type=Text, Size=10)
  - TimeID(Number)
  - LabID(Type=Text, Size=10)
- ✓ After you created all tables already, build the relationships between table and table as figure below.
- Task 5
    - ✓ Open an existing table & perform the following
    - ✓ Add abebe, taye& kebede in the field first name
    - ✓ Rename the name aster by astuka
    - ✓ Change the Salary 2500 by 4300 in the salary field
  - Task 6
  - Save your file by giving a file name tvetTraining



Instruction Sheet	<b>LG11: Customize basic settings</b>
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Customizing data access page layout and settings

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, you will be able to –

- Open and View different *toolbars*
- Adjust *page layout* to meet user requirements
- Format *font* as appropriate for the purpose of the database entries

### 1: Learning Instructions

9. Read the specific objectives of this Learning Guide.
10. Follow the instructions described in number 3 to 18.
11. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
12. Accomplish the “Self-check 1” in page 5.
13. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
14. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
15. Submit your accomplished Self-check. This will form part of your training portfolio.
16. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
35. Accomplish the “Self-check 2” in page 7.
36. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
37. Read the information written in the “Information Sheets 3 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.  
Accomplish the “Self-check 3” in page 9.
38. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
39. Read the “Operation Sheet 1” in page 10. and try to understand the procedures discussed.
40. If you earned a satisfactory evaluation proceed to “Operation Sheet 2” in page 11. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
41. Read the “Operation Sheet 2” and try to understand the procedures discussed.
42. If you earned a satisfactory evaluation proceed to “Operation Sheet 3” in page 12. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.



43. Read the “Operation Sheet 3” and try to understand the procedures discussed.

44. Do the “LAP test” in page 13. (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advise you on additional work.

Information Sheet 1	Adjusting page layout and settings
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Layout view is the most intuitive view to use for report modification, and can be used for nearly all the changes you would want to make to a report in Access. In Layout view, the report is actually running, so you can see your data much as it will appear when printed. However, you can also make changes to the report design in this view. Because you can see the data while you are modifying the report, it's a very useful view for setting column widths, add grouping levels, or performing almost any other task that affects the appearance and readability of the report.



## References [\[edit\]](#)

1. [^](#) The 1996 Oxford Dictionary of Computing
2. <http://Doc.microsoft.com>

Self-Check -1	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Which View is the most intuitive view to use for report modification (2)
  - E. Design view
  - F. Lay out view
  - G. A&B
  - H. None
2. you can make changes to the report design in this view (2)
  - E. True
  - F. False
3. Layout view is useful for (2)
  - E. setting column widths
  - F. add grouping levels
  - G. performing almost any other task
  - H. All of the above

**Note: Satisfactory rating - 3 and 5 points      Unsatisfactory - below 3 and 5 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Information Sheet-2	Open and Viewing different tools
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**Introduction**

Toolbar Sometimes referred to as a bar or standard toolbar, the toolbar is a row of boxes, often at the top of an application window, that control various functions of the [software](#). The boxes often contain images that correspond with the function they control, as demonstrated in the image below.

## Interface of Access 2007 Window

13

**Access – Lesson 1**

Member ID	Last Name	First Name	Address	City	State	Zip Code	Home No
101242	Aerlags	Aurora	207 Golden Cv	Colorado Springs	CO	80529	719-555-01
254312	Fraze	William	6090 Abilene Tr	Denver	CO	80241	303-555-41
4348721	Stevens	Shane	16902 Ardalis Dr	Denver	CO	80265	303-555-71
452152	Enders	Mary Jo	401 Treys Way	Denver	CO	80232	303-555-71
549320	Maggiore	Joe	2324 Tamworth	Castle Rock	CO	80107	303-555-01
5493744	Buchanan	Bruce	P O Box 5431	Colorado Springs	CO	80915	719-555-31
746030	Mackin	Betty	8400 Cims Oak St	Castle Rock	CO	80109	303-555-21
846000	LaPorte	Ian	1408 Preston Ave	Denver	CO	80243	303-555-81
874301	Stevens	Bruce	7109 Carvill Dr	Denver	CO	80280	303-555-41
970542	Rechstein	Andy	1899 Berkeley Way	Denver	CO	80232	303-555-21



Fig. 2.1 toolbars

A toolbar often provides quick access to functions that are commonly performed in the program. For example, a formatting toolbar in a Microsoft Access gives you access to things like making text bold or changing its alignment, along with other common buttons

- Common computer software toolbars
  - ✓ Commands bar - A bar that shows available commands in a program.
  - ✓ Formatting toolbar - Toolbar that shows text formatting options.
  - ✓ Formula bar - Bar in a spreadsheet program that allows you to edit a formula.
  - ✓ Menu bar - A bar at the top of the screen that gives access to all of the menus.
  - ✓ Navigation bar - Gives access to all navigation features in a browser.
  - ✓ Places bar - A pane that shows common places to access files.
  - ✓ Scroll bar - A bar on the bottom or side of the window to scroll through a page.
  - ✓ Split bar - A bar that divides the window into multiple sections.
  - ✓ Status bar - One of the few bars at the bottom of the window that shows the status.
  - ✓ Title bar - A bar at the very top of a window that describes the program or window.

Self-Check -2	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Sometimes referred to as a bar or standard toolbar (2)
  - A. Toolbar
  - B. Format
  - C. Icon
2. - A bar that shows available commands in a program.(2)
  - A. Commands bar
  - B. Menu bar
  - C. Title Bar
3. Toolbar that shows text formatting options.(2)
  - A. Formatting toolbar
  - B. Command bar
  - C. Status bar

Answer Sheet



<i>Information Sheet-3</i>	<i>Formatting Fonts</i>
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A font is a graphical representation of text that may include a different [typeface](#), [point size](#), weight, color, or design. The image shows some examples of different computer fonts. Software programs like [Microsoft Word](#), [Microsoft Excel](#), and [Ms-access](#) allow users to change the font used when typing text in the document or spreadsheet, as do web designers.

**Formatting Fonts** Sometimes users want to specify or change the appearance of a group of words or characters, or even of a single word or character, and they are not familiar enough with all of Word's font formatting options to know how to achieve the effect that they are seeking. Although most users are probably familiar with some different font families and sizes and with the italic and bold typefaces, many users do not know how to determine and apply the settings that are needed to add a colored background to their text or to type



## References [\[edit\]](#)

1. [The 1996 Oxford Dictionary of Computing](#)
3. <http://Doc.microsoft.com>

Self-Check -3	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. ----- is a graphical representation of text (2)
  - A. Font
  - B. Lay out view
  - C. A&B
  - D. None
2. When User wants to specify or change the appearance of a group of words or characters they needs (2)
  - A. Formatting
  - B. Deleting
  - C. Moving
  - D. None

**Note: Satisfactory rating - 3 and 4 points      Unsatisfactory - below 3 and 2 points**

You can ask you teacher for the copy of the correct answers.



Answer Sheet

Score = _____
Rating: _____

Operation Sheet 1	Adjusting page layout and settings
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- Steps to Change page setup

Use the Page Size and Page Layout groups on the Page Setup tab to change size, orientation, margins, and so on.

- ✓ Click the Page Setup tab.
- ✓ In the Page Size group, click Size to select a different paper size.
- ✓ In the Page Size group, click Margins to make adjustments to the report's margins.
- ✓ In the Page Layout group, click Portrait or Landscape to change the paper orientation.



Operation Sheet 2	Adjusting page layout and settings
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- Steps to create a new toolbar
  - ✓ On the View menu, point to Toolbars, and then click Customize.
  - ✓ Click the Toolbars tab, and then click New.
  - ✓ In the Toolbar Name box, type a name for your new custom toolbar.
  - ✓ In the Make toolbar available to box, click the template or open document where you want to store the toolbar.



- ✓ Click OK.
- ✓ The Customize dialog box appears.
  - Click the Commands tab. Click the category that you want to select your button from. Under Commands, drag the button that you want to the new toolbar.
  - Click Close.
- Steps to delete a custom toolbar
  - ✓ On the View menu, point to Toolbars, and then click Customize.
  - ✓ Click the Toolbars tab.
  - ✓ Under Toolbars, click the custom toolbar that you want to delete, and then click Delete.

Note You cannot delete a built-in toolbar. When you select a built-in toolbar in the Toolbars list, the Delete button is unavailable, and the Reset button becomes available. If you click the Reset button, the built-in toolbar returns to its original default appearance.

## References [\[edit\]](#)

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1. [The 1996 Oxford Dictionary of Computing](#)
4. <http://Doc.microsoft.com>

Operation Sheet 3	Formatting Fonts
-------------------	------------------

- To Changing font type
  - ✓ [Highlight](#) the text you want to change.



- ✓ Click the down arrow next to the font field on the format bar.  
(If you want to change the font to bold, italic, or underlined, click on the B, I, or U on the format bar.)
- ✓ After clicking the down arrow for the font, you should be able to select from each of the installed fonts on your computer. Click the font you want to use and the highlighted text will change.
- Changing font size
  - ✓ Highlight the text you want to change.
  - ✓ Click the down arrow next to the size box on the format bar. Often, the default size is 12, as shown in the above example.
  - ✓ After clicking the down arrow for the size, you should have a selection of different sizes to choose. Some fonts may not scale properly, so they may have limited size options.
- To Changing font color
  - ✓ Highlight the text you want to change.
  - ✓ Click the down arrow next to the color icon. It is usually displayed as the letter "A" with a red underline, as shown in the example above.
  - ✓ After clicking the down arrow for the color, select the color you want to make the text.

LAP Test	Practical Demonstration
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Name: \_\_\_\_\_

Date: \_\_\_\_\_

Time started: \_\_\_\_\_

Time

finished: \_\_\_\_\_

- Task 1
  - ✓ Adjust the paper size in to landscape
- Task2
  - ✓ Create a new toolbar Based on the procedure
- Task3
  - Make the type Bold
  - Make the font size 20
  - Make the font color red

<b>Instruction Sheet</b>	<b>LG12: Create database Report</b>
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

### Creating a Report

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Reports are designed to present data in a logical sequence or manner
- Reports are modified to include/exclude additional requirements
- Reports are distributed to **appropriate person** in a approved format

### 1: Learning Instructions

17. Read the specific objectives of this Learning Guide.
18. Follow the instructions described in number 3 to 18.
19. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
20. Accomplish the “Self-check 1” in page 6..



21. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
22. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
23. Submit your accomplished Self-check. This will form part of your training portfolio.
24. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
45. Accomplish the “Self-check 2” in page 8.
46. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
47. Read the information written in the “Information Sheets 3 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.  
Accomplish the “Self-check 3” in page 11.
48. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
49. Read the “Operation Sheet 1” in page 12 and try to understand the procedures discussed.
50. If you earned a satisfactory evaluation proceed to “Operation Sheet 2” in page 13 . However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
51. Read the “Operation Sheet 2” and try to understand the procedures discussed.
52. Do the “LAP test” in page 53 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work.

## Information Sheet-1

## Designing reports in a logical sequence

*What is a report? A **report** is an object in Microsoft Access that is used to display and print your data in an organized manner. Reports provide a means of organizing and summarizing data. Reports are often used to present an overview highlighting main points and trends. A report can be a simple list, a status report or a monthly production report. A report is made from the data available*



- Decide how to lay out your report when you design a report, you must first consider how you want the data arranged on the page and how the data is stored in the database. During the design process, you might even discover that the arrangement of data in the tables will not allow you to create the report that you want. This can be an indication that the tables are not normalized — this means that the data is not stored in the most efficient manner.
  - ✓ Make a sketch of your report This step is not required — you might find that the Access Report Wizard or the Report tool (both of which are available on the **Create** tab, in the **Reports** group) provide a sufficient starting design for your report
  - ✓ **Decide which data to put in each report section** Each report has one or more report sections. The one section that is present in every report is the Detail section. This section repeats once for each record in the table or query that the report is based on. Other sections are optional and repeat less often and are usually used to display information that is common to a group of records, a page of the report, or the entire report
  - ✓ **Decide how to arrange the detail data** Most reports are arranged in either a tabular or a stacked layout, but Access gives you the flexibility to use just about any arrangement of records and fields that you want.
- **Types of lay out**
  - ✓ **Tabular layout** A tabular layout is similar to a spreadsheet. Labels are across the top, and the data is aligned in columns below the labels. Tabular refers to the table-like appearance of the data. This is the type of report that Access creates when you click **Report** in the **Reports** group of the **Create** tab. The tabular layout is a good one to use if your report has a relatively small number of fields that you want to display in a simple list format. The following illustration shows an employee report that was created by using a tabular layout.
  - ✓ **Stacked layout** A stacked layout resembles a form that you fill out when you open a bank account or make a purchase from an online retailer. Each piece of data is labeled, and the fields are stacked on top of each other. This layout is good for reports that contain too many fields to display in a tabular format — that is, the width of the columns would exceed the width of the report. The following illustration shows an employee report that was created by using a stacked layout.

- ✓ **Mixed layout** You can mix elements of tabular and stacked layouts. For example, for each record, you can arrange some of the fields in a horizontal row at the top of the Detail section and arrange other fields from the same record in one or more stacked layouts beneath the top row. The following illustration shows an employee report that was created by using a mixed layout. The ID, Last Name, and First Name fields are arranged in a tabular control layout, and the Job Title and Business Phone fields are arranged in a stacked layout. In this example, gridlines are used to provide a visual separation of fields for each employee.
  - ✓ **Justified layout** If you use the Report Wizard to create your report, you can choose to use a justified layout. This layout uses the full width of the page to display the records as compactly as possible. Of course, you can achieve the same results without using the Report Wizard, but it can be a painstaking process to align the fields exactly. The following illustration shows an employee report that was created by using the Report Wizard's justified layout.
- 
- **Creating Reports using a wizard** Creation of a report by using a wizard is a fastest and easy way to create a report by following the series of steps and choosing a pre-defined template for your report.
  - **Creating Reports using design view** Creation of a report by design view is a ***user customized way*** setting-up your report so to meet the users desired output and format.



Self-Check -1	Written Test
---------------	--------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. -----is an object in Microsoft Access (2)
  - A. Form
  - B. Report
  - C. Table
  - D. All
2. Which layout uses the full width of the page to display the records as compactly as possible?(2)
  - A. Mixed
  - B. Justified
  - C. A&B

**Note:** Satisfactory rating - 3 and 5 points      Unsatisfactory - below 2 and 3 points

You can ask your teacher for the copy of the correct answers.

### Answer Sheet

Score = _____
Rating: _____



<b>Information Sheet 2</b>	<b>Modifying Report</b>
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## 2.1 Understand Layout view

Layout view is the most intuitive view to use for report modification, and can be used for nearly all the changes you would want to make to a report in Access. In Layout view, the report is actually running, so you can see your data much as it will appear when printed. However, you can also make changes to the report design in this view. Because you can see the data while you are modifying the report, it's a very useful view for setting column widths, add grouping levels, or performing almost any other task that affects the appearance and readability of the report. The following illustration shows a Customer Phone Book report in Layout view.

The report you see in Layout view does not look not exactly the same as the printed report. For example, there are no page breaks in Layout view. Also, if you have used Page Setup for format your report with columns, the columns are not displayed in Layout view. However, Layout view gives you a very close approximation of the printed report. If you want to see how the report will look when printed, use Print Preview.

### Understand Design view

Design view gives you a more detailed view of the structure of your report. You can see the header and footer bands for the report, page, and groups. The report is not actually running in Design view, so you cannot see the underlying data while working; however, there are certain tasks you can perform more easily in Design view than in Layout view. You can:

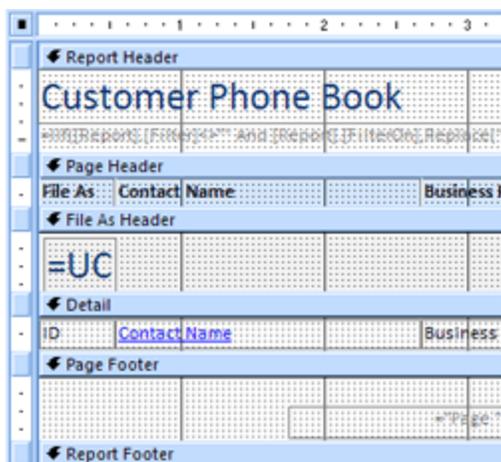


Fig.2.1 design view

<b>Self-Check -2</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. -----is the most intuitive view to use for report modification
  - A. Layout view
  - B. Mixed view
  - C. Justified view
  
2. Which view gives you a more detailed view of the structure of your report.(2)
  - A. Design
  - B. Mixed
  - C. A&B

**Note:** Satisfactory rating - 3 and 5 points      Unsatisfactory - below 3 and 2 points

You can ask you teacher for the copy of the correct answers.



## Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

<b>Information Sheet 3</b>	<b>Distributing Report</b>
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### 3.1 Introduction

Report is a document containing information organized in a narrative, graphic, or tabular form, prepared on ad hoc, periodic, recurring, regular, or as required basis. Reports may refer to specific periods, events, occurrences, or subjects, and may be communicated or presented in oral or written form. Liberate your Access reports and distribute them far and wide. For example, email them to one or more users, export them to SharePoint document libraries, and archive them on network folders.

When you distribute an Access report, you create a static report of data at a certain moment in time, such as daily, weekly, or monthly. By doing so, you have a single point of truth that information workers can use to make good business decisions, answer questions, find alternatives, determine best plans, evaluate risks, and improve quality. The term "business representative" is often used as a general reference for sales professionals, customer service professionals or anyone serving as an interface between customers and a company. However, this term has a very specific meaning and application in the business world.

- Methods to distribute report

- ✓ Personalized emails: Segment your email list down to the exact audience that would benefit most from your piece of content. Write a custom email to each of these audience members to add a level of personalization to your message. Explain what the content is, and why you think he or she will enjoy it..
- ✓ Guest posting: Write an article that discusses -- in a non-promotional way -- the key findings or points within your content, and send it to the editor of an online publication that reaches your target audience. But be strategic about it. Make sure the publication not only helps you achieve your own reach goals, but also, has something to gain by sharing your insights, from your particular brand
- ✓ ***Follow-up emails: Encourage your sales team to include a link to your content in their follow-up emails to prospective clients, to answer their questions and position your company as a resource they can trust. Note: This tactic works best when the content you create is educational and addresses specific questions or concerns your leads have -- and is actionable enough for them to immediately apply it to their own plans or strategies.***

***Lead interviews: Work with your sales reps to identify prospective clients you can interview for your content. Include a quote in your content, and share it with them once it's published. Not only can that keep your leads engaged over time, but they'll appreciate the opportunity to be featured -- and you benefit from the additional exposure to their networks when the content is shared with that audience.***

- ✓ ***Proposal references: The best proposals are often supported with relevant data that corroborates the solutions you're suggesting to a prospect. And while we suggest citing a variety of authentic, reliable sources -- otherwise, you might look biased -- referencing your own research content can be effective. Not only is it another way to distribute your work, but also, it illustrates the time and thought your company has invested in this school of thought.***
- ✓ That said, some prospective clients like proposals to be brief. In these cases, if you preemptively anticipate additional questions, you can amend your proposal with a link to the content as a source of further reading and information.
  - ***Client drip campaigns***
- ✓ If your content is related to your clients' respective industries, or products and services, sharing it with them can enhance your collaborations and



further nurture that relationship. Remember, it's called client *retention* for a reason

<b>Self-Check -3</b>	<b>Written Test</b>
----------------------	---------------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. ----- is a document containing information organized in a narrative, graphic, or tabular form?(2)
  - A. Form
  - B. Report
  - C. Query
  - D. Table
2. When you distribute an Access report, you create (2)
  - A. a static report
  - B. Normal report
  - C. A&B

**Note: Satisfactory rating - 3 and 4 points      Unsatisfactory - below 2 and 4 points**

You can ask you teacher for the copy of the correct answers.

## Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Operation Sheet 1

Designing report

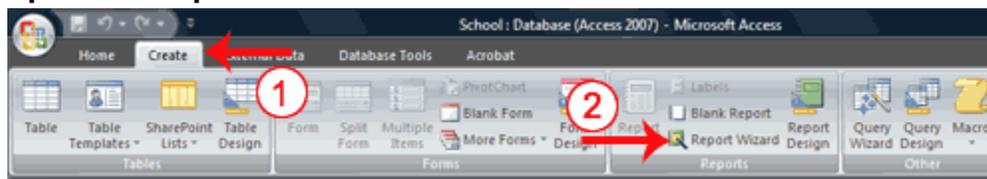
- To Creating Reports Using the Report Button
  - ✓ Open the Navigation pane.
  - ✓ Click the table or query on which you want to base your report.
  - ✓ Activate the Create tab.
  - ✓ Click the Report button in the Reports group. Access creates your report and displays your report in Layout view. You can modify the report.

To save a report

- ✓ Click the Save button on the Quick Access toolbar. Access saves the report unless you are saving for the first time. If you are saving for the first time, the Save As dialog box appears.
- ✓ Type the name you want to give your report.
- ✓ Click OK. Access saves the report. You can now access the report by using the Navigation pane.

**To create a report by using the Report Wizard:**

- ✓ **Open the Report Wizard**





- ✓ Activate the Create tab.
- ✓ Click Report Wizard in the Reports group. The Report Wizard appears.

Operation Sheet 2	Modifying Report
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- To Switch between views
  - ✓ Right-click the report in the Navigation Pane, and then click the view you want on the shortcut menu.1313
  - ✓ Right-click the report's document tab or title bar, and then click the view you want on the shortcut menu.
  - ✓ On the Home tab, in the View group, click the View button to toggle between available views. Alternatively, you can click the arrow under View, and then select one of the available views from the menu.
  - ✓ Right-click in a blank area of the report itself, and then click the view you want. If the report is open in Design view, you must right-click outside of the design grid.
  - ✓ Click one of the small view icons on the Access status bar.
- To Modify your report in Layout view
  - ✓ Click an item in the column that you want to adjust.
    - A border is drawn around the item to indicate that the field is selected.
  - ✓ Drag the right or left edge of the border until the column is the width you want.
- To Change row or field height in Layout view

- ✓ Click an item in the row that you want to adjust.
  - A border is drawn around the item to indicate that the field is selected.
- ✓ Drag the top or bottom edge of the border until the row is the height you want.
  
- Add a field in Layout view
  - ✓ On the Design tab, in the Tools group, click Add Existing Fields.
    - The list of available fields is displayed. If there are fields available in other tables, these will be displayed under Fields available in other tables:.
  - ✓ Drag a field from the Field List onto the report. As you move the field, a highlighted area will indicate where the field will be placed when you release the mouse button.

Note: To add multiple fields at once, hold down the CTRL key and click each field in the Field List that you want. Then, release the CTRL key and drag the fields onto the report. The fields will be placed adjacent to each other.

- Create a new control layout
  - ✓ You create a new report by clicking Report  in the Reports group on the Create tab.
  - ✓ You create a new report by clicking Blank Report  in the Reports group on the Create tab, and then dragging a field from the Field List pane to the report.

On an existing report, you can create a new control layout by doing the following:

- ✓ Select a control that you want to add to the layout.
- ✓ If you want to add other controls to the same layout, hold down the SHIFT key and also select those controls.
- ✓ Do one of the following:
  - On the Arrange tab, in the Table group, click Tabular or Stacked.
  - Right-click the selected control or controls, point to Layout, and then click Tabular or Stacked .
  
- To Change page setup
  - ✓ Click the Page Setup tab.
  - ✓ In the Page Size group, click Size to select a different paper size.
  - ✓ In the Page Size group, click Margins to make adjustments to the report's margins.



- ✓ In the Page Layout group, click Portrait or Landscape to change the paper orientation.
- To Change the formatting of a field
  - ✓ Select the field that you want to format.
  - ✓ On the Format tab, use the tools in the Font group to apply the formatting you want.
- To Add or modify a logo or other image

To Add a logo

- ✓ On the Design tab, in the Header/Footer group, click Logo.
- ✓ Browse to the folder where your logo file is stored, and double-click the file.
- Add or edit a report title

To Add a title to a report

- On the Design tab, in the Header/Footer group, click Title.
  - A new label is added to the report header, and the report name is entered for you as the report title.
- When the label is created, the text in the label is selected for you so that if you want to change the text, you can just begin typing the title you want.
- Press ENTER when you have finished.

To Edit the report title

- ✓ Double-click the label containing the report title to place the cursor in the label.
- ✓ Type the text you want to use as the report title, and press ENTER when you have finished.
- Add page numbers
  - ✓ On the Design tab, in the Header/Footer group, click Page Numbers.
    - The Page Numbers dialog box is displayed.
  - ✓ Choose the format, position, and alignment you want for the page numbers.



- ✓ Clear the Show Number of First Page check box if you do not want a number on the first page.
- ✓ Click OK.

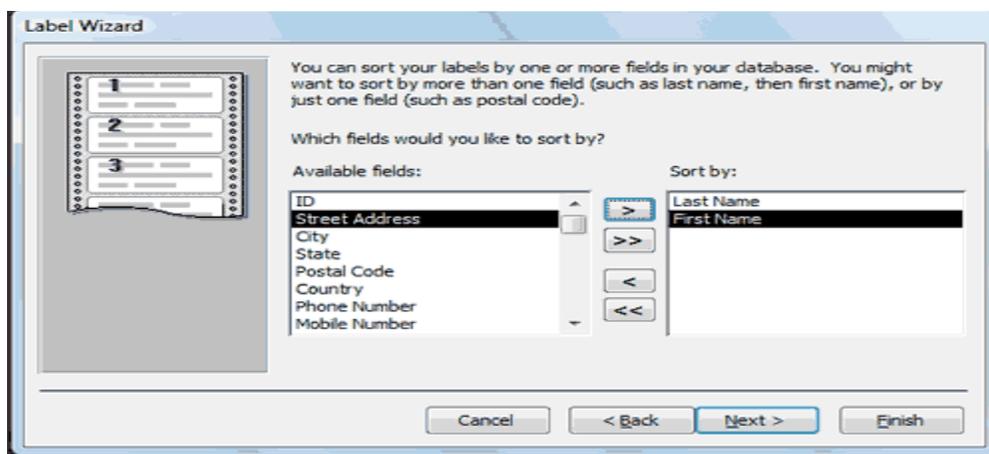
The page numbers are added to the report. Switch to Print Preview to see how the numbers will look when you print the report.

- Add the date or time
  - ✓ On the Design tab, in the Header/Footer group, click Date and Time.
    - The Date and Time dialog box is displayed.
  - ✓ Clear the Include Date check box if you do not want to include the date.
  - ✓ If you want to include the date, click the date format you want.
  - ✓ Clear the Include Time check box if you do not want to include the time.
  - ✓ If you want to include the time, click the time format you want.
    - A sample of the date and time, in the formats you have chosen, appears in the Sample area of the dialog box.
  - ✓ Click OK.
  
- Add line numbers
  - ✓ On the Design tab, in the Controls group, click Text Box.
  - ✓ Click in an open area of the section where you want the line numbers to appear. In most cases, this will be the Detail section. You will move the text box to its final location later.
    - When you click the report, Access creates a new, unbound text box.
  - ✓ Click the label (just to the left of the new text box), and press DELETE.
  - ✓ Click once in the new text box to select it, and then click again to position the cursor in the text box.
  - ✓ Type =1 and then press ENTER.
  - ✓ If the property sheet is not already displayed, press F4 to display it.
  - ✓ On the Data tab of the property sheet, set the Running Sum property to Over All.
    - Note: If this is a grouped report, and you want the numbering to start at 1 for each group, set the property to Over Group.
  - ✓ Resize the text box to a smaller width by positioning the pointer over the sizing handle on the right edge of the text box and dragging it to the left. Leave enough room for the largest line number you expect to see on this report.
  - ✓ If needed, make room for the text box on the far left edge of the Detail section by dragging the existing controls in that section to the right, or by resizing the leftmost control in that section.

- ✓ Drag the new text box to the location that you want it on the report.
- ✓ Switch to Report view, Print Preview, or Layout view to see the line numbers.
- To Make a group header appear at the top of each page
  - ✓ Double-click the group header section selector (the horizontal bar above the group header section).

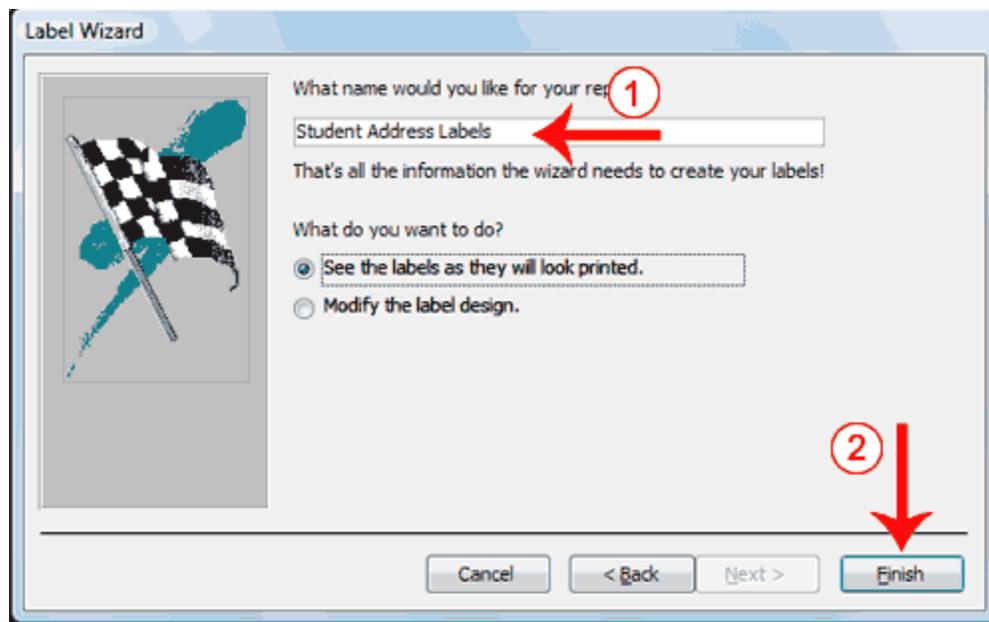
## To Sort Fields

When creating labels, you can sort on any field and you can have multiple levels of sort. For example, you can sort by last name and then by first name.

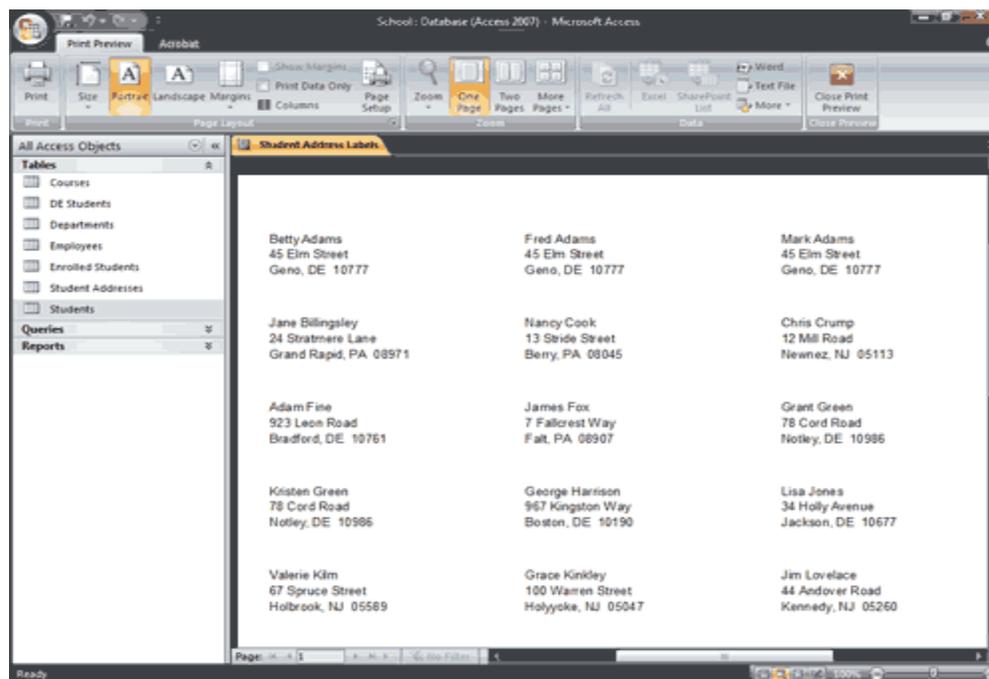


1. Click to choose the fields you want to sort by. Click the single right-arrow to select a single field, click the double right-arrow to select all fields, click the single left-arrow to deselect a single field, click the double left-arrow to deselect all fields.
2. Click Next. The Label Wizard moves to the next page.

## Title the report



1. Type a title for your report. The title will appear in the Navigation pane.
2. Click Finish. Access displays the labels in Print Preview.



## To Print a Report

1. click the Print button in the Print group.

2. The Print dialog box opens
3. select your print options.

**To change to Print Preview:**

1. Open your report.
2. Activate the Home tab.
3. Click the down-arrow under the View button. A menu appears.
4. Click Print Preview. Access changes to Print Preview.

Several options are available to you in Print Preview.

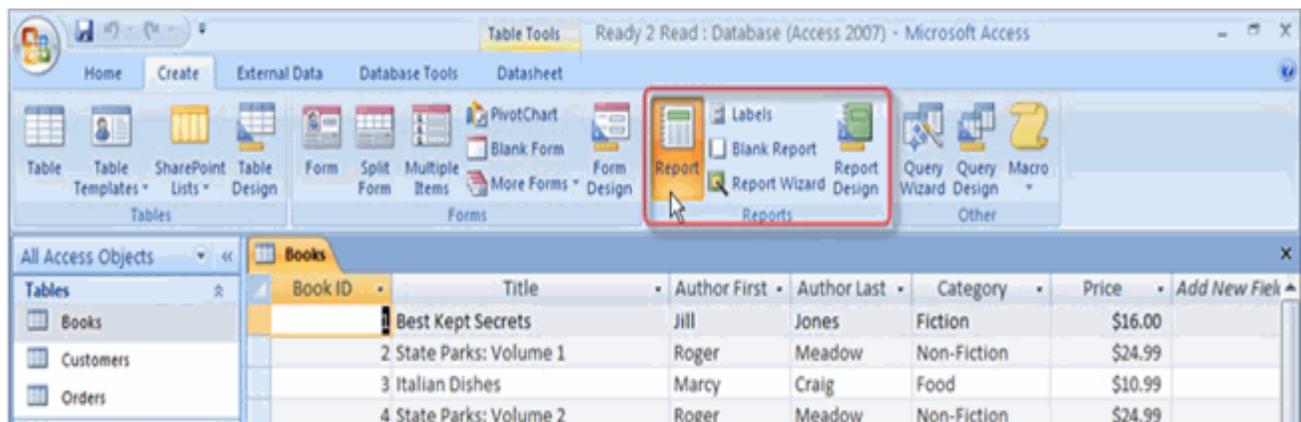
Print Preview Options	
Print	Displays the Print dialog box. You can select such options as the printer, print range, and number of copies. Use this option to print your report.
Size	Click the Size button to set the size of the paper you are going to print on.
Portrait	Click the Portrait button to print with the shortest side of the paper as the top.
Landscape	Click the Landscape button to print with the longest side of the paper as the top.
Margins	Click the Margins button to select a margin size of Normal, Wide, or Narrow. Margins define the amount of white space that surrounds your report.
Print Data Only	Prints the report data without other elements such as titles, and labels.
Zoom	Changes the cursor to a magnifying glass. When the

	magnifying glass displays a minus sign (–), you can zoom out. When the magnifying glass displays a plus sign (+), you can zoom in. Click the down-arrow under the Zoom button to display a menu and choose a zoom level.
One Page	Displays one page of the report in the Access window.
Two Page	Displays two pages of the report in the Access window.
More Pages	Displays a menu from which you can choose the number of page you want to display.

To create a report based on a table using the Report command

:

- Choose the table you wish to use as the source of your report. To do that, you can either open the table or highlight the table name in the Navigation Pane. In our example, we used the open Books table to create the report.



- Select the **Report** command on the **Create** tab on the Ribbon, as seen above.
- The report is automatically generated and includes every field in the table in order of their appearance in the table. This can be seen in the example below, which was created from the table above.



The layout and formatting of the report can be manipulated in Layout View.

### Creating a report based on a query

Access 2007 can also create a report using a query as the source. The process for creating a report based on a query is identical to the process for creating a report based on a table, which was outlined on the previous page. And just like when making a report from a table, every field and record that appears in the query results will appear on the report.

To limit the number of records in a report

It is possible to limit the number of records in a report, but only if the report was based on a query. The limit is set in the query itself, using the query design screen.

To limit the records returned in a query:

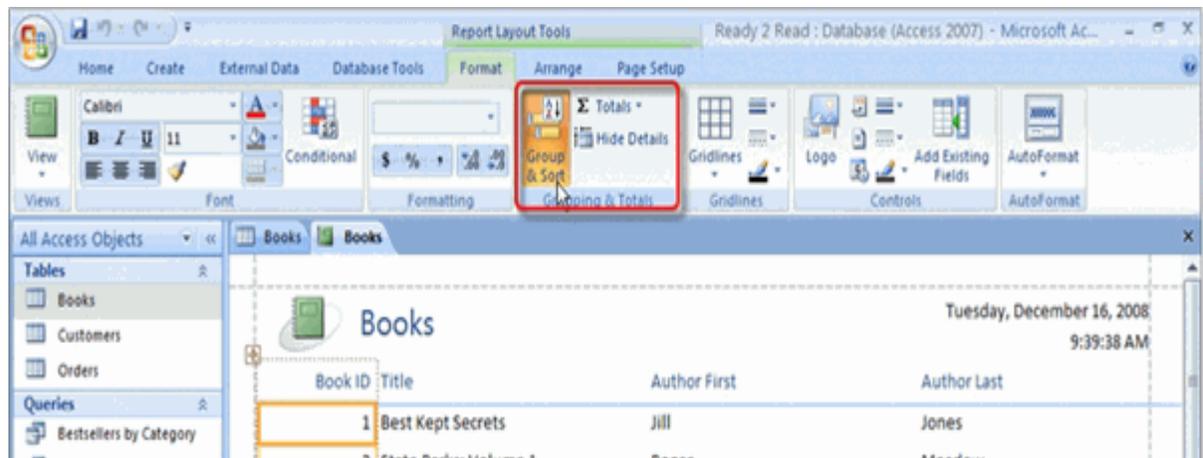
- Open the query in Design View.
- Use the **Return** option in the **Query Setup** command group to set the number of records you want to see in the query results and the final report.



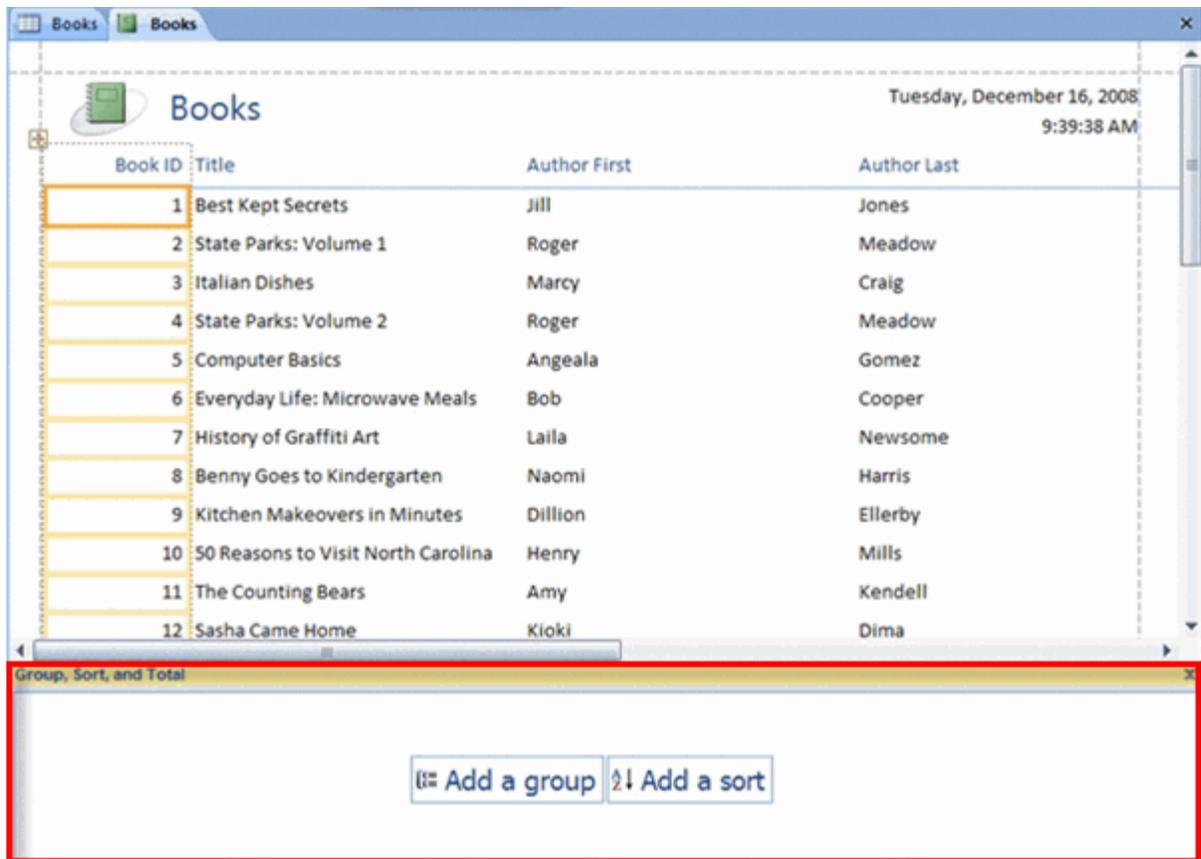
- Click **Run!** to make sure the query results look like you want the report to look.
- Create the report using the **Report** command on the **Create** tab.
- Format the report as desired.

To add a level of grouping to a report:

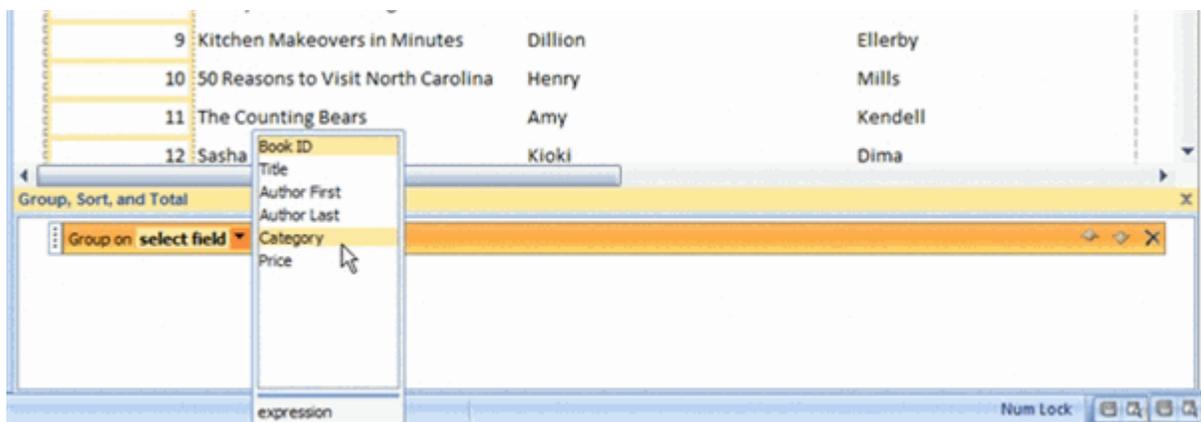
- With the report open, select the **Group & Sort** command from the **Grouping & Totals** command group on the **Format** tab on the Ribbon.



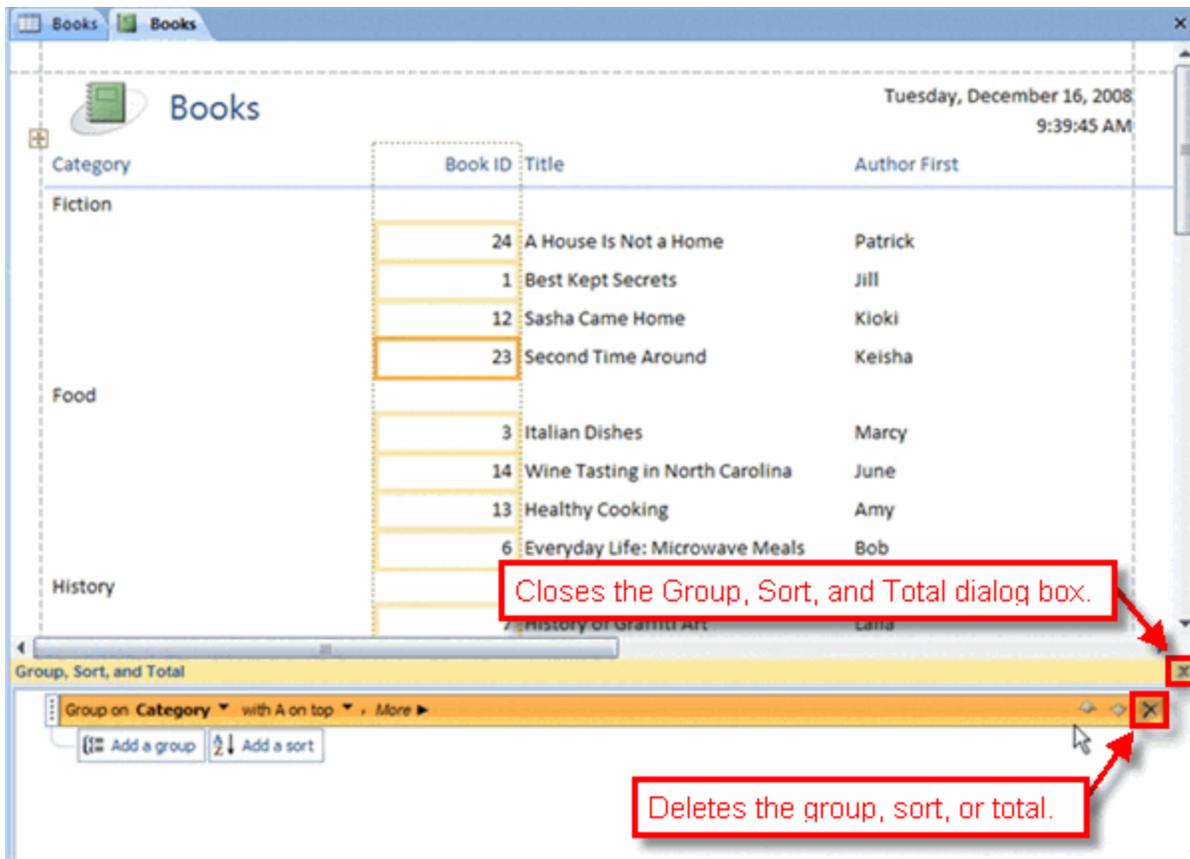
- Open a **Group, Sort, and Total** dialog box in the lower portion of the window.



- In the **Group, Sort, and Total** dialog box, select **Add a group**.
- Select the field you wish to group by from the drop-down list. We chose to group our list by **Category**.



- When you release the mouse button, the report will now appear with items grouped. Our report is grouped on **Category** now, as seen below.



The **Group, Sort, and Total** dialog box will remain open until you close it.

### To Format a report in Layout View

Access 2007 opens the created report in Layout View so you can easily make modifications. In Layout View, you can change the look of your report in many different ways, including:

- Deleting columns and other report elements
- Moving and resizing columns
- Adding a logo
- Changing the title and other text on the report headings
- Applying a report style with **AutoFormat**
- Modifying the page layout

To delete a column or other report element:

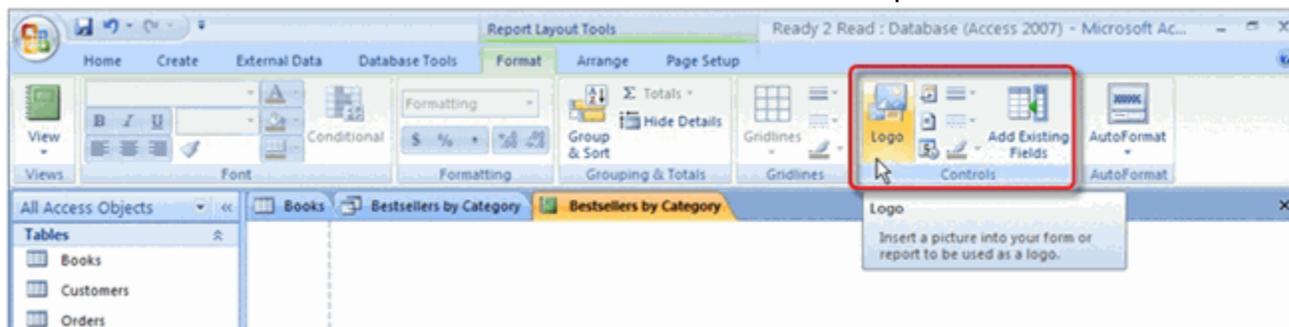
- Highlight the element by clicking on it.
- Hit the **Delete** button on your keyboard.

To move a column or other report element

- Highlight the element by clicking on it.
- Drag and drop the element to a new location on the report.

To resize a column or other report element

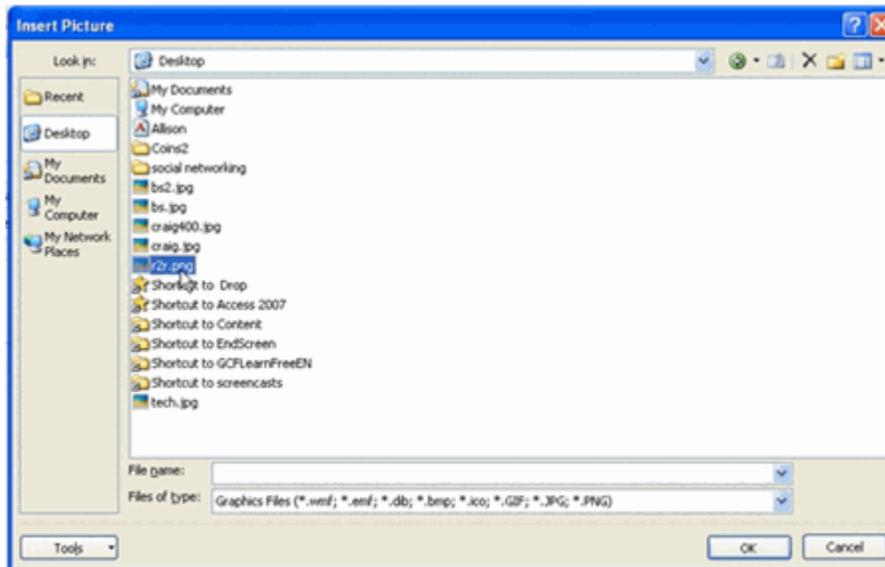
To resize a column or other report element:



- Highlight the element by clicking on it.
- Drag and drop the edge of the element to the new size on the report.

To add a logo to the report

- Click on the **Logo** command on the **Format** tab on the Ribbon.
- When the **Insert Picture** dialog box opens, find the picture file.
- Click **OK**.



To modify the title of a report:

- Click on the **Title** command on the **Format** tab on the Ribbon.



- When the highlight appears, type in the new title.

To modify text in report headings

If you don't like the standard font face and size Access used to create your report, you can modify them using common Microsoft Office text formatting commands. You can modify the size, font face, font color, alignment, and much more. They all work basically the same way.

- Highlight the text you want to change.
- Select the formatting option you wish from the lists that appear when you click on a command.

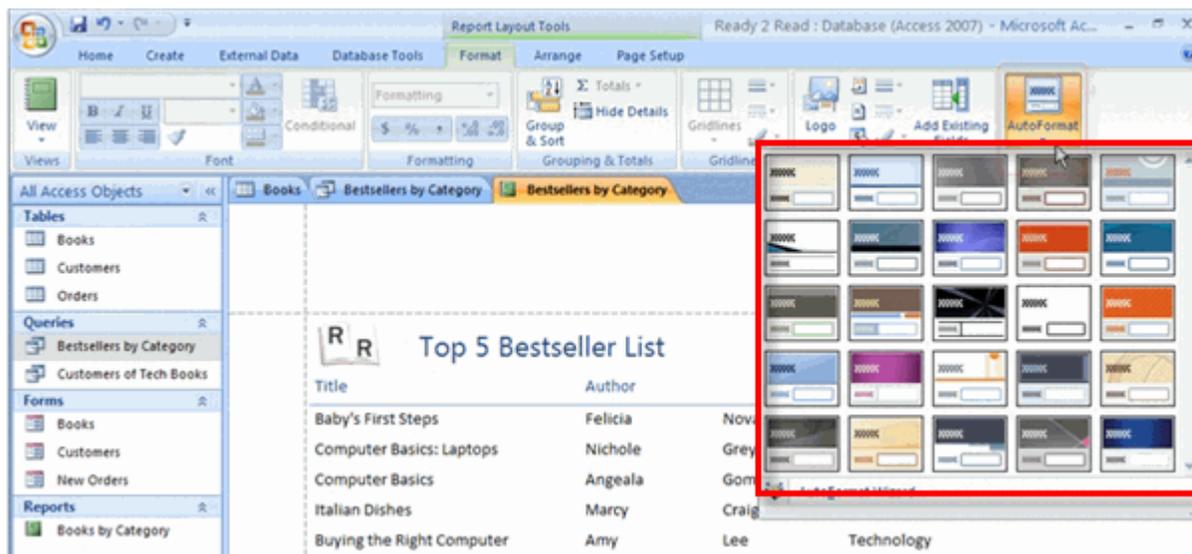


- The change appears when you release the mouse button.

To apply an AutoFormat style

Like with forms, Access 2007 offers a variety of report styles in the **AutoFormat** command. To apply a style:

- Click on the **AutoFormat** command on the Ribbon.



- Select a format from the drop-down list. The change is applied instantly.

To change the page layout

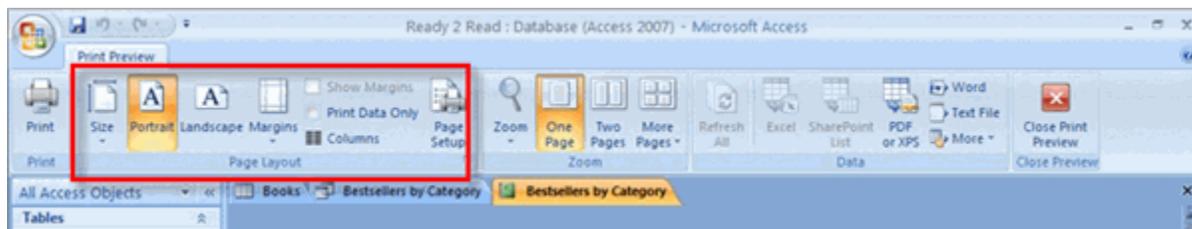
When a report is created, it opens in Layout View, like the one in the picture below. The dotted lines are showing where the edge of the page will be in Report View.



- Switch to **Print Preview** using the **Views** command on the Ribbon.



- Select the layout option you wish to alter from the **Page Layout** command group on the Ribbon.



Page Option	Layout Description
Margins	To set the margins for narrow, wide, or normal

### Saving a report

When you have created and modified a report and try to close it, Access 2007 will prompt you to name and save the report. If you do not need this report again, you do not need to save it. However, if you think you may want to publish it again, it is best to save.

### To save a report

As with all Access objects, to save a report:

- Right-click on the report tab.
- Choose **Save** from the list that appears.
- When the **Save as** dialog box opens, give the report a name.



- **Click OK.**

!

- ✓ On the Format tab of the property sheet, set the Repeat Section property to **Yes**.



<b>LAP Test</b>	<b>Practical Demonstration</b>
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Name: \_\_\_\_\_

Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

\_\_\_\_\_

#### Task 1

- Create Reports
  - ✓ Use the Report Button
  - ✓ Use the Report Wizard

#### Task2

- Modify a Report
  - ✓ Change view
  - ✓ Change the Size of a Field or Label
- Report Properties
  - Add a field
  - Delete a field
  - Move a column
  - Change a title



<b>Instruction Sheet</b>	<b>LG13: Create database Forms</b>
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Creating a form using a wizard.,

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, you will be able to –

- Use wizard to create a simple form
- Open and record existing database through a simple form modified
- *Rearrange objects* within the form to accommodate information requirements

### 1: Learning Instructions

25. Read the specific objectives of this Learning Guide.
26. Follow the instructions described in number 3 to 18.
27. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
28. Accomplish the “Self-check 1” in page 5.
29. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
30. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
31. Submit your accomplished Self-check. This will form part of your training portfolio.
32. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
53. Accomplish the “Self-check 2” in page 7.
54. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).



55. Read the information written in the “Information Sheets 3 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
56. Accomplish the “Self-check 3” in page 9.
57. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
58. Read the “Operation Sheet 1” in page 10. and try to understand the procedures discussed.
59. If you earned a satisfactory evaluation proceed to “Operation Sheet 2” in page 15. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
60. Read the “Operation Sheet 2” and try to understand the procedures discussed.
61. If you earned a satisfactory evaluation proceed to “Operation Sheet 3” in page 17. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
62. Read the “Operation Sheet 3” and try to understand the procedures discussed.
63. Do the “LAP test” in page 20 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work.



## Information Sheet 1

### Using wizard to create a simple form

#### 1.1 Introduction

A form is a screen that allows you to enter, change, and view the data in a database. Think of forms as windows into your data that help users understand and work with that data.

Forms are made up of **controls**, such as text boxes, buttons, document tabs, and drop-down lists, grouped in a way that makes them easy to use and helps you get work done. The controls in the form are usually **bound**, or connected, to the tables or queries in your database — but not always. For example, a control that displays your corporate logo doesn't have to be bound to a table field. It can just point to the image it displays. In addition to entering data, you can use forms in other ways. For example, you can create a form that asks for input, and then generates a custom report based on that input.

In Access 2007, a **form** is an object that generally serves three purposes:

- To allow users to perform data entry. Data can be inserted, updated, or deleted from a table using a Form object.
- To allow users to enter custom information, and based on that information perform a task. For example, you may want to ask a user for parameters before running a report.
- To allow users a method of navigating through the system. For example, you may create a form where a user can select a form to load, a report to run, etc.

]

#### 1.2 Creating Forms using a wizard



Creation of a form by using a wizard is the Ms Access pre-defined way of creating a form by simply following the series of steps and choosing which field and format you would want for your form.

Self-check 1	Using wizard to create a simple form
--------------	--------------------------------------

Name: \_\_\_\_\_  
\_\_\_\_\_

Date:

Time started: \_\_\_\_\_

Time finished: \_\_\_\_\_

Directions: Answer all the questions listed below.

1. Form is made up of? (1 points)
2. Way of creating forms? (2 Point)
3. Is a screen that allows you to enter, change, and view the data in a database? (1 points)
4. The most important tools can be found in? (1 point)
5. A form is an object that generally serves three purposes? (3 points)
6. List & Discuss on the different types of Controls in MS access? (12 point)



: Satisfactory rating – above 17 points Satisfactory & below 16 points Unsatisfactory  
(You can ask you teacher for the copy of the correct answer)

<b>Information Sheet 2</b>	<b>Opening Existing Database&amp; Modifying Records</b>
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### What Database

A **database is an organized collection of data, generally stored and accessed electronically from a computer system.** Where databases are more complex they are often developed using formal design and modeling techniques.

- Types of data bases. Databases have evolved since their inception in the 1960s, beginning with ...
  - ✓ Relational database. A relational database, invented by E.F. Coded at IBM in 1970, is a tabular ...
  - ✓ Distributed database. A distributed database is a database in which portions of the database are ...
  - ✓ Cloud database. A cloud database is a database that has been optimized or built for a virtualized ...

### Open an existing data base

There are the different methods you can use to open existing Access databases. You can open databases from Windows Explorer or from within Access itself. You can open multiple databases at once, and you can also create desktop shortcuts that open database objects directly.



<b>Self-Check -2</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

5. To retrieve Information Saving is important(3)
  - A. True
  - B. False
6. Saving your work in Access is a little different from saving in most Office apps.(3)
  - A. False
  - B. True



**Note: Satisfactory rating - 3 and 5 points      Unsatisfactory - below 3 and 5 points**

You can ask your teacher for the copy of the correct answers.

### Answer Sheet

Score = _____
Rating: _____

[://support.office.com/en-us/article/Open-an-existing-database-6F893B9D-9007-4628-930B-7EE4864A883](https://support.office.com/en-us/article/Open-an-existing-database-6F893B9D-9007-4628-930B-7EE4864A883)

Information Sheet 3	Rearranging Objects with in the form
---------------------	--------------------------------------

**Objects** : A **Form object** refers to a particular Microsoft **Access form**. A **Form object** is a member of the **Forms collection**, which is a collection of all currently open **forms**. Within the **Forms** collection, individual **forms** are indexed beginning with zero.

Forms are made up of **controls**, such as text boxes, buttons, document tabs, and drop-down lists, grouped in a way that makes them easy to use and helps you get work done. The controls in the form are usually **bound**, or connected, to the tables or queries in your database — but not always. For example, a control that displays your corporate logo doesn't have to be bound to a table field. It can just point to the image it displays. In addition to entering data, you can use forms in other ways. For example, you can create a form that asks for input, and then generates a custom report based on that input.



<https://support.office.com/en-us/article/Open-an-existing-database>

Self-Check -3	Written Test
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1. **Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next

1. Forms are made up of (2)

- A. Controls
- B. Tables
- C. A&B

2 The controls in the form are usually (2)

- A. Bound
- B. Objects
- C. All of the above

3 ----- is a member of the Forms collection(2)

- A. Form object



- B. Controls
- C. Texts

**Note: Satisfactory rating - 3 and 5 points      Unsatisfactory - below 3 and 5 points**

You can ask your teacher for the copy of the correct answers.

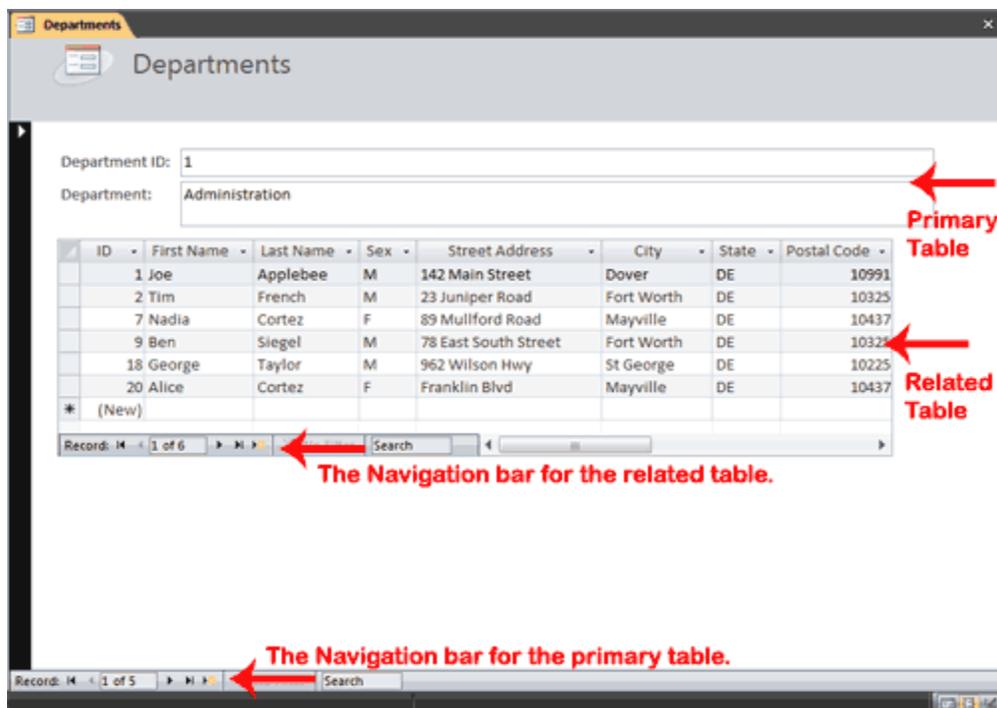
### Answer Sheet

Score = _____
Rating: _____

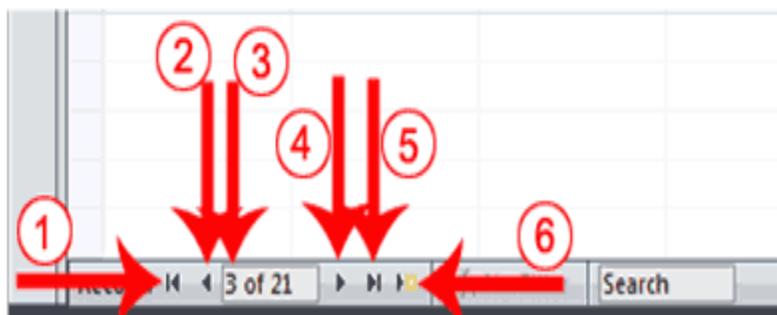
Operation Sheet 1	Using a wizard to create a simple Form
-------------------	--

### Steps to create a form

1. Open the Navigation pane.
2. Click the table or query on which you want to base your form.
3. Activate the Create tab.
4. Click Form in the Forms group. Access creates a form.



You can use the Navigation bars to move through the records on a form.



1	Go to First Record
2	Go to Previous Record
3	The Current Record
4	Go to Next Record
5	Go to Last Record
6	Create a New (Blank) Record



Tip: After you create a form, you can save it. You can open a saved form at any time.

## Steps to save a form

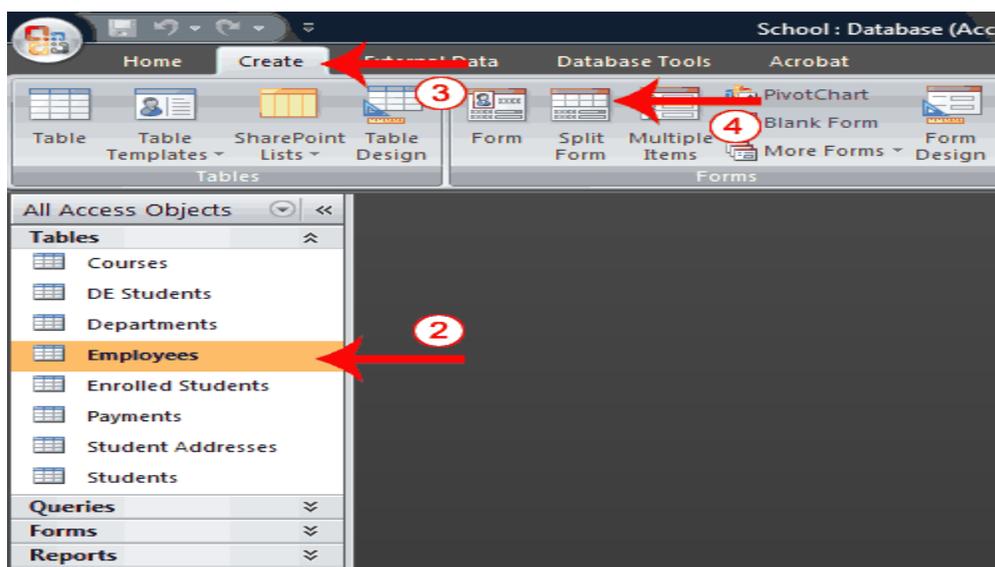
1. Click the Save button on the Quick Access toolbar. Access saves the form unless you are saving for the first time. If you are saving for the first time, the Save As dialog box appears.
2. Type the name you want to give the form.
3. Click OK. Access saves the form. You can now access the form by using the Navigation pane.

You can also save by right-clicking a form's tab and then selecting Save from the menu that appears. Access saves the form unless you are saving for the first time. If you are saving for the first time, the Save As dialog box appears. Type the name you want to give the form and then click OK. Access saves the form. You can now access the form by using the Navigation pane.

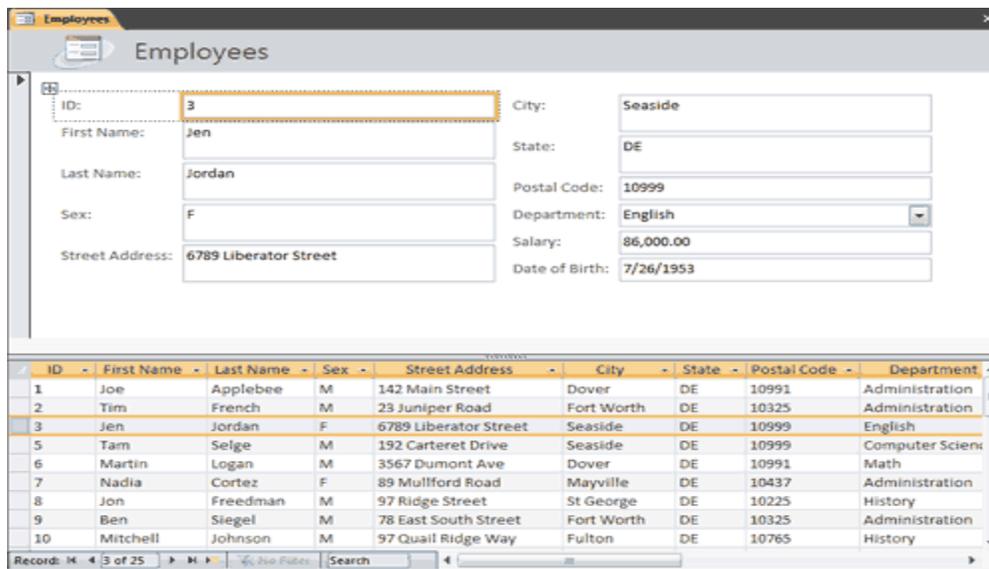
## Create a Split Form

A split form is a form in which the same data is displayed in two views simultaneously. One part of the form displays in Form view (stacked fields), while the other part displays in Datasheet view. The two views are synchronized, so as you select a field in one view, it is automatically selected in the other view. You can add, change, or delete the data in either view. Using a split form gives you the benefits of two types of forms in a single form. For example, you can use the datasheet portion to locate records and the form portion to edit records.

To create a split form



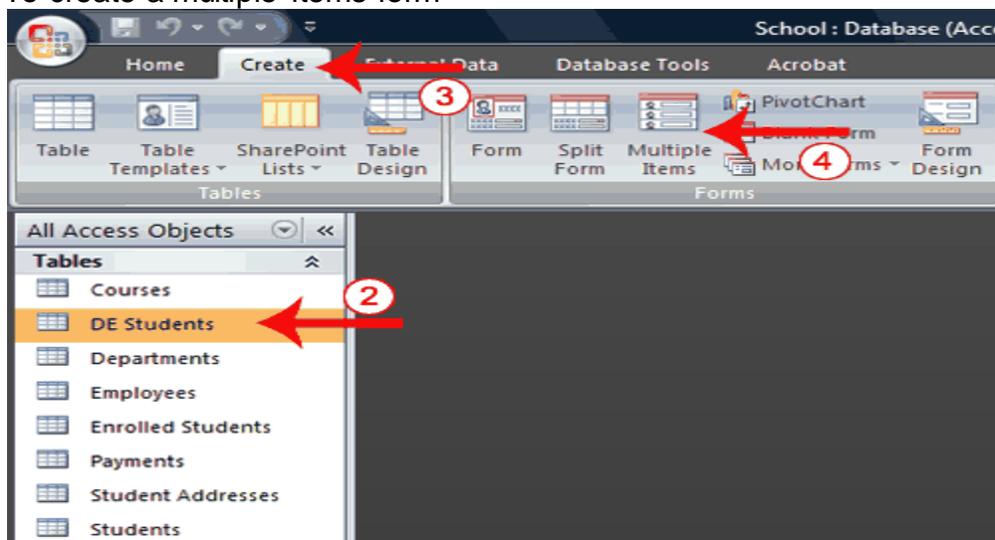
1. Open the Navigation pane.
2. Click the table or query on which you want to base your form.
3. Activate the Create tab.
4. Click Split Form in the Forms group. Access creates a split form.



### Create a Multiple Items Form

You can use the Multiple Items button on the Forms tab to create a form that displays multiple records, one record per row.

To create a multiple items form



1. Open the Navigation pane.

2. Click the table or query on which you want to base your form.
3. Activate the Create tab.
4. Click Multiple Items in the Forms group. Access creates a multiple items form.

ID	Last Name	First Name	Street Address
22	Adams	Betty	45 Elm Street
23	Adams	Fred	45 Elm Street
2	Adams	Mark	45 Elm Street
18	Fine	Adam	923 Leon Road
10	Green	Grant	78 Cord Road
24	Green	Kristen	78 Cord Road
14	Harrison	George	967 Kingston Way
6	Jones	Lisa	34 Holly Avenue
16	Petro	Sally	9978 High Street
21	Singleton	Mary	122 Berkshire Drive
	(New)		

Tip: A view is a way of looking at an Access object. Forms have three views: Form view, Layout view, and Design view. You can enter, edit, and view data in Form view. You can modify a form in Layout view or Design view. In Layout view, you can see your data, and the form you see closely resembles what your form will look like when you view it in Form view. You can make most, but not all, changes to your form in Layout view. Design view displays the structure of your form. In this view you cannot see the underlying data, but you can perform some tasks in Design view that you cannot perform in Layout view. This tutorial focuses on Layout view.

To change the view

1. Open the form.
2. Activate the Format tab.
3. Click the down-arrow under the View button. A menu appears.
4. Click the view you want.

To change the size of a field

1. Click a side of the field and drag to change the width of the field.
2. Click the top or bottom of a field and drag to change the height of a field.



#### To move a datasheet

1. Click the datasheet to select it.
2. Click and drag the four-sided arrow in the upper-right corner to move the datasheet.

#### To resize a datasheet

1. Click the datasheet to select it.
2. Click a side of the datasheet and drag to change the width.
3. Click the top or bottom of the datasheet and drag to change the height.

#### To apply an AutoFormat

The AutoFormat option on the Format tab enables you to apply formats quickly, such as background colors, field colors, field label colors, and fonts.

1. Activate the Format tab.
2. Click AutoFormat. The AutoFormat menu appears.
3. Click the format you want to apply.

#### To change a form title

When you create a form, by default, Access uses the form name as the title. You can change the title.

1. Activate the Format tab.
2. Click the Title button.
3. Type the new title.

#### To add the date and time

You can easily add the date and time to your form.

1. Activate the Format tab.
2. Click the Date and Time button. The Date and Time dialog box appears. Select the date and time format you want. The date and time appear on your form.



<https://support.office.com/en-us/article/Open-an-existing-database-6F893B9D-9007-4628-930B-7EE4864A8833>

Operation Sheet 2	Opening & Modifying Existing database
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- To Open a database from within Access
  - ✓ On the getting started page of Access, Click **Open Other Files**.
  - ✓ On the **Open** area of the backstage view, click **Browse**.
  - ✓ Click a shortcut in the **Open** dialog box, or in the **Look in** box, click the drive or folder that contains the database that you want.
  - ✓ In the folder list, browse to the folder that contains the database.
  - ✓ When you find the database, do one of the following:
    - Double-click the database to open it in the default mode specified in the **Access Options** dialog box or the mode that was set by an administrative policy.
    - Click **Open** to open the database for shared access in a multi-user environment so that you and other users can read and write to the database.
    - Click the arrow next to the **Open** button and then click **Open Read-Only** to open the database for read-only access so that you can view but not edit it. Other users can still read and write to the database.
    - Click the arrow next to the **Open** button and then click **Open Exclusive** to open the database with exclusive access. When you have a database open with exclusive access, anyone else who tries to open the database receives a "file already in use" message.
    - Click the arrow next to the **Open** button and then click **Open Exclusive Read-Only** to open the database for read-only access. Other users can still open the database, but they are limited to read-only mode.
- To open one of the last several databases you had open,
  - ✓ click the file name in the **Recent** list on the getting started page. Access opens the database with the same option settings it had the last time you opened it. If the list of recently used files is not displayed:



- Click **File > Options**.
- In the **Access Options** dialog box, click **Client Settings** or **Advanced**.
- Under **Display**, type a number in the **Show this number of Recent Databases** box.

Create a desktop shortcut to open a database object

- ✓ Open the database containing the object for which you want to create a shortcut.
- ✓ Resize the Access window and minimize any other open windows so that you can see the desktop behind the Access window.
- ✓ In the Navigation Pane, find the object for which you want to create the shortcut.
- ✓ Drag the object from the Navigation Pane to the desktop. When you release the mouse button, the shortcut is created on the desktop.
- ✓ If you want the shortcut in a location other than the desktop, use Windows Explorer to move the shortcut to the location you want.

## Reference

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<https://support.office.com/en-us/article/Open-an-existing-database-6F893B9D-9007-4628-930B-7EE4864A8833>

Operation Sheet 3

Rearranging objects within the form

- To Add a Command Button Using a Control Wizard
  - Open the form in Design View



- ✓ Verify the Control Wizards command is selected in the Controls group on the Form Design Tools Design Contextual tab

- ✓  Click the Button command in the Controls group on the Form Design Tools Design Contextual tab
- ✓ Click on your form where you want the command button to be inserted

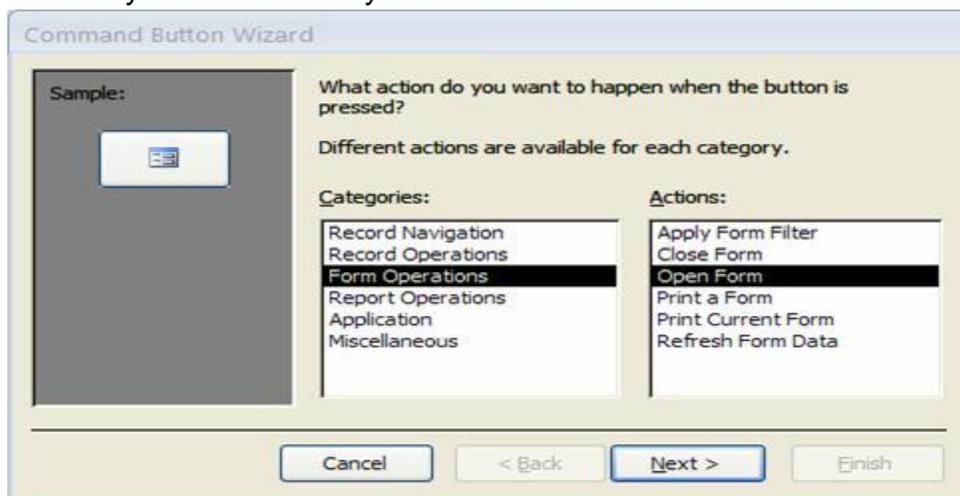


Figure 31. Command Button Wizard - Choose a Category & Action

- ✓ Select a category and action
- ✓ Click Next

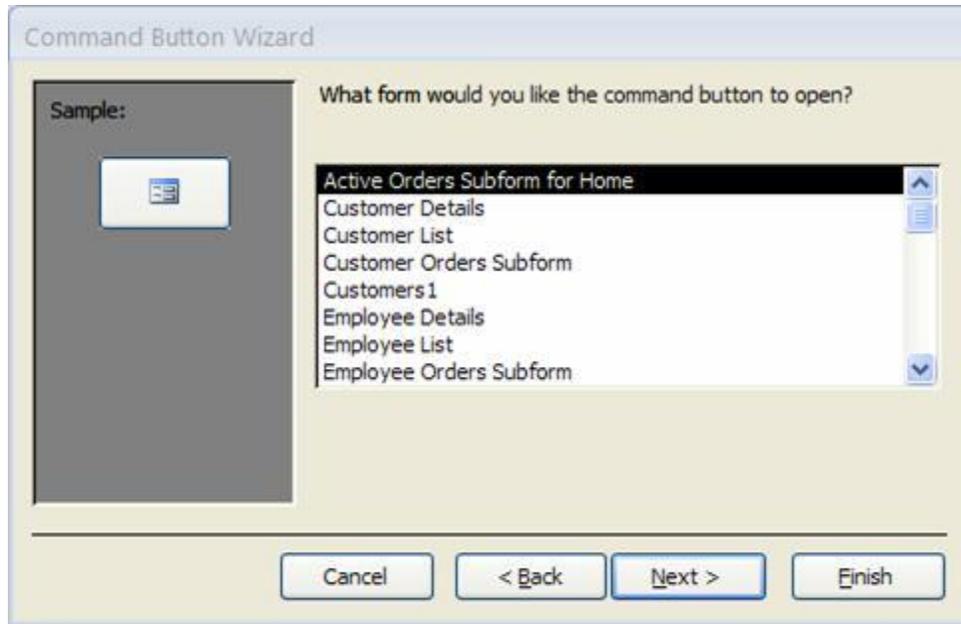
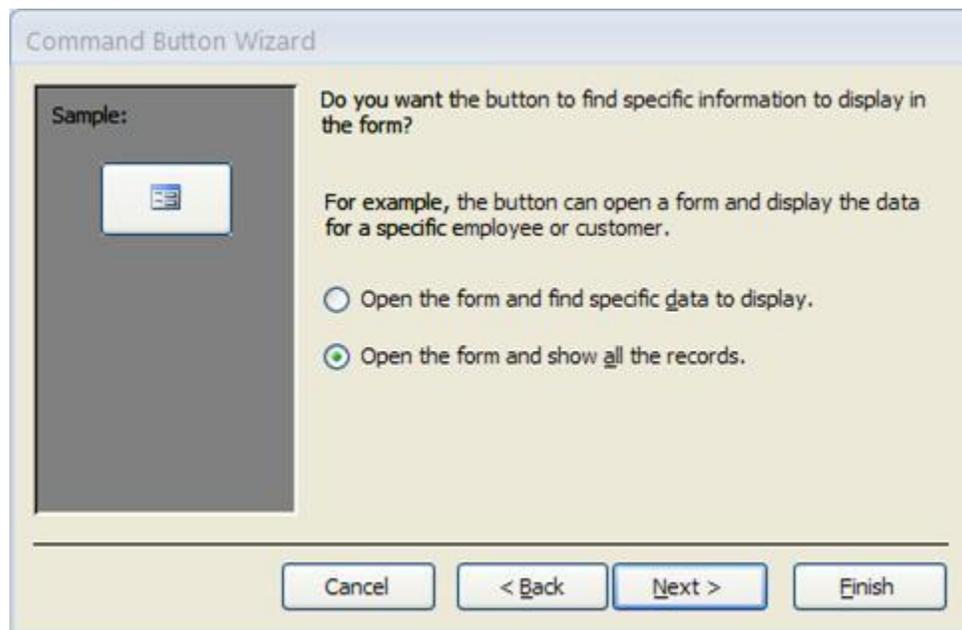


Figure 3.2. Command Button Wizard - Choose the Command Button Options

- ✓ Set your command button option
- ✓ Click Next



- ✓
- ✓ Figure 3.3. Command Button Wizard - Choose How the Button Should Work

- ✓ Choose how the button should work
- ✓ Click Next

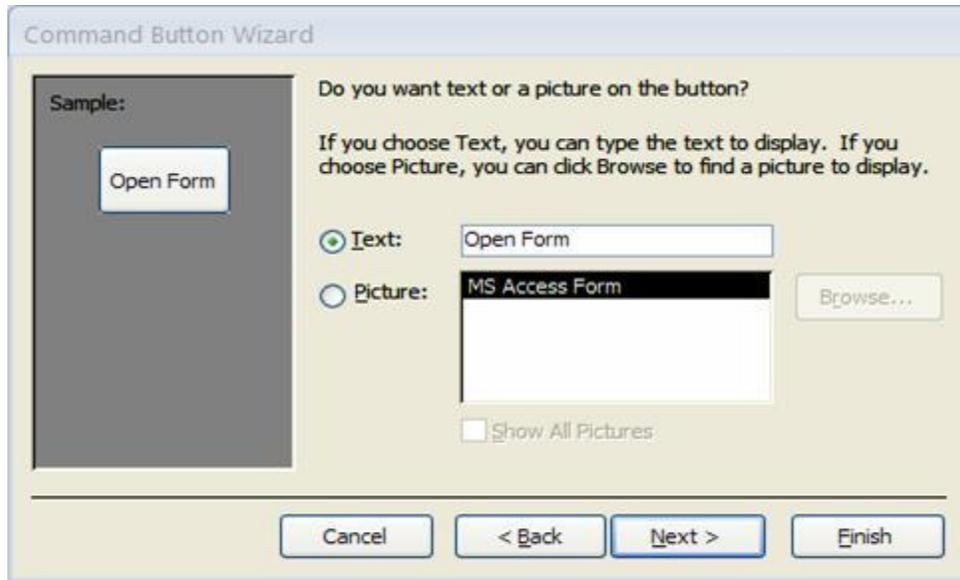


Figure 3.4. Command Button Wizard - Choose Text or Picture Display

- ✓ Choose to show Text or a Picture on the command button
- ✓ Click Next

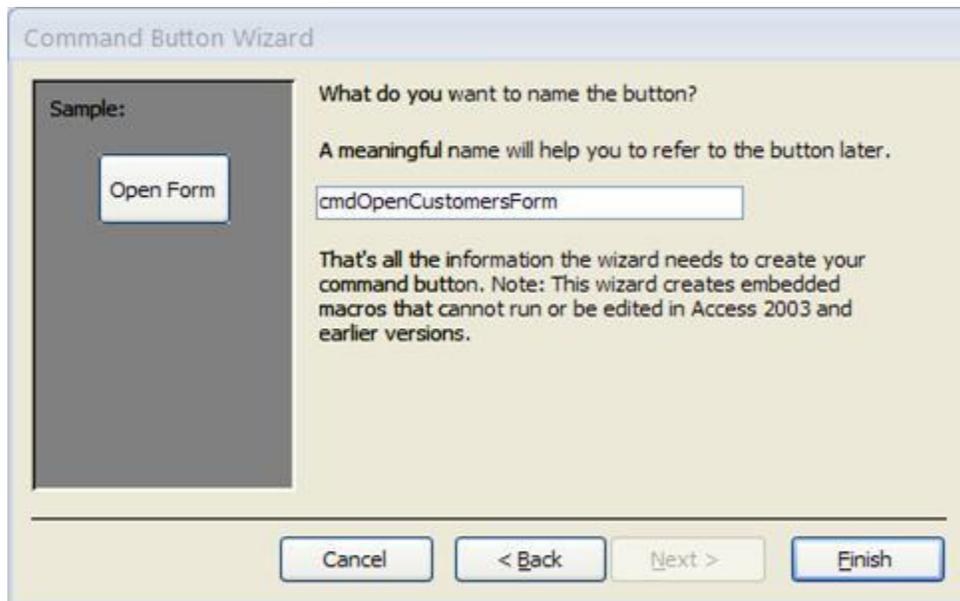


Figure 3.5. Command Button Wizard - Enter Command Button Name

- ✓ Enter a name for the command button
- ✓ Click Finish
- ✓ Save the form



<b>LAP Test</b>	<b>Creating Database Form</b>
-----------------	-------------------------------

Name: \_\_\_\_\_  
\_\_\_\_\_

Date:

Time started: \_\_\_\_\_  
\_\_\_\_\_

Time

finished:

- Task 1
  - ✓ Create a form by using a wizard
- Task 2
  - ✓ Create the Navigation Buttons
  - ✓ Create a label that displays your name
- Task 3
  - Create a text box
  - Insert Picture
  - Insert Chart
  - Create a link to open another form
  - Create control button that closes the form
  - Save the Form
  - Open Existing form



## Instruction Sheet

### LG14: Create database Queries

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Retrieving Information

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, you will be able to –

- Existing database is accessed and required records located
- Simple query is created and required information retrieved
- Query with multiple criteria is developed and required information retrieved
- Data are selected and appropriately displayed

#### 1: Learning Instructions

33. Read the specific objectives of this Learning Guide.
34. Follow the instructions described in number 3 to 18.
35. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask your teacher for assistance if you have a hard time understanding them.
36. Accomplish the “Self-check 1” in page 5.
37. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
38. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
39. Submit your accomplished Self-check. This will form part of your training portfolio.
40. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask your teacher for assistance if you have a hard time understanding them.
64. Accomplish the “Self-check 2” in page 9.



65. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
66. Read the information written in the “Information Sheets 3 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
67. Accomplish the “Self-check 3” in page 12.
68. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
69. Read the information written in the “Information Sheets 4 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
70. Accomplish the “Self-check 4” in page 14.
71. Read the “Operation Sheet 1” in page 15. and try to understand the procedures discussed.
72. If you earned a satisfactory evaluation proceed to “Operation Sheet 2” in page 17. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
73. Read the “Operation Sheet 2” and try to understand the procedures discussed.
74. If you earned a satisfactory evaluation proceed to “Operation Sheet 3” in page 37. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
75. Do the “LAP test” in page 50 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work.

Information Sheet 1	Accessing & Locating Required records
---------------------	---------------------------------------

**Locate specific records in a database:** As your database grows, locating specific records will involve more than a quick glance at a datasheet. In this article, learn five ways to locate specific records based on your needs.

**Browse through all records** You can browse through records by using the TAB key when you want to move through one record at a time, in order, to locate a specific record. You can also browse through records in a table in Datasheet view using the record navigation buttons. The record navigation buttons are available at the bottom of the table or form.



**Browse through all records** You can browse through records by using the TAB key when you want to move through one record at a time, in order, to locate a specific record. You can also browse through records in a table in Datasheet view using the record navigation buttons. The record navigation buttons are available at the bottom of the table or form.



The techniques that you can use to search and filter records are very useful for finding specific records for the case at hand. However, you might want to perform the same search or filter operation regularly. Instead of reproducing a set of search and filter steps every time, you can create a query. A query is a powerful and flexible way to locate specific records because it lets you perform customized searches, apply customized filters, and sort records. You can build your own queries to help you focus on specific records and to answer specific questions. Once created, a query can be saved and reused, and can also be used in building forms and reports.



<b>Self-Check -1</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. You can browse through records by using the--- key(2)
  - A. TAB
  - B. ALT
  - C. Delete
  - D. None
  
2. The -----buttons are available at the bottom of the table or form.(2)
  - A. record navigation
  - B. Save button
  - C. A&B
  
- . 3. ---is a powerful and flexible way to locate specific records & customized searches
  - A. True
  - B. False

**Note: Satisfactory rating - 3 and 5 points      Unsatisfactory - below 2 and 5 points**

You can ask you teacher for the copy of the correct answers.

## Information Sheet 2

## Creating Simple Query to Retrieve Information

A query is a request for data results, for action on data, or for both. You can use a query to answer a simple question, to perform calculations, to combine data from different tables, or even to add, change, or delete table data. A **query** is a derived item in the database meant

to answer specific questions that relate to the information in the database. It is the means to retrieve relevant information in one or more tables.

### 2.1 Types of Queries

- **Select Query**

- The select query is the simplest type of query and because of that, it is also the most commonly used one in Microsoft Access databases.
- A select query is the most common type of query.
- It retrieves data from one or more tables and displays the results in a datasheet where you can update the records (with some restrictions).
- You can also use a select query to group records and calculate sums, counts, averages, and other types of totals.
- It can be used to select and display data from either one table or a series of them depending on what is needed.
- In the end, it is the user-determined criteria that tell the database what the selection is to be based on.
- After the select query is called, it creates a "virtual" table where the data can be changed, but at no more than one record at a time.

- **Action Query**

- Action queries are very popular in data management because they allow for many records to be changed at one time instead of only single records like in a select query.
- When the action query is called, the database undergoes a specific action depending on what was specified in the query itself.

- This can include such things as creating new tables, deleting rows from existing ones and updating records or creating entirely new ones.
- Four kinds of action queries are:
  - **Append Query**
    - An append query adds a group of records from one or more tables to the end of one or more tables. For example, suppose that you acquire some new customers and a database containing a table of information on those customers. To avoid typing all this information into your own database, you'd like to append it to your Customers table.
  - **Delete Query**
    - A delete query deletes a group of records from one or more tables. For example, you could use a delete query to remove products that are discontinued or for which there are no orders. With delete queries, you always delete entire records, not just selected fields within records.
  - **Make Table Query**
    - As the name suggests, it creates a table based on the set results of a query. A make-table query creates a new table from all or part of the data in one or more tables. Make-table queries are helpful for creating a table to export to other Microsoft Access databases or a history table that contains old records.
  - **Update Query**
    - Allows for one or more field in your table to be updated.
    - An update query makes global changes to a group of records in one or more tables.
    - For example, you can raise prices by 10 percent for all dairy products, or you can raise salaries by 5 percent for the people within a certain job category. With an update query, you can change data in existing tables.
- **Parameter Query**
  - In Microsoft Access, a parameter query works with other types of queries to get whatever results you are after.
  - This is because, when using this type of query, you are able to pass a parameter to a different query, such as an action or a select query.
  - It can either be a value or a condition and will essentially tell the other query specifically what you want it to do.



- It is often chosen because it allows for a dialog box where the end user can enter whatever parameter value they wish each time the query is run. The parameter query is just a modified select query.
- A parameter query is a query that when run displays its own dialog box prompting you for information, such as criteria for retrieving records or a value you want to insert in a field.
- You can design the query to prompt you for more than one piece of information; for example, you can design it to prompt you for two dates.
- Access can then retrieve all records that fall between those two dates.
- Parameter queries are also handy when used as the basis for forms, reports, and data access pages.



<b>Self-Check -2</b>	<b>Written Test</b>
----------------------	---------------------

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. --- is a request for data results, for action on data, or for both(2)
  - A. A query
  - B. Table
  - C. Form
  - D. None
2. --- deletes a group of records from one or more tables (2)
  - A. A delete query
  - B. Append Query
  - C. Parameter query
3. Allows for one or more field in your table to be updated.(2)
  - A. Update Query
  - B. Parameter query
  - C. Select query

---

**Note:** Satisfactory rating - 3 and 5 points      Unsatisfactory - below 3 and 5 points

You can ask you teacher for the copy of the correct answers.



Information Sheet 3	Developing Query With Multiple Criteria
---------------------	---

### 3.1 Introduction to query criteria

A criterion is similar to a formula — it is a string that may consist of field references, operators, and constants. Query criteria are also referred to as expressions in Access.

The following tables shows some sample criteria and explains how they work.

Criteria	Description
>25 and <50	This criterion applies to a Number field, such as Price or UnitsInStock. It includes only those records where the Price or UnitsInStock field contains a value greater than 25 and less than 50.
DateDiff ("yyyy", > 30	This criterion applies to a Date/Time field, such as BirthDate. Only [BirthDate], Date()) records where the number of years between a person's birthdate and today's date is greater than 30 are included in the query result.
Is Null	This criterion can be applied to any type of field to show records where the field value is null.

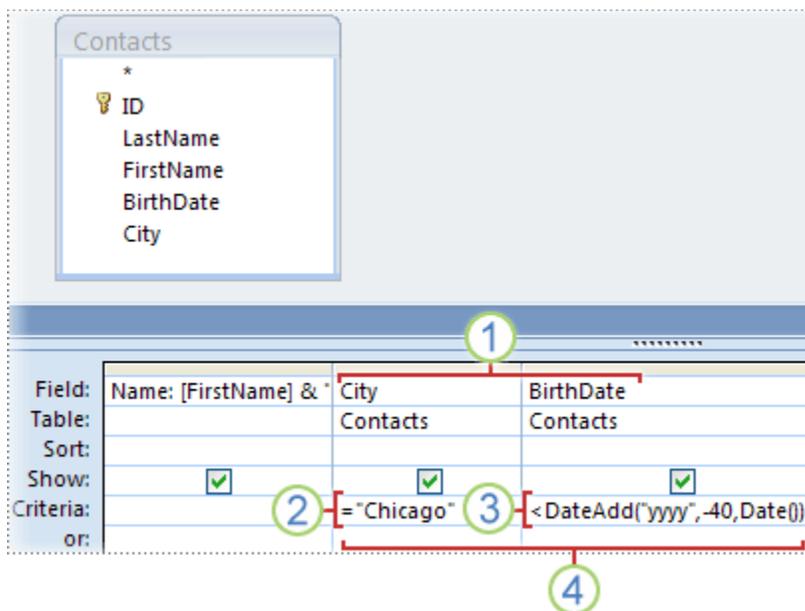
As you can see, criteria can look very different from each other, depending on the data type of the field to which they apply and your specific requirements. Some criteria are simple, and use basic operators and constants. Others are complex, and use functions, special operators, and include field references.

This topic lists several commonly used criteria by data type. If the examples given in this topic do not address your specific needs, you might need to write your own criteria. To do that, you must first familiarize yourself with the full list of functions, operators, special characters, and the syntax for expressions referring to fields and literals.

Here, you will see where and how you add the criteria. To add a criteria to a query, you must open the query in Design view. You then identify the fields for which you want to specify criteria. If the field is not already in the design grid, you add it by either dragging it from the query design window to the field grid, or by double-clicking the field (Double-clicking the field automatically adds it to the next empty column in the field grid.). Finally, you type the criteria in the Criteria row

Criteria that you specify for different fields in the Criteria row are combined by using the AND operator. In other words, the criteria specified in the City and BirthDate fields are interpreted like this:

City = "Chicago" AND BirthDate < DateAdd (" yyyy ", -40, Date())



- The City and BirthDate fields include criteria.
- Only records where the value of the City field is Chicago will satisfy this criterion.
- Only records of those who are at least 40 years old will satisfy this criterion.
- Only records that meet both criteria will be included in the result.

What if you want only one of these conditions to be met? In other words, if you have alternate criteria, how do you enter them?

If you have alternate criteria, or two sets of independent criteria where it is sufficient to satisfy one set, you use both the Criteria and the or rows in the design grid.



Self-Check -3	Written Test
---------------	--------------

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1 - A criterion is similar to (2)

- a. a formula
- b. String
- c. A&B

2.- is a string that may consist of field references, operators, and constants(2)

- A. Criterion
- B. Value

**Note: Satisfactory rating - 2 and 4 points      Unsatisfactory - below 2 and 4 points**

You can ask you teacher for the copy of the correct answers.

Information Sheet 4	Selecting & Displaying Data
---------------------	-----------------------------

#### 4.1 Introduction

Data selection is defined as the process of determining the appropriate data type and source, as well as suitable instruments to collect data. The primary objective of data



selection is the determination of appropriate data type, source, and instrument(s) that allow investigators to adequately answer research questions.

#### 4.2 The function of displaying data

- ✓ Displaying data in research is the last step of the research process.
- ✓ It is important to display data accurately because it helps in presenting the findings of the research effectively to the reader.
- ✓ To make the findings more visible and make comparisons easy.



Self-Check -4	Written Test
---------------	--------------

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. --is defined as the process of determining the appropriate data type and Source (2)
  - A. Data selection
  - b. Data processes
  - c. A&B
  
- 2.- It is important to display data accurately(2)
  - A. True
  - B. False

**Note: Satisfactory rating - 2 and 54points**

**Unsatisfactory - below 2 and 4points**

You can ask you teacher for the copy of the correct answers.

Operation Sheet-1

Accessing & Locating Records

**Steps to Browse through all records** You can browse through records by using the TAB key when you want to move through one record at a time, in order, to locate a specific record. You can also browse through records in a table in Datasheet view using the record navigation buttons. The record navigation buttons are available at the bottom of the table or form.



1. Go to the first record
2. Go to the previous record
3. **Current Record** box
4. Go to the next record
5. Go to the last record
6. Open a new (blank) record
7. Filter indicator
8. Search box

Steps to Search for a specific record

- Open the table or form, and then click the field that you want to search.
- On the **Home** tab, in the **Find** group, click **Find**, or press CTRL+F.

The **Find and Replace** dialog box appears, with the **Find** tab selected.

- In the **Find What** box, type the value for which you want to search.
- To change the field that you want to search or to search the entire underlying table, click the appropriate option in the **Look In** list.
- In the **Search** list, select **All**, and then click **Find Next**.



- When the item for which you are searching is highlighted, click **Cancel** in the **Find and Replace** dialog box to close the dialog box. Records that match your conditions are highlighted

### Steps to Create a query to find a specific record

- On the **Create** tab, in the **Queries** group, click **Query Design**.
- In the **Show Table** dialog box, double-click **Issues**, and then click **Close**.
- In the query designer, double-click the asterisk (\*) in the **Issues** table. This helps make sure that the query will display all the fields from the records it returns.

**Issues.\*** appears in the first column of the design grid, in the **Field** row. This indicates that all the fields from the Issues table should be returned.

- In the query designer, double-click **Status** on the **Issues** table.

**Status** appears in the second column in the design grid, in the **Field** row.

- In the second column of the design grid, clear the check box in the **Show** row. This helps make sure that the query does not display the Status field.

If you do not clear the **Show** check box in the Status column, the Status field will be displayed two times in the query results.

- In the second column of the design grid, in the **Criteria** row, type **= "Closed"**. This is your search criterion. This is how you make sure that the query will return only those records where the value of **Status** is "Closed."

**Note:** In this example, only one search criterion is used. You can use many search criteria for any given search by adding criteria to more fields, and by using the

- On the **Design** tab, in the **Results** group, click **Run**.

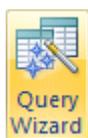
**Note:** Unless you have already begun tracking issues and therefore have data in the Issues table — and you have set the status of at least one issue to "Closed" — the query will not return any results. However, you can save the query, and use it at any time in the future.

- Press CTRL+S to save the query.
- In the **Save As** dialog box, type a name for the query in the **Query Name** field, such as **Closed Issues**, and then click **OK**.

<b>Operation Sheet-2</b>	<b>Creating Simple Query to Retrieve Information</b>
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The simplest way to create a query is by using the Query Wizard. It presents a list of tables and queries you can select from the current database.

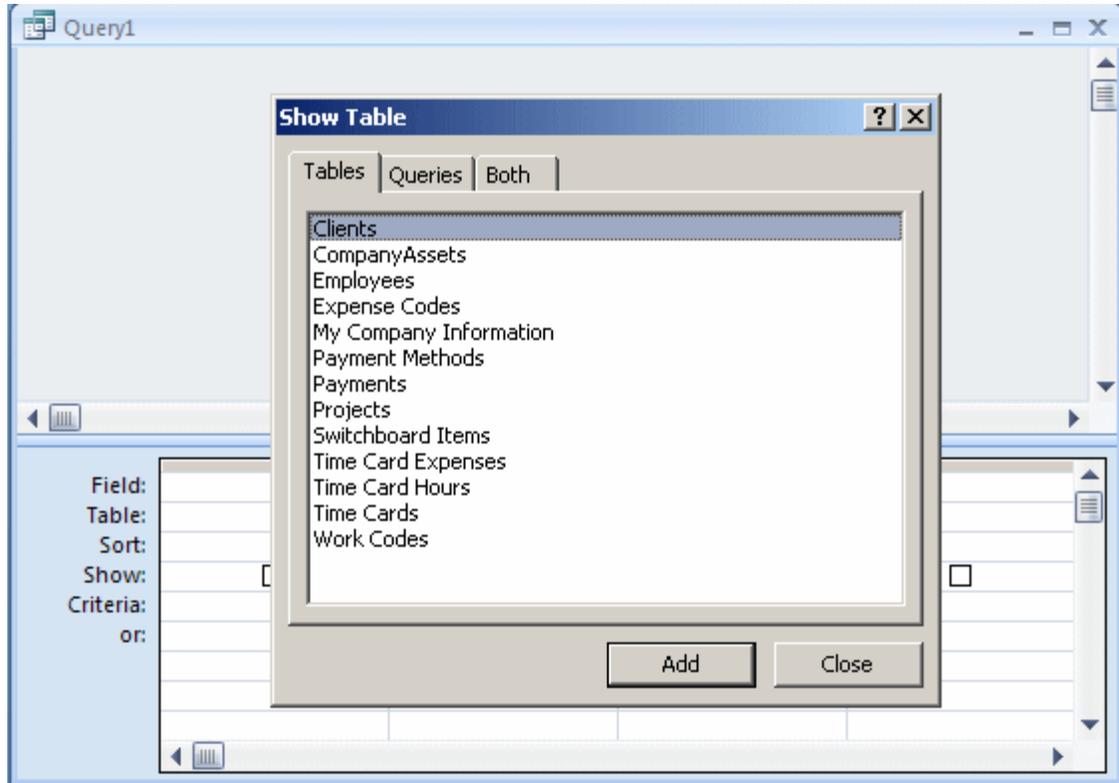
Steps To use the Query Wizard, 17



1. On the Ribbon, you can click the Create tab and, in the Other section, click Query Wizard . This would display the New Query dialog box:
2. On the New Query dialog box, you can click Simple Query Wizard and click OK. The first page of the Simple Query Wizard expects you to choose the origin of the query as a table or an already created query. After selecting the table or query, the second page of the wizard would present the fields of that list and you can select those you want:

The next page of the wizard allows you to specify the name of the query:





If the Show Tables dialog box is closed or for any reason you want to display it:

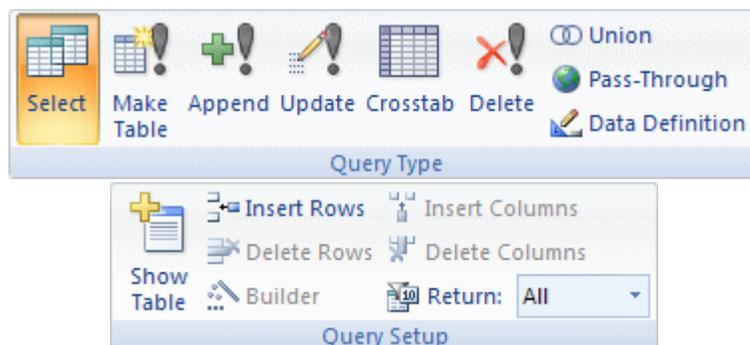
- In the Query Setup section of the Design tab of the Ribbon, you can click the Show Table

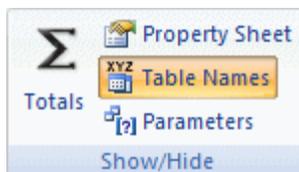


button

- You can right-click anywhere on the query window and click Show Table...

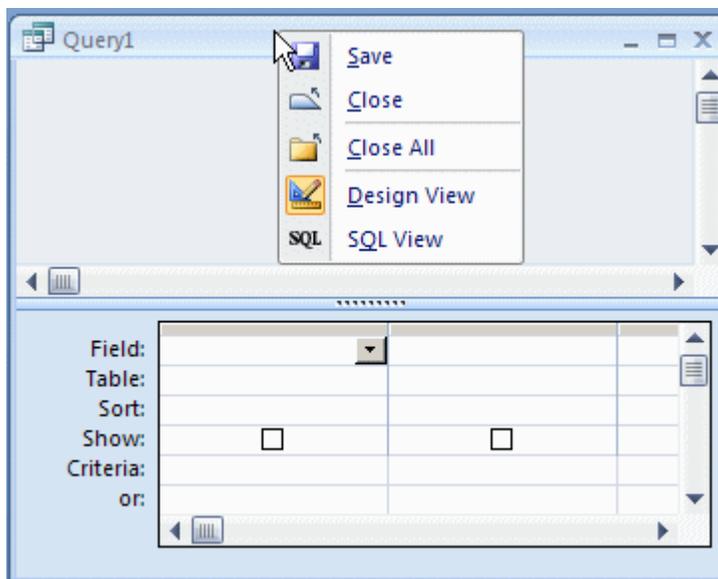
When a query is displaying in Design View, the Design tab of the Ribbon displays the buttons used for a query:



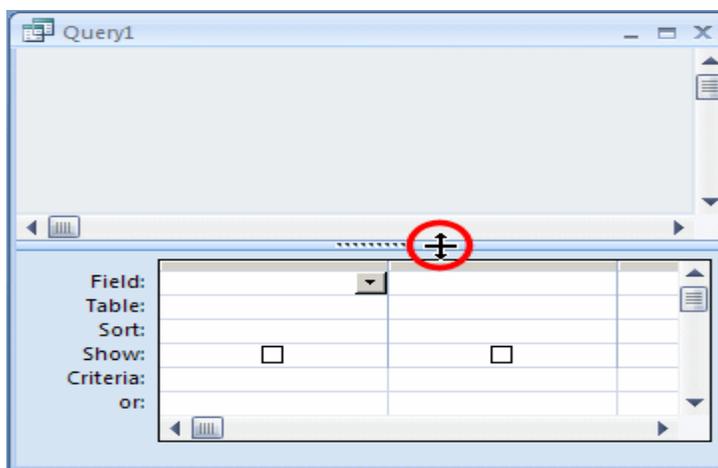


## The Query Window

The Query window allows you to design and manage various aspects of a query. You can right-click the title bar of the Query window to access a menu:



One of the operations you can perform on the Query window consists of resizing its top and bottom sections by dragging the splitter bar up or down:



## Selecting the Columns

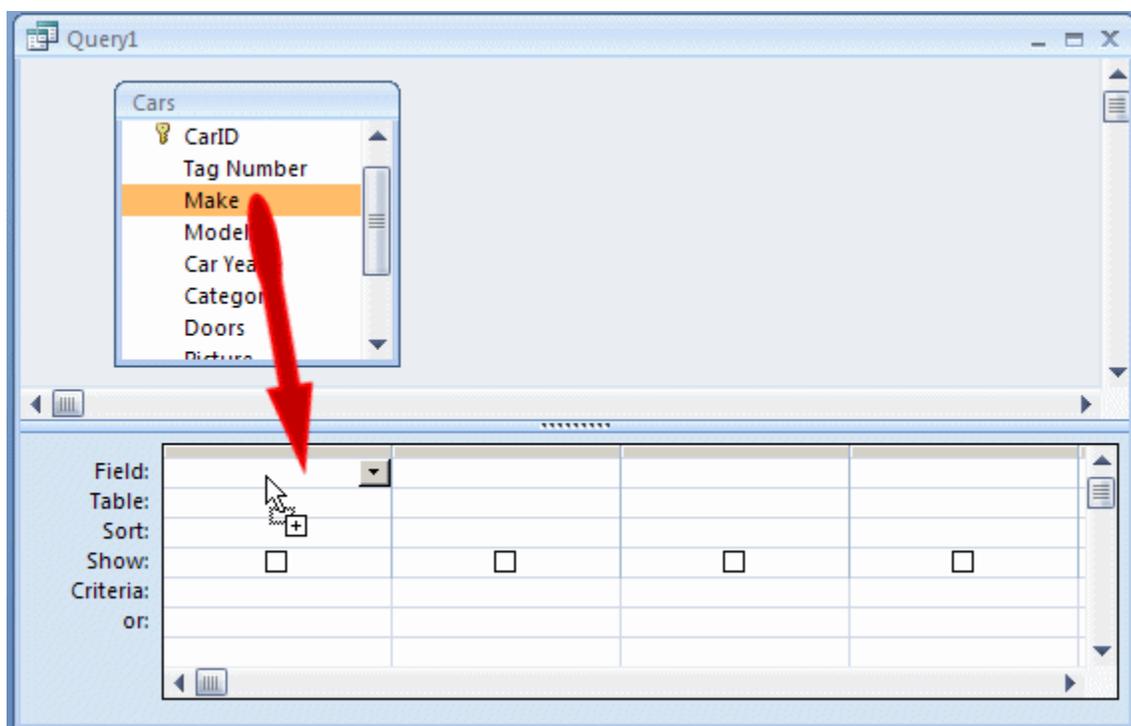
To create the fields for a query, you use the table(s) or query( queries) displayed in the upper section of the window. Once you have decided on the originating object(s), you can select which fields are relevant for your query:

- To select one field from the list, just click it
- To select many fields on the same range, you can click one of them, press and hold Shift. Then click one field on the other end of the desired range
- To select fields at random, click one of the desired fields, press and hold Ctrl; then click each one of the desired fields
- To select all fields, you can click the \* line on the list of fields

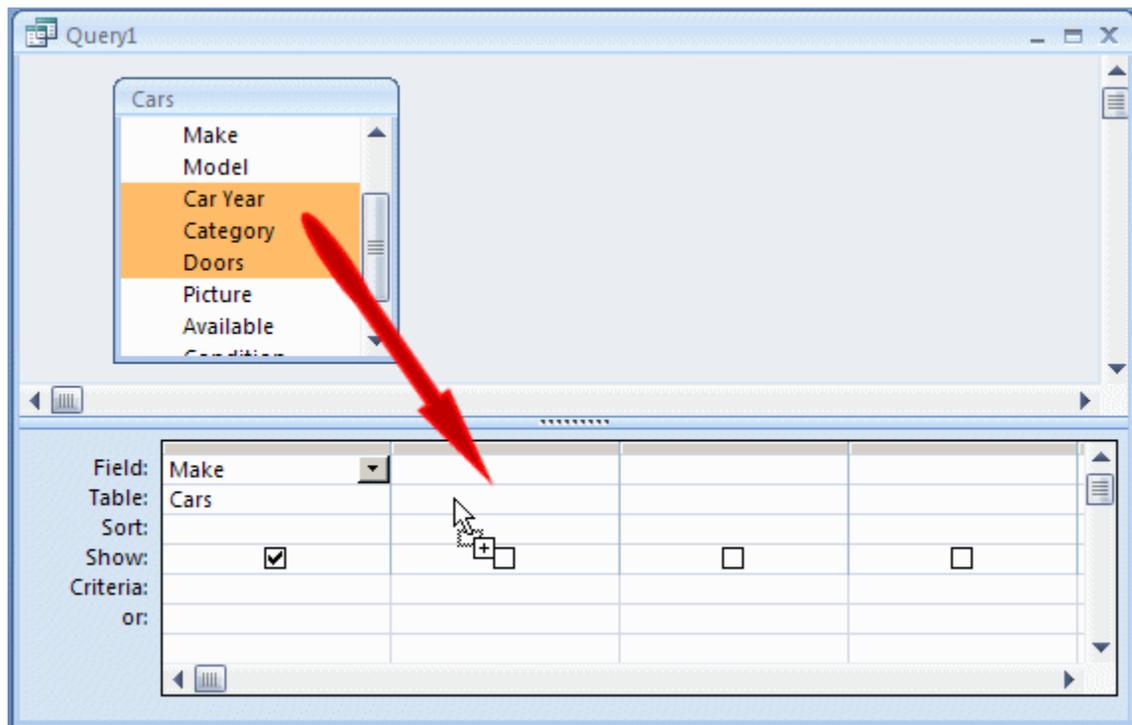
### To Add Columns

To make a field participate in a query, you have various options:

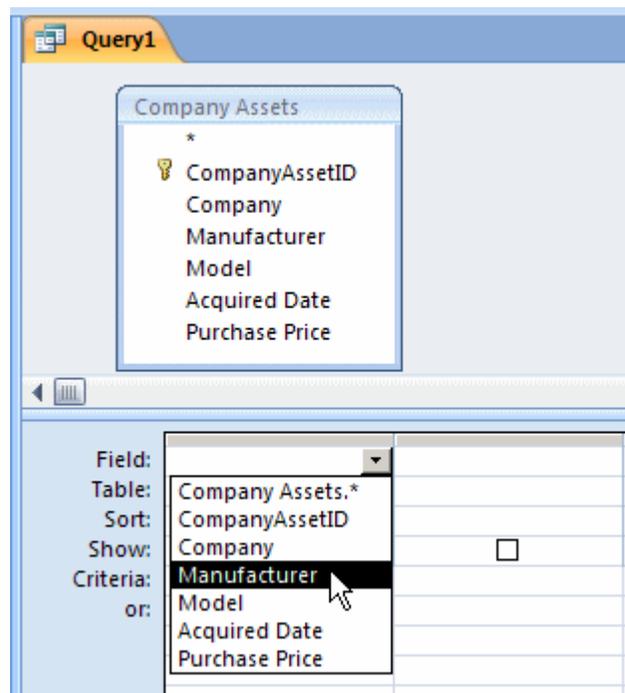
- Once you have made your selection on the list in the top part of the query window, you can drag it and drop it in the bottom section of the query window



- You can also select more than one field and drag them:



- Instead of dragging a field or all fields, you can either double-click a field to add it to the query, or double-click the line with \* to add all fields to the query
- In the bottom part of the query window, click an empty Field box to show a combo box. Then click the arrow of that combo box and select an item from the list:



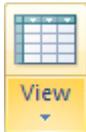
## Executing a Query

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To execute a query:

- If the query is currently closed, from the Navigation Pane:
  - You can double-click it
  - You can right-click it and click Open
- If the query is already opened and it is in Design View, on the Ribbon:

- You can click the Run button 

- You can click the View button  or you can click the arrow of the View button and click Datasheet View

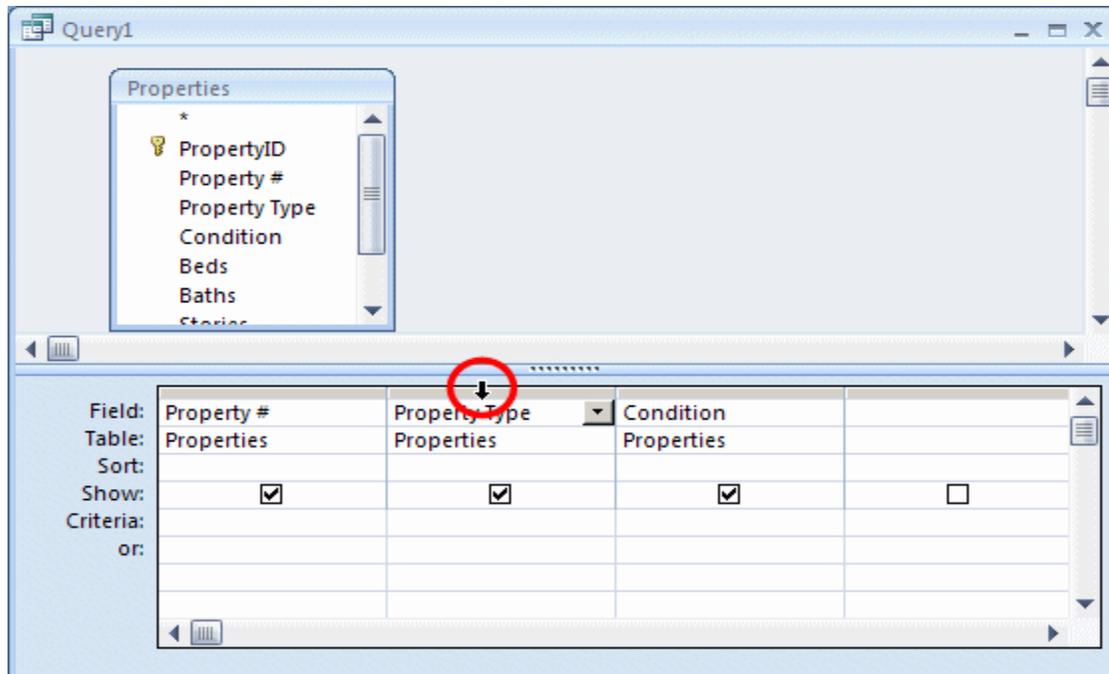
If you manually write a SQL statement and want to execute it, change the view to Datasheet View.

## Selecting a Column

---

Some operations require that you select a column from the bottom section of the query window:

- To select a field in the lower section of the view, click the tiny bar of the column header:



The whole column will be selected

- To select a range of columns, click the column header of one at one end, press and hold Shift, then click the column header at the other end

Since selecting a column in the Query window is a visual operation, there is no equivalent in SQL.

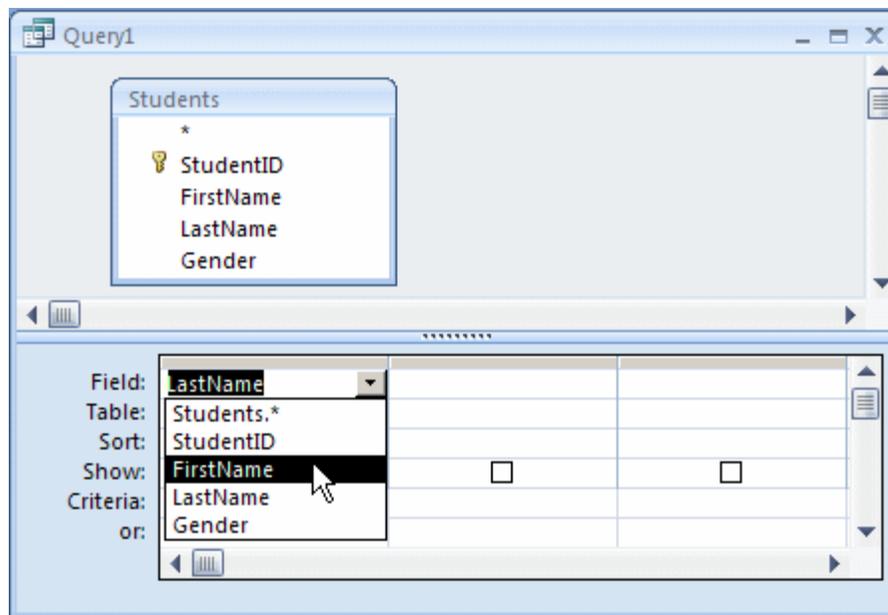
### Removing a Column From a Query

As seen above, a query is built by selecting columns from the originating list and adding them. If you do not need a column anymore on a query, which happens regularly during data analysis, you can either delete it or replace it with another column:

- To delete a column:
  - Once it is selected, you can press Delete
  - Right-click the column header and click Cut
- To delete a group of columns, select them and press Delete

### Replacing a Column

To replace a column, click the arrow on the combo box that displays its name and select a different field from the list:



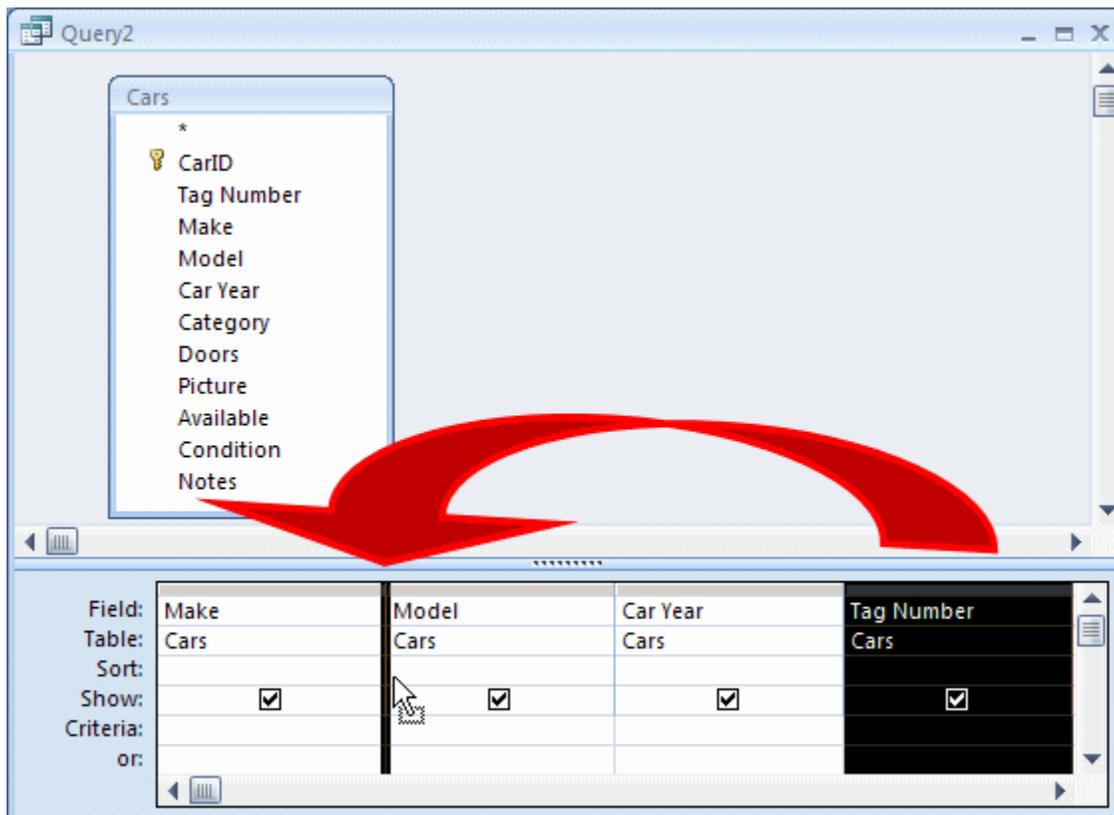
### Moving a Column

Columns on a query are positioned incrementally as they are added to it. If you do not like the arrangement, you can move them and apply any sequence of your choice. Before moving a column or a group of columns, you must first select it. Then:

To move a field

1. click its column header once.
2. Click it again and hold your mouse down,

- drag in the direction on your choice



- To move a group of columns, first select the group and then proceed as if it were one column

To Create a select query in a desktop database:

- ✓ Click Create > Query Design.
- ✓ In the Show Table box, double-click the Products table > Close.
- ✓ To add the fields to the design grid, double-click the Product Name and List Price fields.
- ✓ In the criteria row, under List Price add a criteria. For example,  $\geq 10$  to show a list of products more than or equal to \$10.00.

Field:	Product Name	List Price
Table:	Products	Products
Sort:		
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:		$\geq 10$
or:		

5. To see the query results, on the Design tab, click Run.

Product Name	List Price
Northwind Traders Chai	\$18.00
Northwind Traders Syrup	\$10.00
Northwind Traders Cajun Season	\$22.00
Northwind Traders Olive Oil	\$21.35
Northwind Traders Boysenberry	\$25.00
Northwind Traders Dried Pears	\$30.00
Northwind Traders Curry Sauce	\$40.00
Northwind Traders Walnuts	\$23.25
Northwind Traders Fruit Cocktail	\$39.00
Northwind Traders Marmalade	\$81.00
Northwind Traders Scones	\$10.00
Northwind Traders Beer	\$14.00
Northwind Traders Crab Meat	\$18.40
Northwind Traders Coffee	\$46.00

### Steps To Create an Append Query

1. Click the QUERY DESIGN icon (located in the OTHER group of the CREATE ribbon). The QUERY DESIGN window then opens along with the SHOW TABLE dialog form.
2. The next step is to add **tblMoreNames** to the QUERY DESIGN window. Do this by clicking ADD in the SHOW TABLE dialog form. Notice it is the table containing the *data to behappended* that we have selected.
3. Click the APPEND icon from the QUERY TYPE group of the DESIGN ribbon. As you do this, you will see the APPEND dialog box open.
4. You are now asked to select the name of the original table to which the new data is to be appended. So select **tblContacts** from the drop down list.
5. You are also asked whether this table is stored in the current database or in an external database. In this exercise both tables are stored in the current database. This is the default button displayed in the option group, so there should not be any need to change it.
6. Click OK to close the dialog box.

7. Next we are going to select the fields from **tblMoreNames** to be appended. To do this drag and drop the **Initials** and **LastName** fields from the table (in the top half of the window) down onto the design grid.
8. Next we are going to tell Access which fields the data from **Initials** and **Lastname** will be appended to. To do this go down to the APPEND TO row of the design grid (see figure 3 below), and select **FirstName** in the **Initials** column, and **Surname** in the **LastName** Column.

Field:	Initials	LastName
Table:	tblMoreNames	tblMoreNames
Sort:		
Append To:	FirstName	Surname
Criteria:		
or:		

**Figure 2:** The Query Design Grid.

9. We could add query criteria at this stage, but this particular exercise does not require any. If we did, however, this is added in the CRITERIA row just like it is with a select query.
10. If you want to view the data that is going to be appended, click the VIEW icon from the RESULTS group of the DESIGN ribbon. It is especially important to do this if any criteria is applied in step 9 above.
11. Once you are satisfied the correct data is going to be appended, click the RUN icon, again from the RESULTS group of the DESIGN ribbon.
12. A dialog box opens informing us that 10 rows are going to be appended, and asking us to confirm that we want to go ahead with this operation. Click YES to complete.

To see the result of our Append Query, re-open tbl Contacts.

ID	FirstName	Surname
1	John	Jones
2	Tracey	Smith
3	Anne	McNeil
5	Gillian	Carpenter
6	Karen	Rogers
7	Amy	Sanders
8	Kevin	White
10	Mary	Brown
11	Andrew	Smith
12	James	Francis
13	Karen	Jones
15	Jenny	Smith
21	E	Jones
22	J	Smith
23	F	Walpole
24	K	Trelawny
25	D	Richardson
26	K	Brown
27	N	Robins
28	E	Bradshaw
29	I	Hope
30	N	Timson

### Steps to Create Delete Query

1. Open the Employees table.

It should open and look like this:

Employee ID	First Name	Last Name	Add New Field
1	Tom	Gumman	
2	Tina	Gumman	
3	Jeff	Tracy	
4	Norman	McDonald	
5	Stephanie	Belmont	
*	(New)		

Note that Tom Gumman and Tina Gumman are currently employees.

2. Close the table.

3. Click the Create tab.

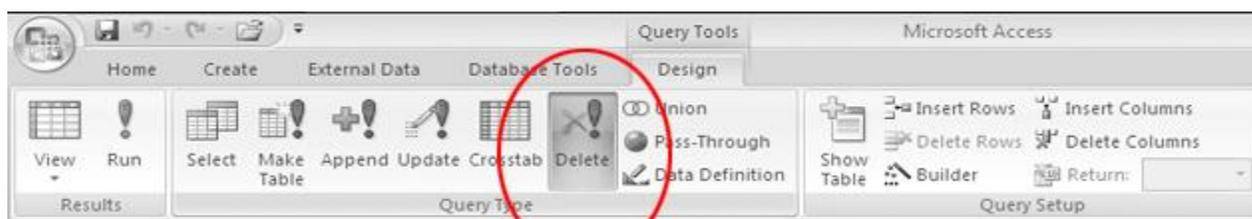
In the Ribbon, click Query Design.

4. When the Show Table window appears, click Employees.

Then click the  button.

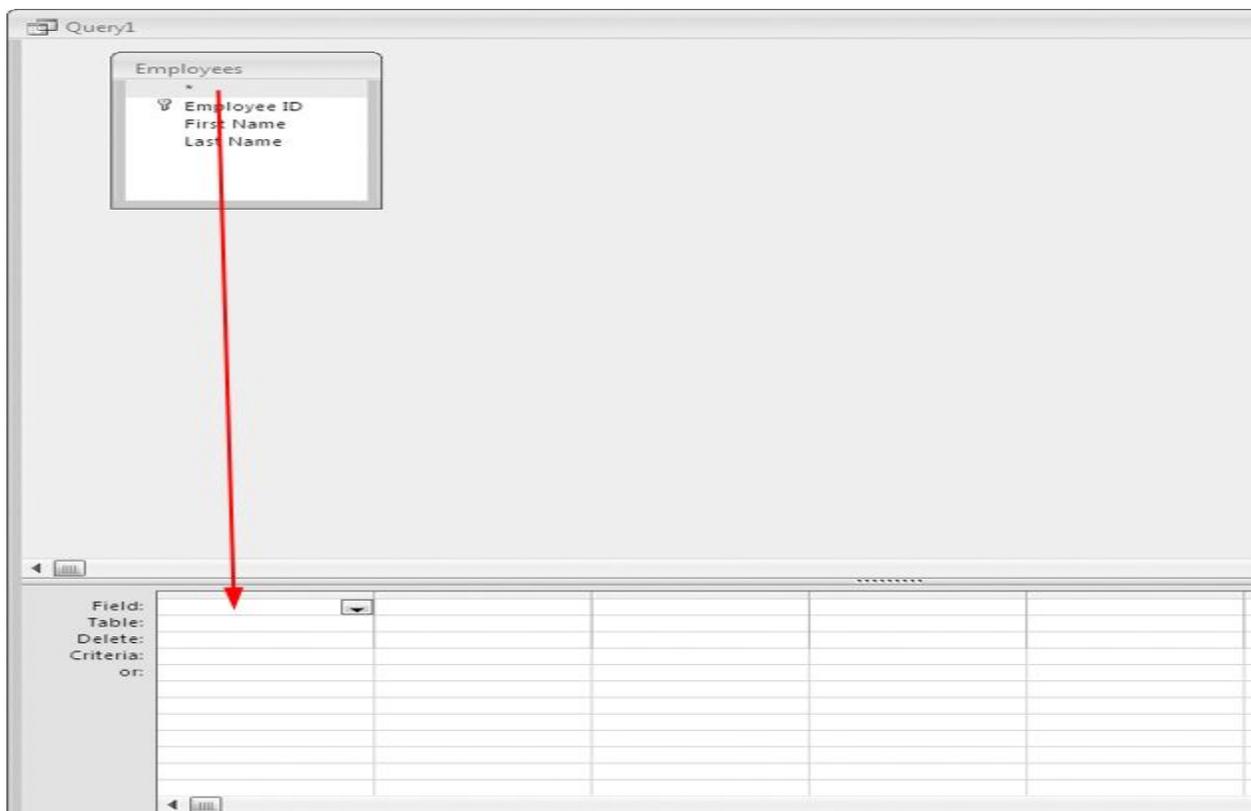
5. Click the  button.

6. In the Ribbon, click Delete.



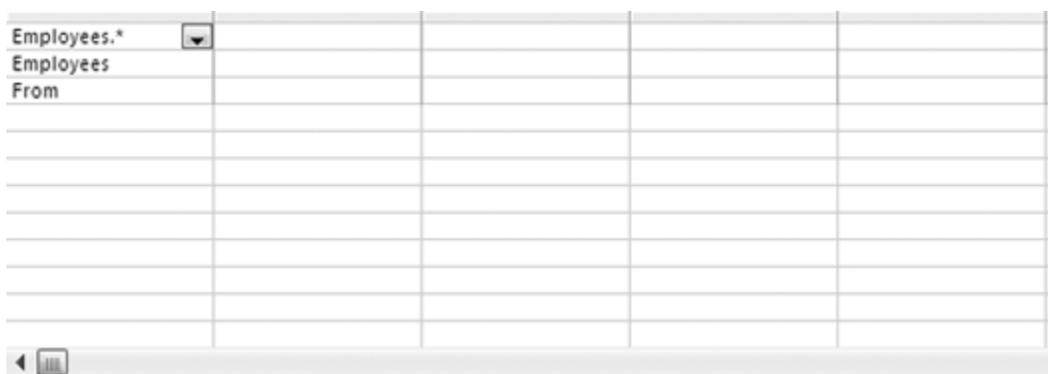
### *To Add fields*

1. In the field list of the Employees table, click-and-drag the \* field to the first column of the design grid.

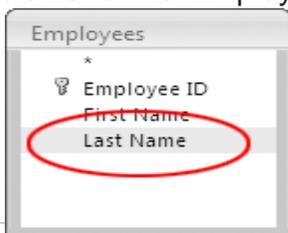


2. Release the mouse button.

The query design grid should look like this:



3. In the field list of the Employees table, double-click the Last Name field.



The query design grid should now look like this:

Employees.*	Last Name			
Employees	Employees			
From	Where			

*To Add criteria*

1. In the Last Name column of the design grid, click in the Criteria row.
2. Type:Gumman then press the ENTER key. It should look like this:

Employees.*	Last Name			
Employees	Employees			
From	Where			
	"Gumman"			

3. In the Ribbon, click Run.

When the alert window appears, click the  button.

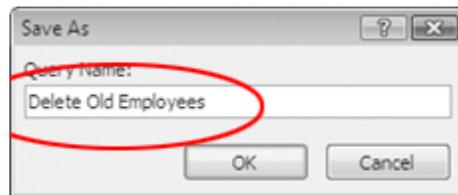
*TIP: Be careful when designing Delete queries. Once a record is deleted, the deletion cannot be undone.*

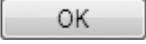
*You may want to run the query as a regular query first, to verify it's choosing the correct records, and then switch the type to a Delete query.*

4. On the Title Bar, click the icon.

5. When the Save As window appears, type:

Delete Old Employees  
in the Query Name box.



6. Click the  button.
7. Close the query window.

### *To Verify The results*

1. Open the Employees table. It should look like this:

Employee ID	First Name	Last Name	Add New Field
3	Jeff	Tracy	
4	Norman	McDonald	
5	Stephanie	Belmont	
*	(New)		

Note that Tom Gumman and Tina Gumman are no longer listed as employees.

2. Exit Microsoft Access.

### Example 2

#### Stage 1 - Creating the initial Select Query

1. Select the CREATE TAB of the Access Ribbon.
2. Click the QUERY DESIGN icon. It is located in the OTHER group of the CREATE ribbon.
3. Select tblContacts from the SHOW TABLE dialogue box.
4. Drag the asterisk (\*) from tblContacts down to the first column of the DESIGN GRID. This is a way of getting the query results to display all fields from the table without having to select each one individually.
5. Then Drag the Company field from tblContacts down to the second column of the grid. We have added this field separately because we are going to enter a criteria in this column.
6. Click on the CRITERIA row of the Company column, and add the criteria: "Company 5"

The Select Query has now been created. It should look like this:



Figure 2: The Select Query created in the first stage of the *Delete Query*.

It is advisable to run the query at this point and check the results are correct. They should look like this:

ID	FirstName	Surname	tblContacts.	Field0
4	Andrew	Francis	Company 5	Company 5
9	Charlie	Anderson	Company 5	Company 5
14	Edward	Kent	Company 5	Company 5
16	Angela	Jones	Company 5	Company 5

Figure 2: The results from the Select Query.

As you can see, our select query has found four records from tblContacts matching the criteria of Company 5". Since this is the correct result for the dataset we are working with, we can move onto the second stage of the process: converting the *Select Query* to a *Delete Query*.

## Stage 2 - Converting the Initial Select Query to a Delete Query

1. If you look at the QUERY TYPE group of the DESIGN ribbon, you will notice that the SELECT QUERY icon is highlighted orange. We need to change this to DELETE QUERY. To do this just click the DELETE QUERY icon further along the group.

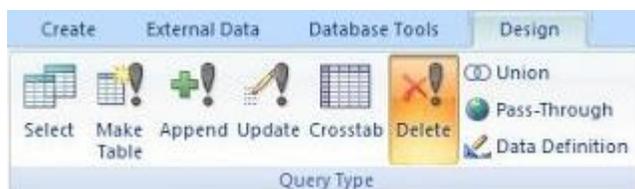


Figure 3: The QUERY TYPE group of the DESIGN ribbon.  
The DELETE QUERY icon is highlighted orange.

2. After clicking the DELETE icon, you will notice that the row of SHOW tick boxes disappears from the DESIGN GRID, along with the row for SORT. A new row entitled DELETE has taken their place. Access has filled in the values of FROM and WHERE in the first and second columns respectively. These are SQL Keywords: the FROM keyword indicates the first column contains fields *from* tblContacts, and WHERE indicates the Company column contains a criteria against the data stored in this field.



Figure 4: The QUERY DESIGN GRID for our DELETE Query. Notice the new row for DELETE containing the SQL FROM and WHERE Keywords.

3. Click RUN from the QUERY RESULTS group.
4. Click YES when prompted whether we want to delete the number of rows matching our query criteria. This will be four rows for the dataset we have been working with.

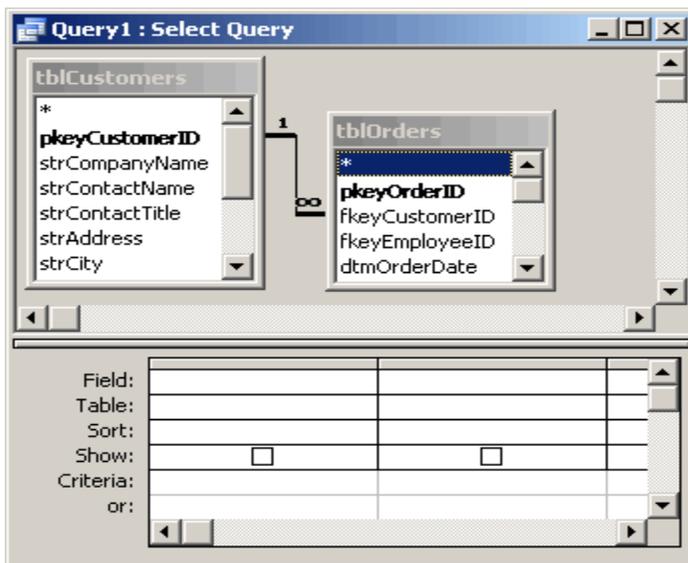
We can now go back and open the tblContacts table. As you can see from Figure 5 below, all Company 5 contacts have been removed by our DELETE QUERY.

ID	FirstName	Surname	Company
1	John	Jones	Company 2
2	Tracey	Smith	Company 3
3	Anne	McNeil	Company 4
5	Gillian	Carpenter	Company 1
6	Karen	Rogers	Company 2
7	Amy	Sanders	Company 3
8	Kevin	White	Company 4
10	Mary	Brown	Company 1
11	Andrew	Smith	Company 2
12	James	Francis	Company 3
13	Karen	Jones	Company 4
15	Jenny	Smith	Company 1

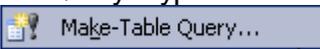
### Steps to Create Make table Query

Using our scenario, we will create a make-table query for all customers from the specified area that have ordered products in the past 12 months. We will need to perform the following steps to create the query:

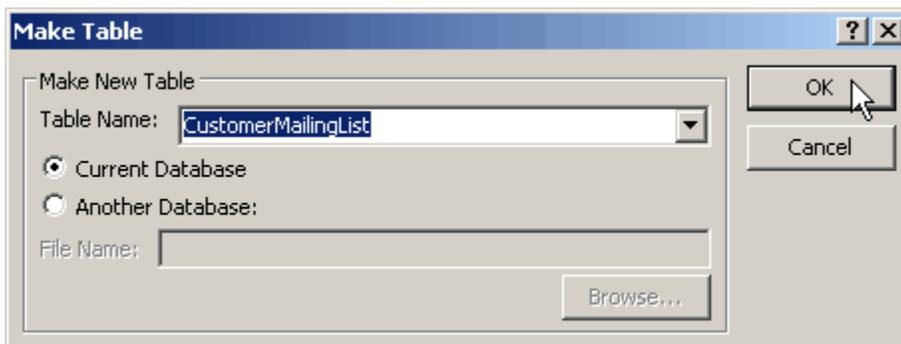
1. Create a new query, by using the Customers and Orders tables.



Steps to

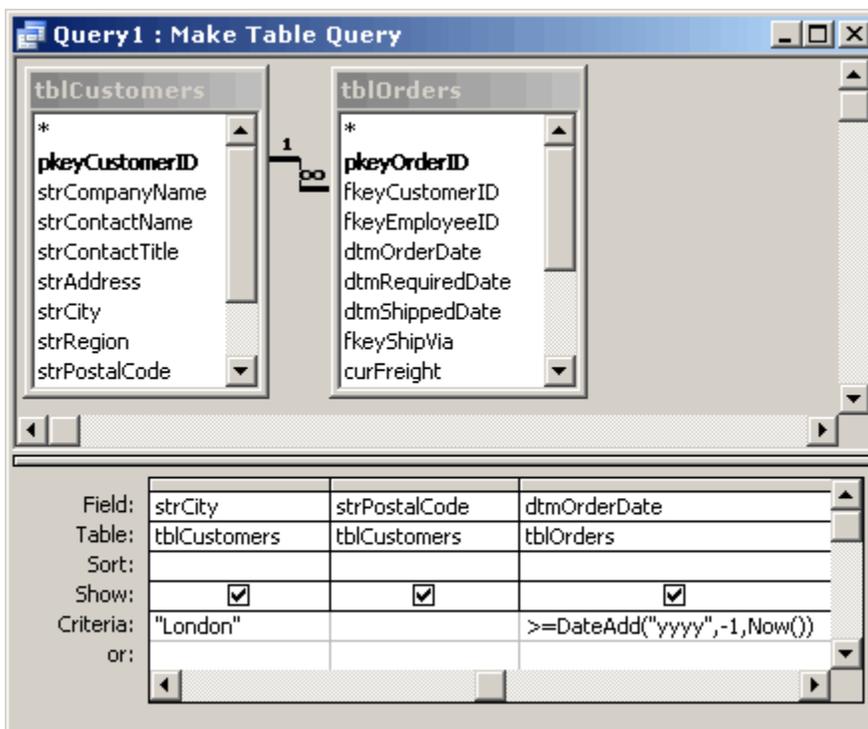
2. From the Query Type button  on the toolbar, select Make Table  Make-Table Query...

The Make Table dialog box appears, where you should enter the name for the new table. Here we can also select whether we want to create the new table in the current database or in another database. Ensure that the current database is selected and click OK.

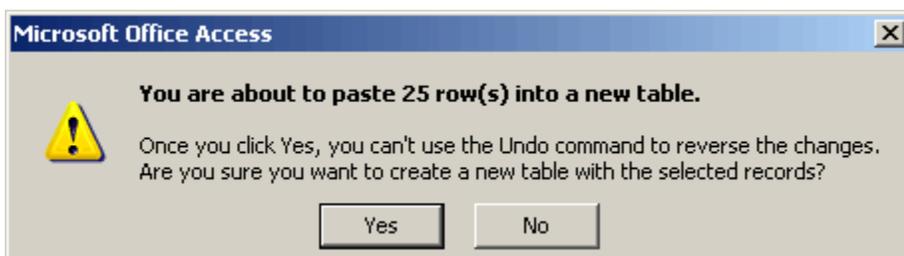


3. Select the mailing information fields, in our case CustomerTitle, CustomerName, Address, City, Postcode from the Customers table, and OrderDate from the Orders table.
4. Specify the chosen City criteria in the City field and add the criteria required in the OrderDate field to only show records from the last 12 months - using the DateAdd function: `>=DateAdd("yyyy",-1,Now())`

The query design should appear like the example below:

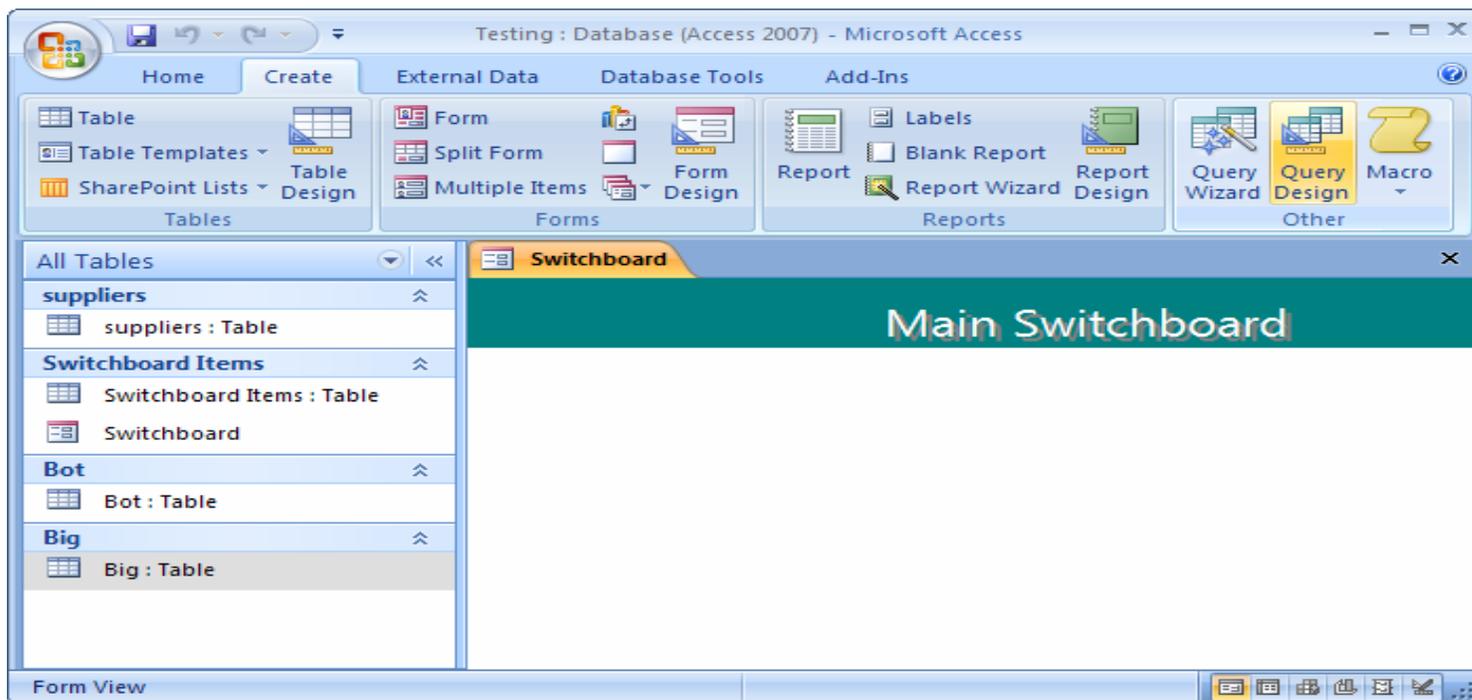


5. To check that the results are returned that we expect, click on the datasheet button  on the toolbar. Once you have verified this, switch back to query design view.
6. In query design, deselect the Show: property for the OrderDate field, as we do not need this to be visible in our new table.
7. Click on the Run button  on the toolbar. Microsoft Access now displays a message to indicate how many records will be copied to the new table.

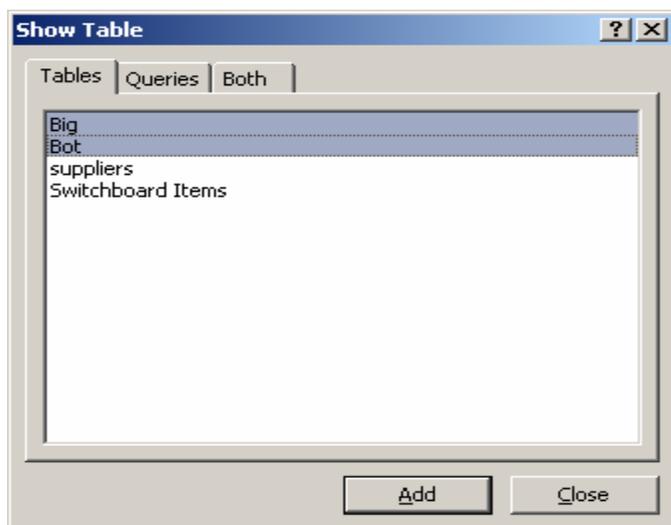


8. Click Yes to complete the query, and create the new table.

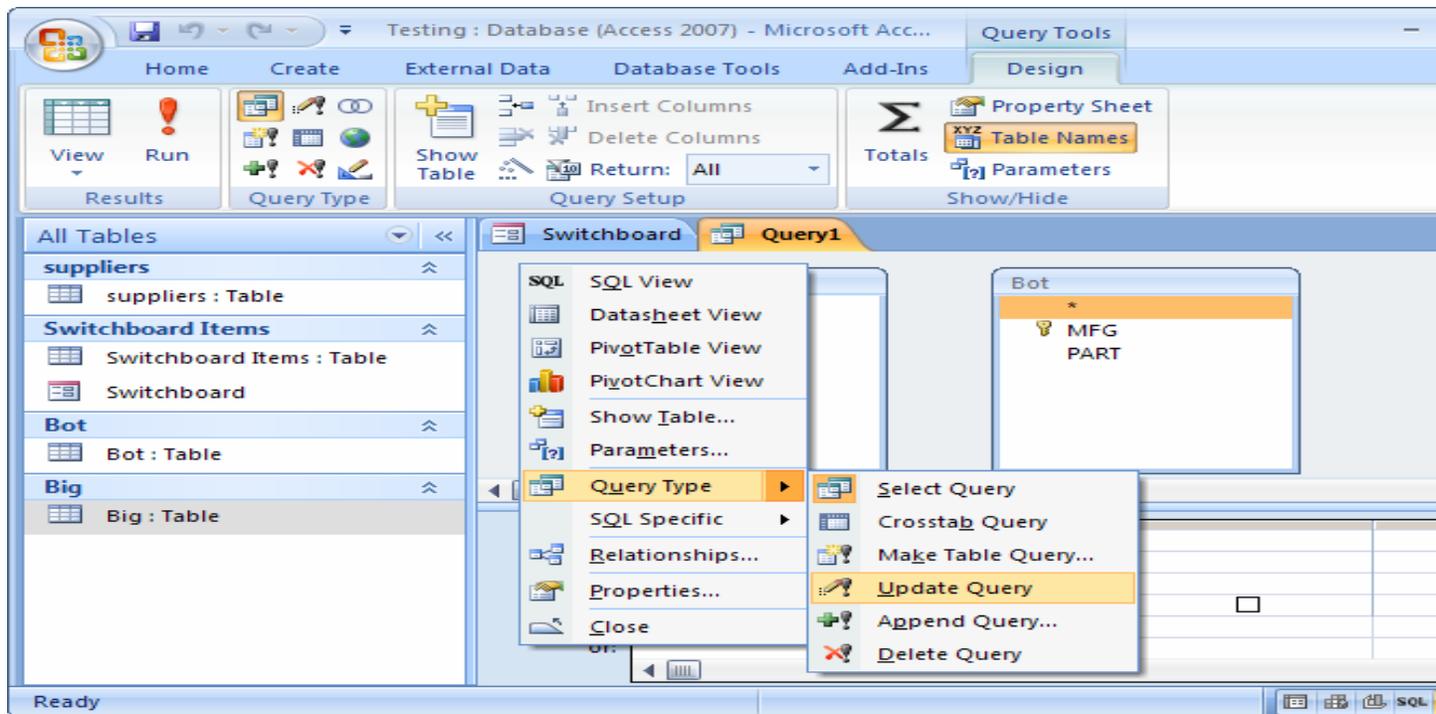
## Using an Update Query Example 1



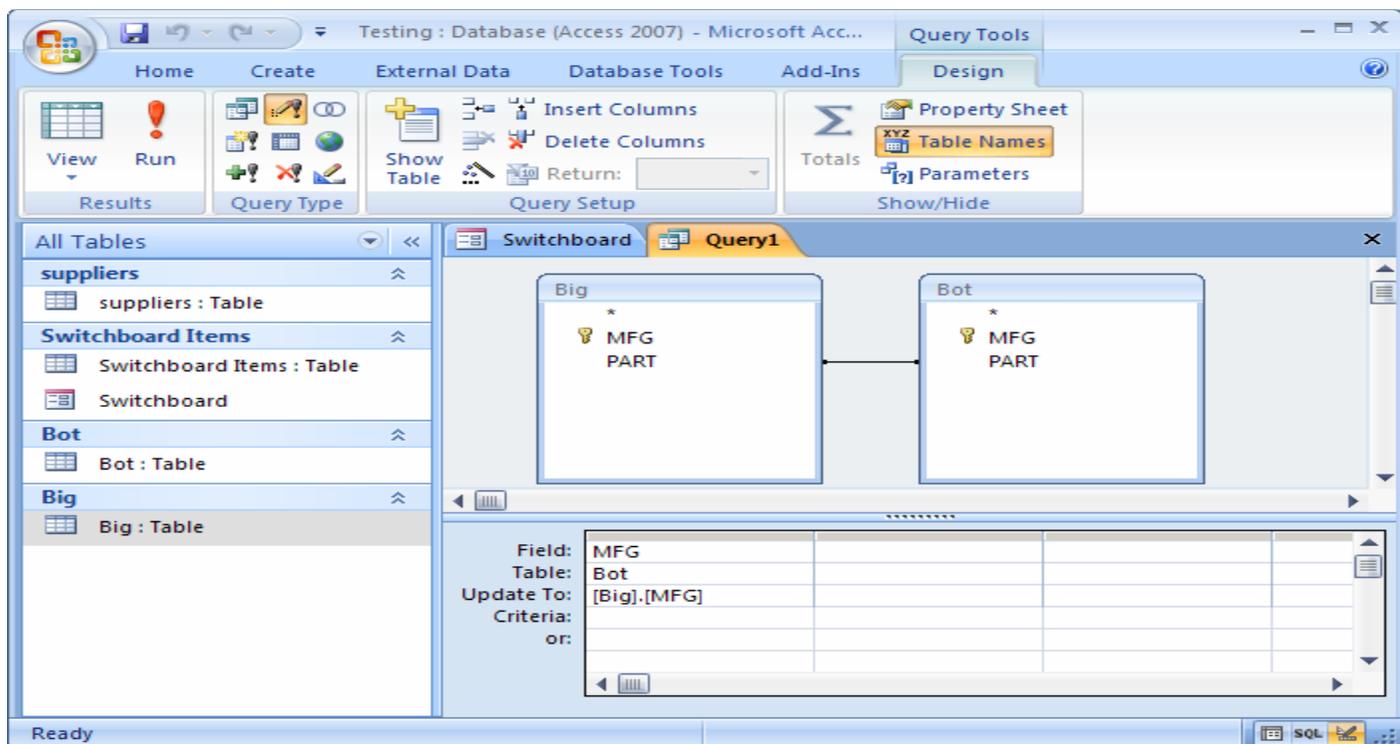
In this example, we've selected the Big and Bot tables. You can select multiple tables by holding down the Ctrl key while selecting the table names.



4. Next, right-click somewhere next to the tables (but not on a table) in the query editor,
5. select Query Type > Update Query from the popup menu.



6. Next, build the query like the one below:



This query will update the MFG field in the Bot table with the value in the MFG field in the Big table when the PART values match.

The SQL for this query is as follows:

```
UPDATE Big INNER JOIN Bot ON Big.PART = Bot.PART
SET Bot.MFG = [Big].[MFG];
```

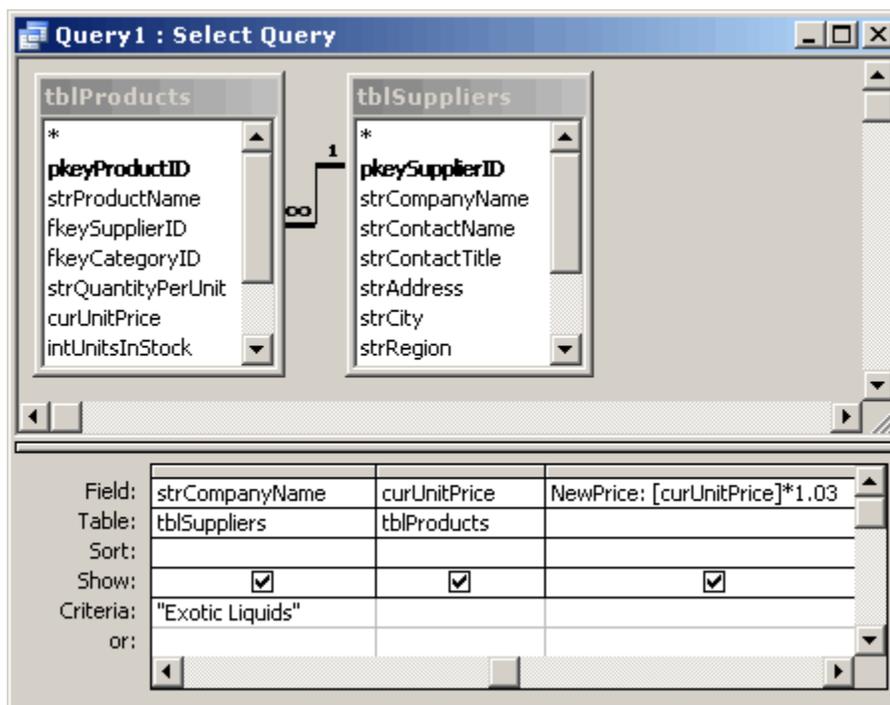
### Example 2

Here are the steps that we follow to produce the required outcome:

1. Create a new query using the Products table and the Suppliers table. Include the fields that you are going to use to update the data (ProductID, ProductName and UnitPrice from the Products table, and CompanyName from the Suppliers table)

We have also included criteria in the CompanyName field to limit the results to only those of the Supplier that we are updating the records for.

Also, in the image below, you will see that we have included an additional field, just to test our expression. This will give us a value for the 3% increase, just to check that the results will be returned correctly. This field will be removed before we run the update, but we will use the expression later.



Creating a SELECT query, that will later be changed to the UPDATE Query

2. To check what results this will produce, run the query by clicking on the datasheet  button

Product ID	Product Name	Company Name	Unit Price	NewPrice
1	Chai	Exotic Liquids	£18.00	£18.54
2	Chang	Exotic Liquids	£19.00	£19.57
3	Aniseed Syrup	Exotic Liquids	£10.00	£10.30

Checking the results before running the Update Query

- When we are happy with the resulting data, we can switch back to design view to convert the query to an Update query.

From the Query Type button  on the toolbar, select Update Query 

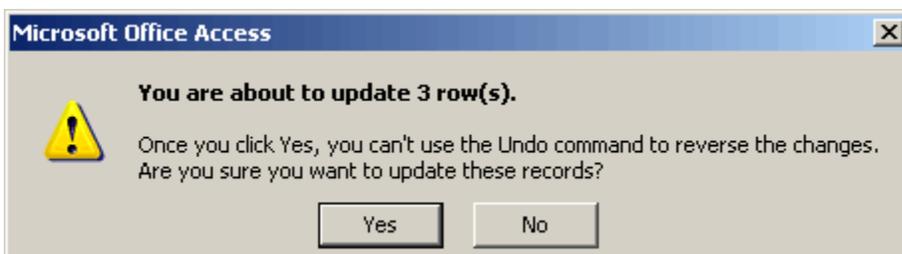
In the curUnitPrice column, in the Update To cell, type in the expression `[curUnitPrice]*1.03` and press enter. This expression will update the original Unit Price by 3 Percent.

The query design should now look like:

Field:	pkeyProductID	strProductName	strCompanyName	curUnitPrice
Table:	tblProducts	tblProducts	tblSuppliers	tblProducts
Update To:				<code>[curUnitPrice]*1.03</code>
Criteria:			"Exotic Liquids"	
or:				

The Update Query design

- We now need to Run this query, using the Run button  to update the data in our Products table that meets the criteria that is applied. The warning dialog box indicates the number of records that will be update, click Yes to accept this:



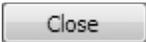
Example 3

1. Open the Products table.
2. Note the price (to customers) of French Truffles (\$8.99) and Blue Mountain Coffee (\$9.99).

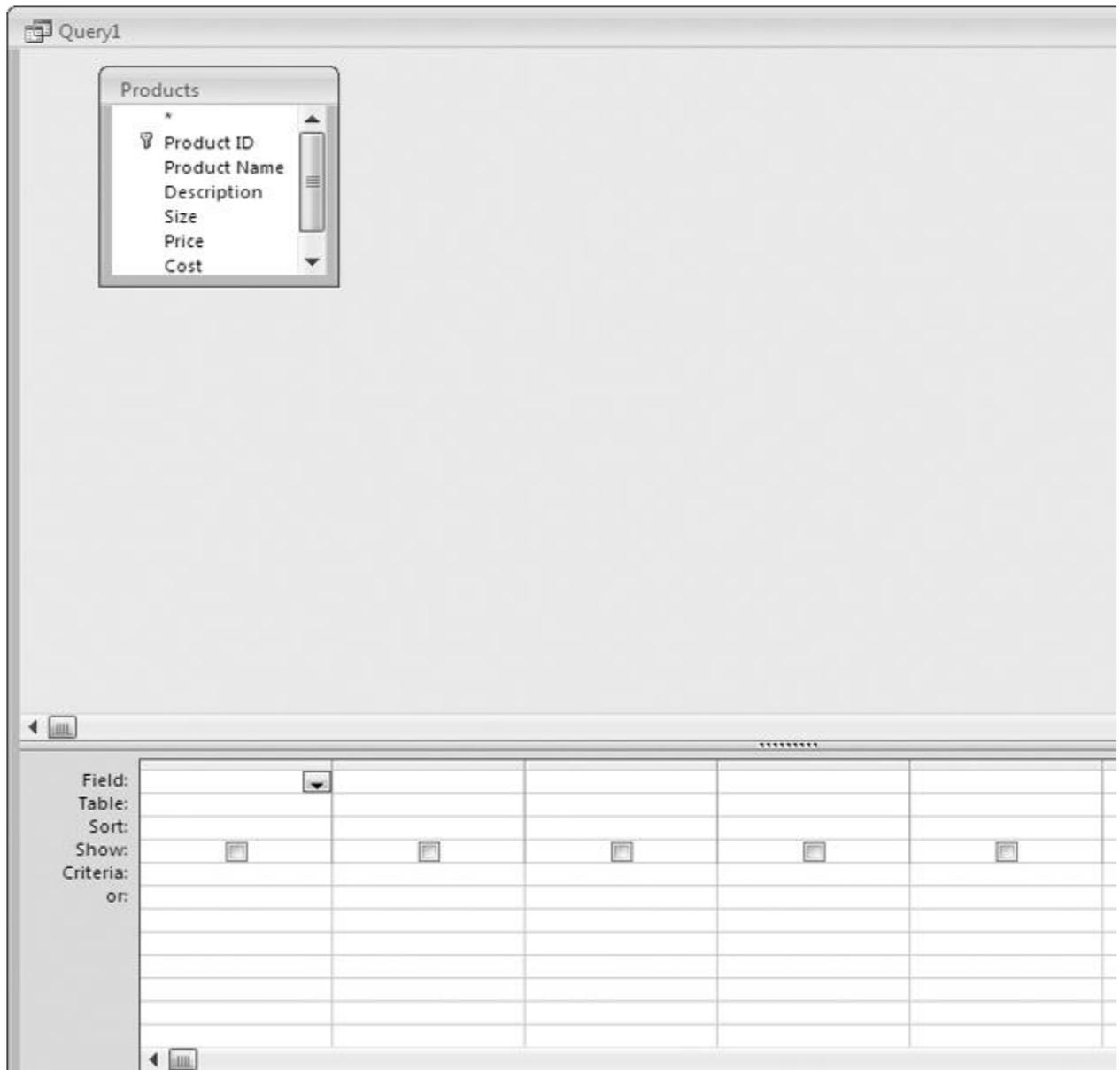
Product ID	Product Name	Description	Size	Price	Cost	Start Date
1	Belgian Chocolates	Everyone's favourite! Luscious	12	\$12.00	\$7.50	2/14/2000
2	Belgian Chocolates	Everyone's favourite! Delicious	8	\$8.00	\$5.25	2/14/2000
3	Swiss Chocolate	Smooth and creamy - direct from Switzerland	16	\$17.50	\$13.45	3/2/2000
4	Swiss Chocolate	Smooth and creamy - direct from Switzerland	8	\$9.25	\$6.90	3/2/2000
5	French Truffles	Delicate, luxurious - and available in many varieties	4	\$8.99	\$6.15	4/8/2000
6	Blue Mountain Coffee	World-renowned taste made in Jamaica	8	\$9.99	\$8.00	5/6/2000
*	(New)		0	\$0.00	\$0.00	

3. Note the cost (to the store) of French Truffles (\$6.15) and Blue Mountain Coffee (\$8.00).

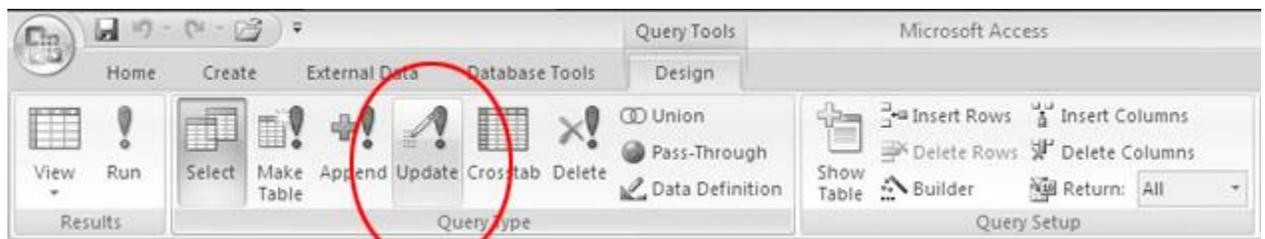
Product ID	Product Name	Description	Size	Price	Cost	Start Date
1	Belgian Chocolates	Everyone's favourite! Luscious	12	\$12.00	\$7.50	2/14/2000
2	Belgian Chocolates	Everyone's favourite! Delicious	8	\$8.00	\$5.25	2/14/2000
3	Swiss Chocolate	Smooth and creamy - direct from Switzerland	16	\$17.50	\$13.45	3/2/2000
4	Swiss Chocolate	Smooth and creamy - direct from Switzerland	8	\$9.25	\$6.90	3/2/2000
5	French Truffles	Delicate, luxurious - and available in many varieties	4	\$8.99	\$6.15	4/8/2000
6	Blue Mountain Coffee	World-renowned taste made in Jamaica	8	\$9.99	\$8.00	5/6/2000
*	(New)		0	\$0.00	\$0.00	

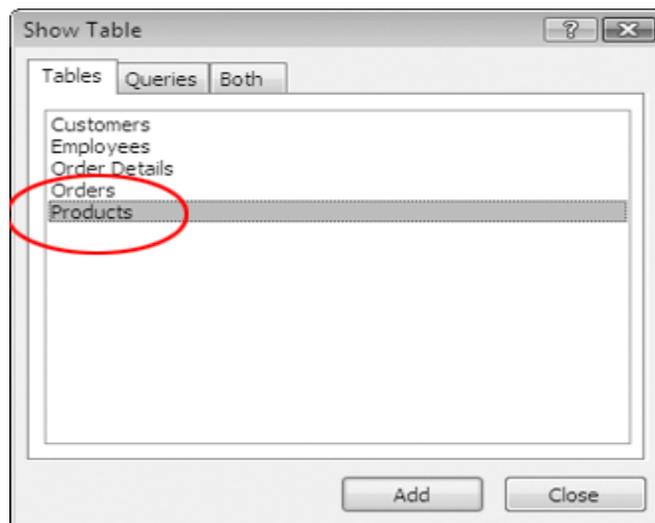
4. Close the Products table.
  5. Make sure the Create tab is selected.
- In the Ribbon, click Query Design.
6. When the Show Table window appears, click Products.
  7. Click the  button.

The query window should look like this:



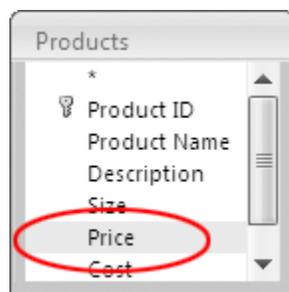
8. In the Ribbon, click Update.



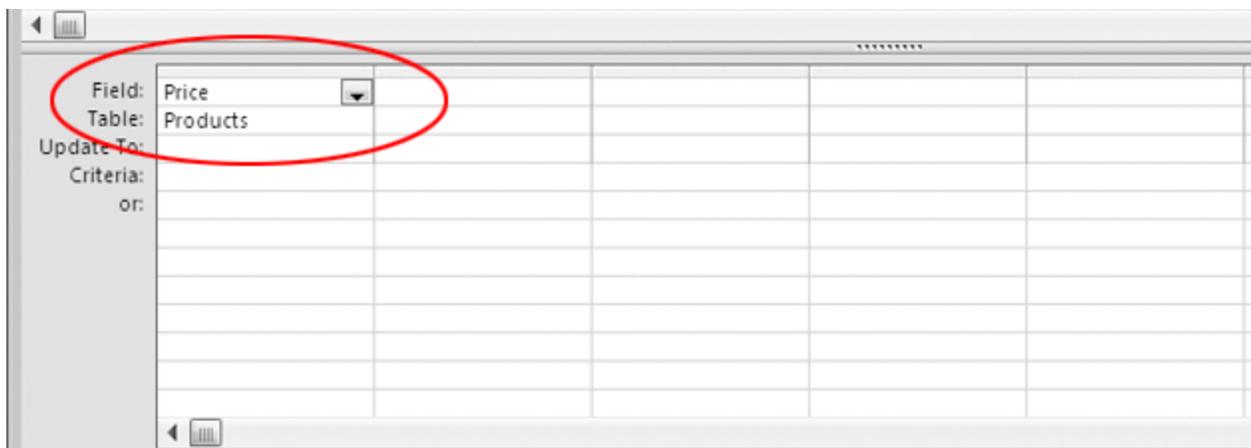


Then click the  button.

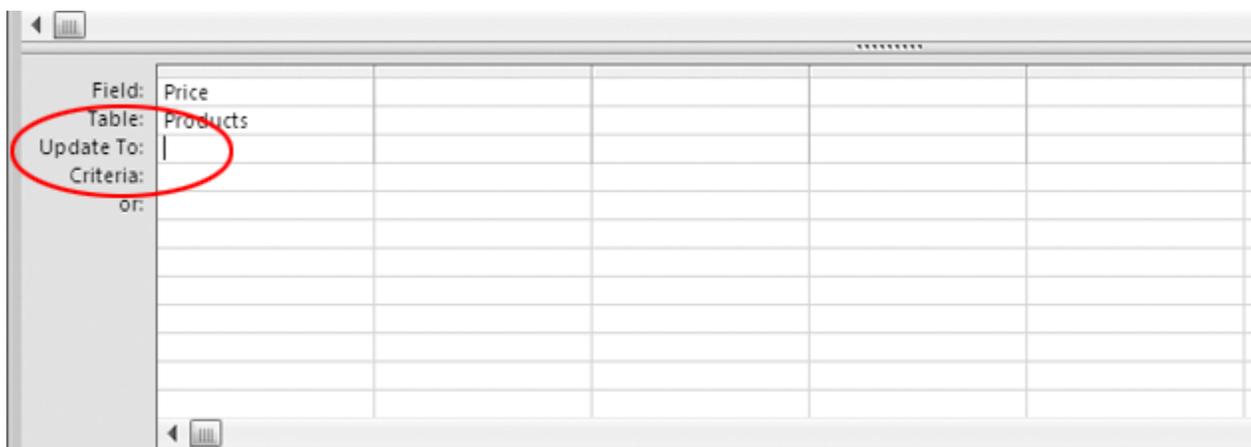
10. In the field list of the Products table, scroll down and double-click the Price field.



The query design grid should now look like this:

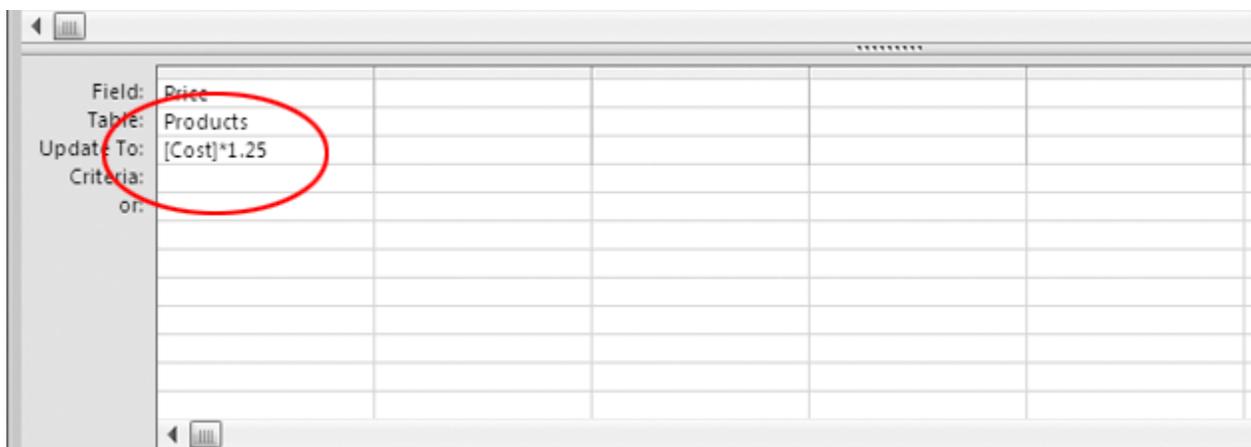


11. In the Price column, click in the Update To row.



12. Type:

$[Cost]*1.25$



Then press the ENTER Key.

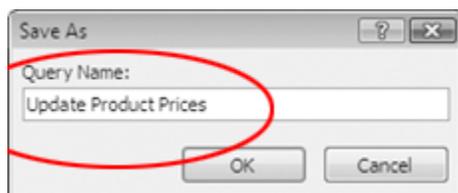
TIP: *Make sure that you've enabled all content in the database. To do that, click the  button if the Security Warning bar is showing.*

This will raise prices for all products by 25%.

TIP: *The square brackets [ ] tell Access that Cost is a field.*

13. In the Ribbon, click Run.
14. In the Title Bar, click the  icon.
15. When the Save As window appears, type:

Update Product Prices  
in the Query Name box.



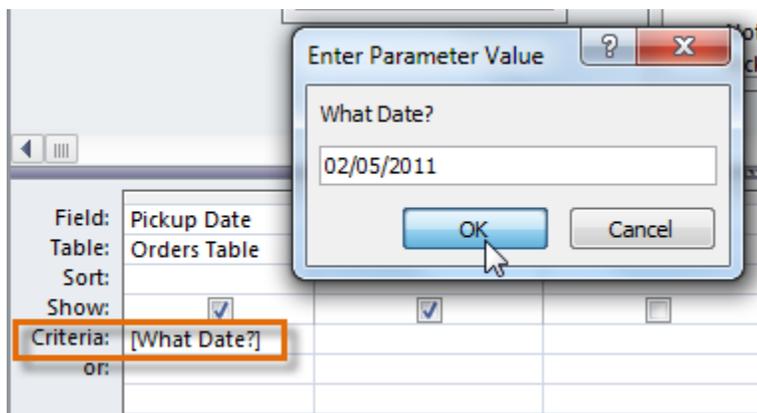
Then click the  button.

16. Close the query window.



Steps To create and run a parameter query:

1. Create a query as you normally would, modifying the table joins if necessary, selecting the fields to include in your query, and adding any nonvariable criteria to the appropriate fields in the Criteria: row.
2. Locate the field or fields where you would like the variable criteria to appear, and place your cursor in theCriteria: row.
3. Type the phrase you would like to appear in the prompt that will pop up every time you run your query. Make sure to enclose the phrase in brackets [ ]. For example, in our parameter query that searches for orders placed on a certain date, we might type our criteria like this: [What date?].
4. On the Query Design tab, click the Run command to run your query. A dialog box will appear with the prompt you specified. Enter your search term, then click OK to view your query results.



To run an existing parameter query, simply open it.



## LAP Test

## Creating Database Queries

Name: \_\_\_\_\_

Date:

\_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

- Tsak1. Perform the following by using a navigation button
  - Go to the first record
  - Go to the previous record
  - **Current Record** box
  - Go to the next record
  - Go to the last record
  - Open a new (blank) record
- Task.2 Create Query
  - ✓ Create query using query button
  - ✓ Create query using query wizard



Create the following types of queries

- ✓ Create Select Query
- ✓ Create Action Query
- ✓ Create Append Query
- ✓ Create Update Query
- ✓ Create Make table Query
- ✓ Create Delete Query

