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Ministry of Education
General Directorate of Curriculum and Printing

Information Technology

Microsoft Access

High & Vocational School

Grade 11

Prepared by

A Committee from the Ministry of Education.

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Science Review and Update

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Introduction

Today's era is the era of technology while considering the enormous influences that technology imposes on our lives as individuals and as communities. Technology has immersed itself in all aspects of human life, take for example: (Education, Health, Military Affairs, Scientific Research, Traffics, etc.).

Furthermore, with this rapid ongoing progress in the field of Computer, transforming the computer curriculum implemented in schools by Ministry of Education in Kurdistan Regional Government is considered to be an urgent responsibility. Our beloved students should not left behind these up-to-date advances in this indispensable and widespread science, but indeed should be aware of as well as privileged with them. Therefore, we prepared this book.

Dear honored and beloved teacher:

You are the solid ground for the success of learning process. This sacred trust is embodied in you with your enduring efforts in nurturing the intellectual as well as emotional awareness of our children that will, for sure, result in escalation in quality of learning and teaching.

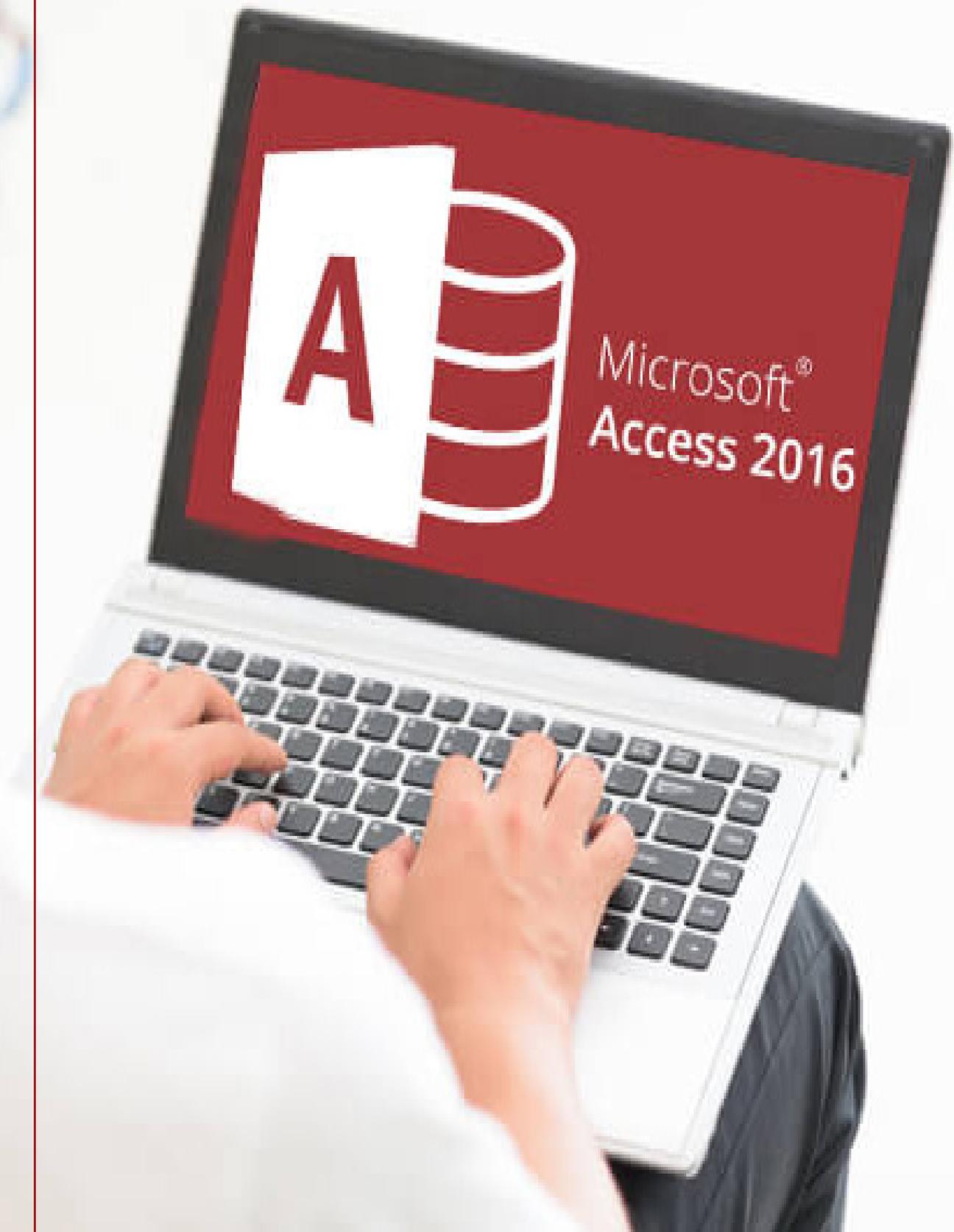
We trust you with this book. We thank you. We hope that you will have a significant role in the achievement of this curriculum's goals.

Dear beloved student:

You are the hope for the tomorrow of your nation, you are the light to brighten the horizon of your homeland. You are well-worth of all the devotion given to you by the Ministry of Education in the Kurdistan Regional Government. You are the focus of education; the center of the whole process of teaching and learning. The renovation in education program is for your advantages.

Committee

First Semester





Microsoft

Access

Office 2019

Microsoft Access (2016)

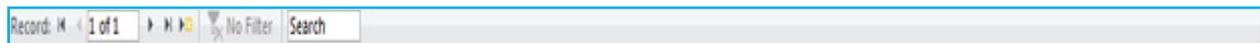


Microsoft Access (2016): Is a Microsoft product especially used in the fields of accounting, statistics and business.

Database: Is a collection of information that is structurally organized and logically related in a way that enables data management.

sequence	Name	Governorate	Occupatio	Salary
1	Azad	Sulaymaniyah	Employee	450000
(New)				0

(Record): Consists of data units that are organized horizontally



Tip: To navigate through records, the bellow bar is used:

(Field): Consists of data units that are organized vertically.



• Starting Access (2016) Program in (windows 10)

First, we should identify the operating system on our computer and then choose the easiest way to open access program 2016.

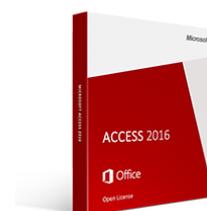
• Ways to Start Access Program in Windows 10

• First Way:

- Start>scroll to Access

• Second Way:

- Type (Access) in (Search).



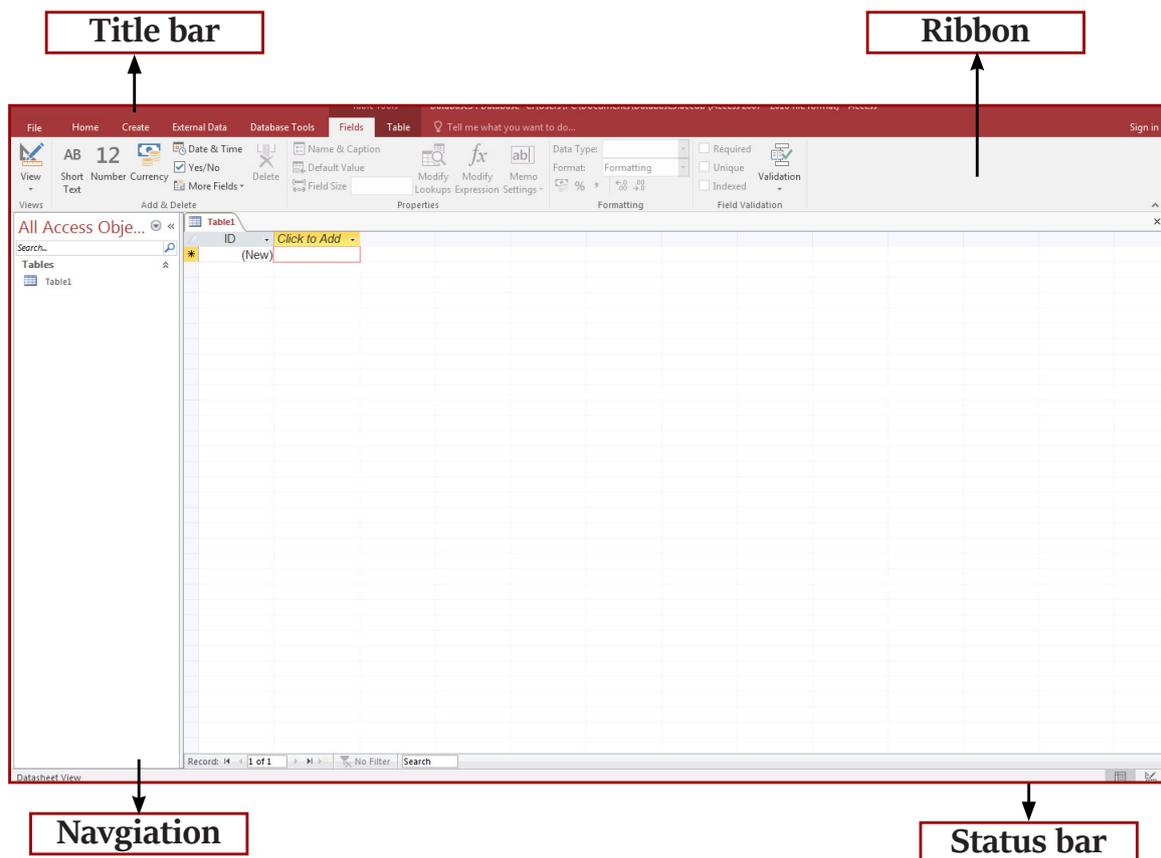
• Interface Microsoft Access (2016)



• Interface of Microsoft Access (2016)

The main components of Microsoft Access program (2016)

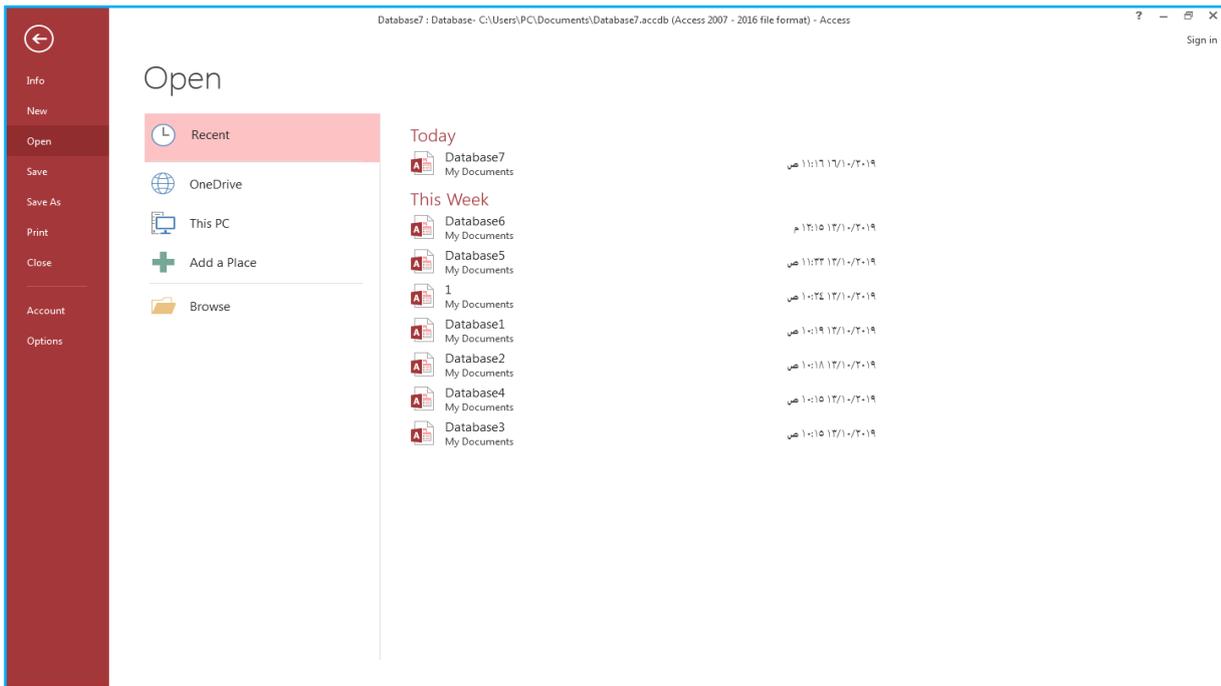
1. Title bar
2. Ribbon
3. Navigation Pane
4. Status bar



(Templates):-

These are pre-formatted documents made available by Microsoft as facilitation for users.

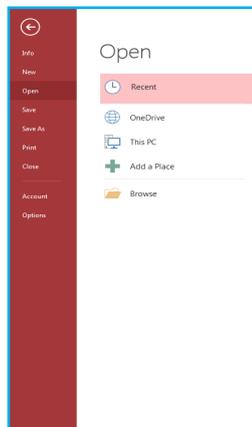
• Opening file using (Open Other File) consists of the following:



1- Recent

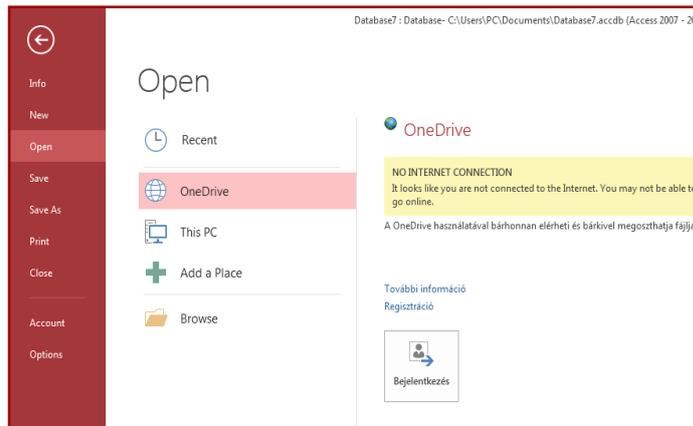


This refers to the files which we have worked on before.



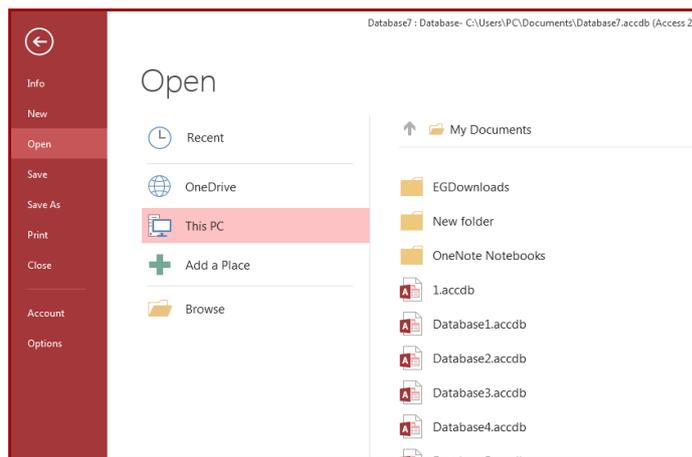
2- One Drive

Is a data storage service in the cloud server to save files and access them from anywhere and any devices.



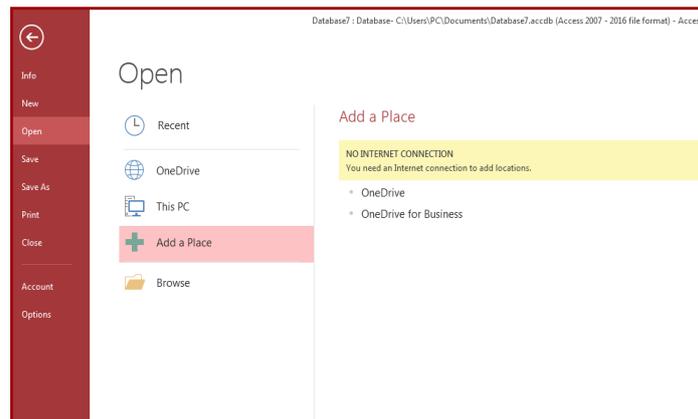
3. This PC

It is used to access files which are already saved in drives.



4- Add a Place

This is to add drive so that the user can easily save access files in (Office 365 SharePoint) and (One Drive).





Tabs

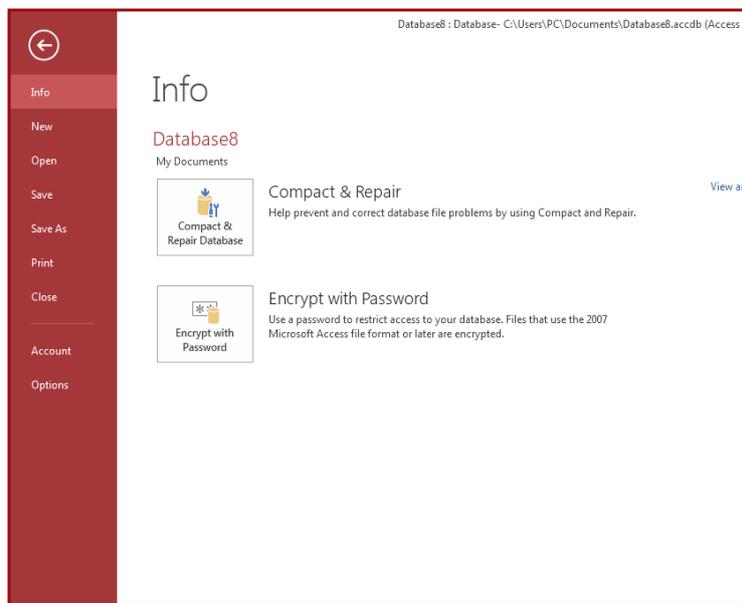


Tabs : Consist of the following:

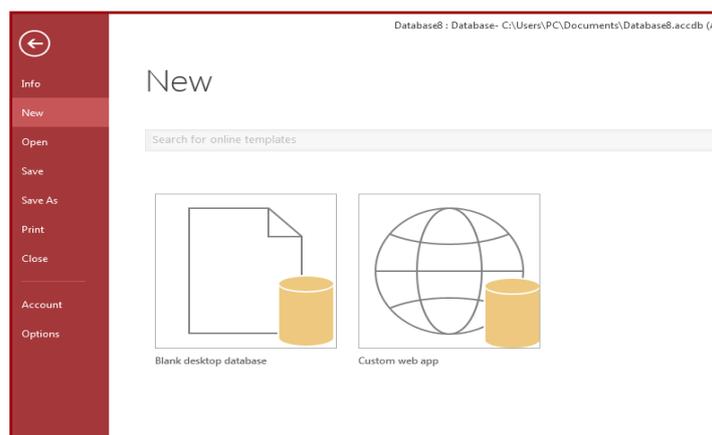
First- File Tab:



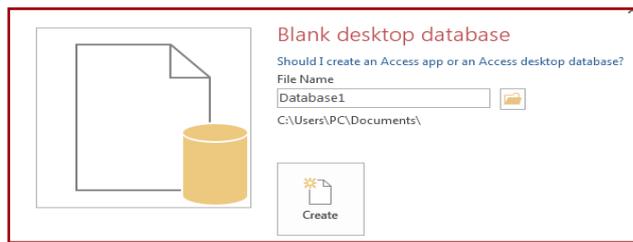
Consists of the following sections:



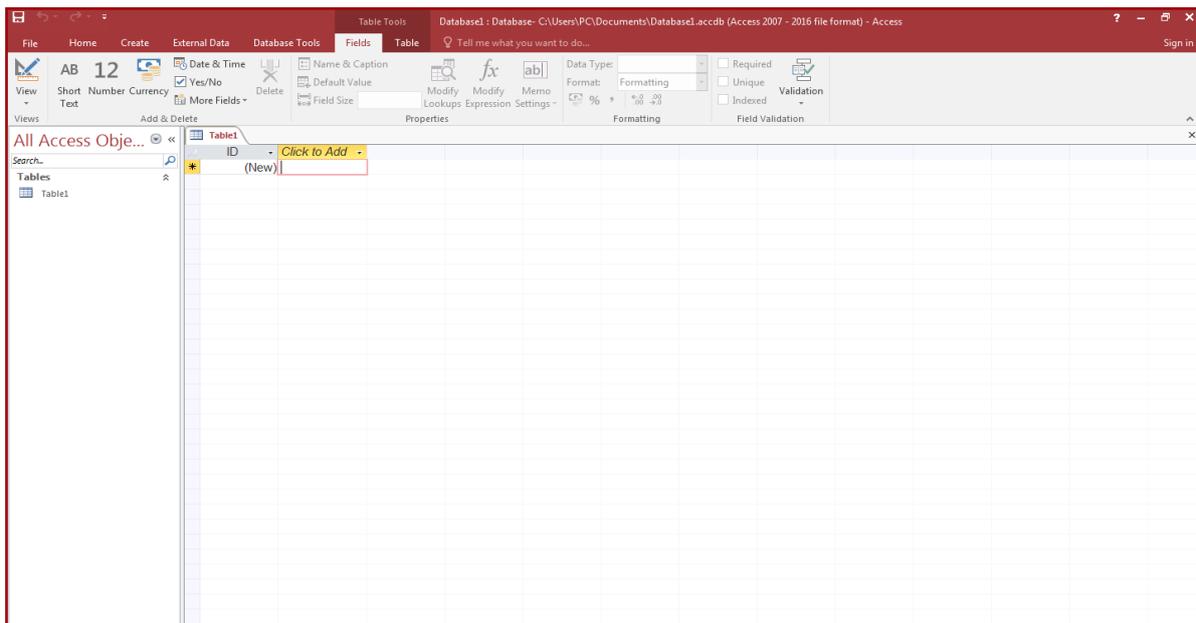
- **Info:** Provides specific information about the user and the current file in use.
- **New:** Used to create a new database as follows:
 - a. Click (**New**).
 - b. Click (**Blank Desktop Database**).



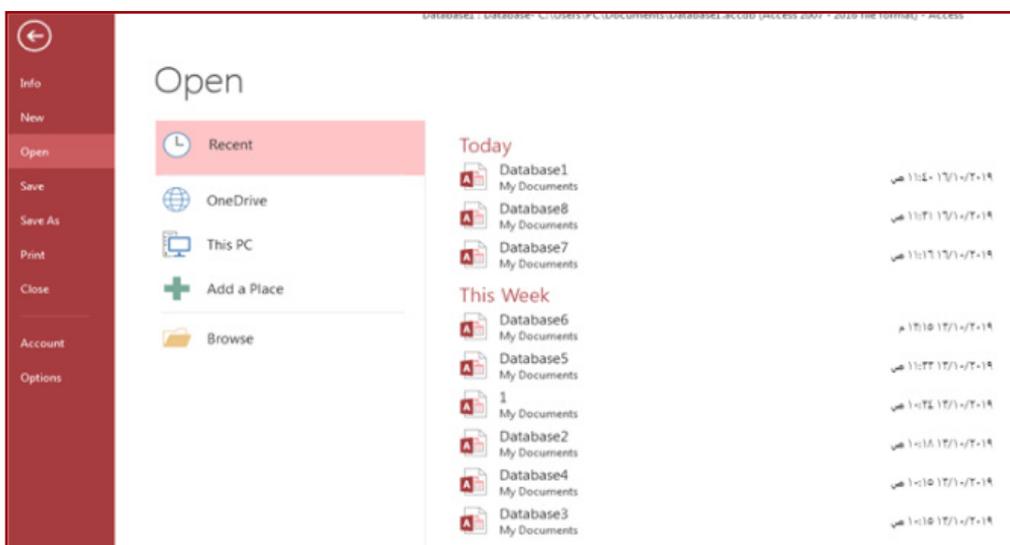
c. Name the database and select the drive where as to **save it**.



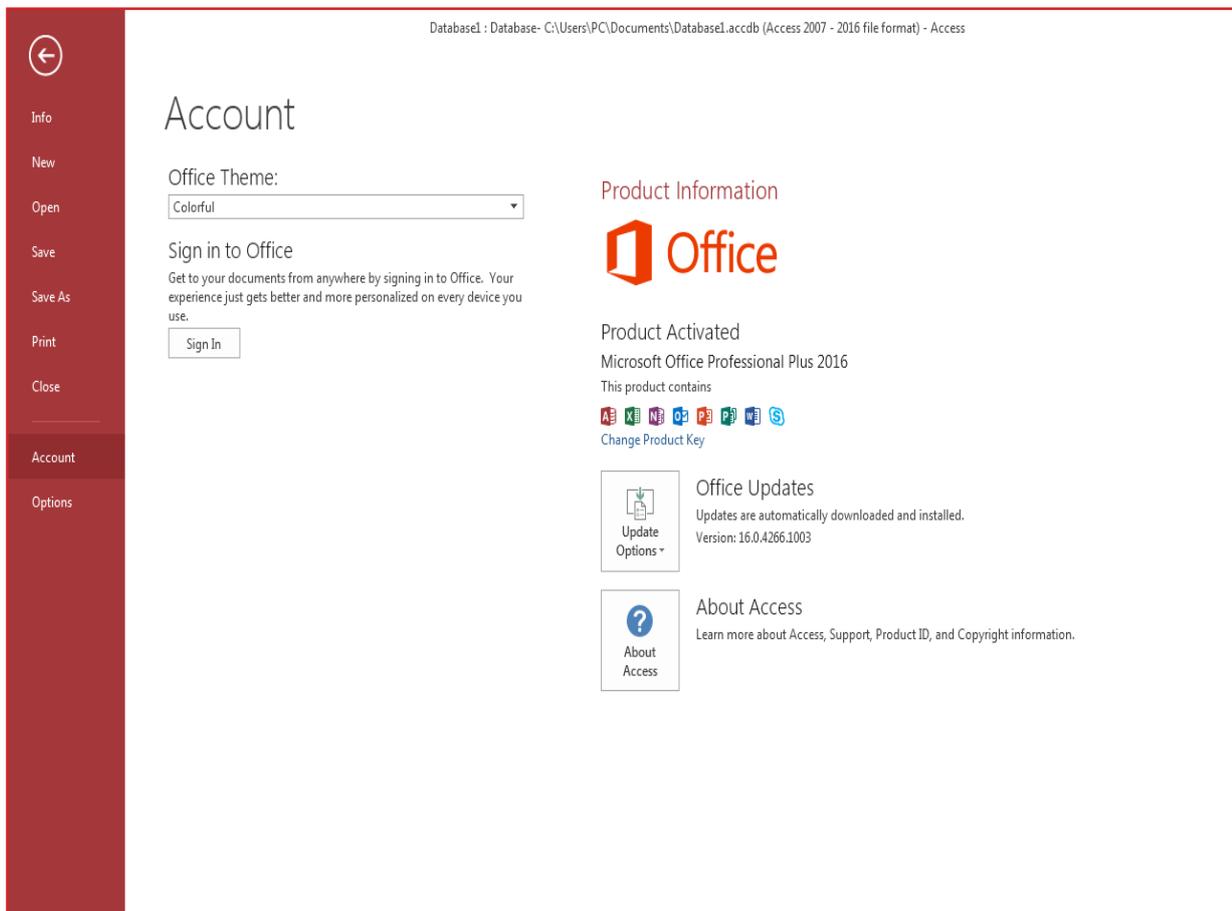
d. Click (**Create**).



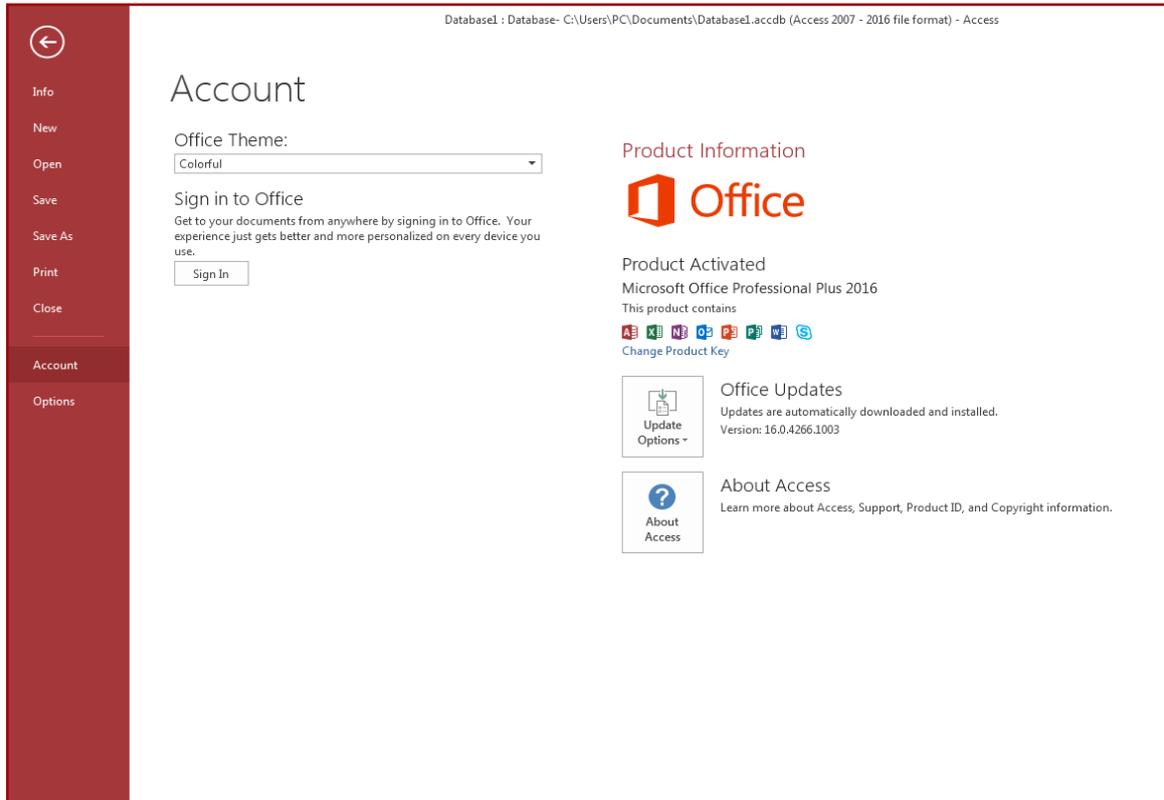
• **Open:** To open saved database.



- **Save:** To save database after editing.
- **Save as:** Used to save the current file under other names and in other location.
- **Print:** To print the desired file.
- **Close:** To close the file.
- **Account:** To create an (Account) for the user using internet.

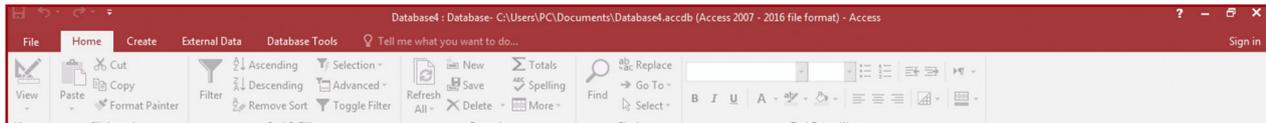


- **Options:** Various options available from which the user can choose to make changes in access program.





Home

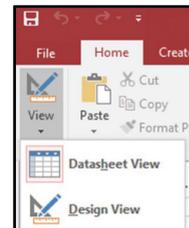


Home:

One of the main tabs in (Microsoft Access) that has groups and each of these groups contains a set of commands, the most significant of which are:

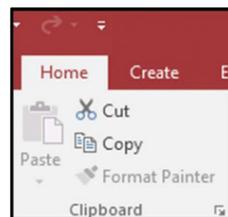
1. **Views:** Contains the following:

- **Datasheet View:** This icon allows to view a table that we have created, or display in form of sheet like excel sheet.
- **Design View:** To display in form of design: (Report, Form, Query, Table).



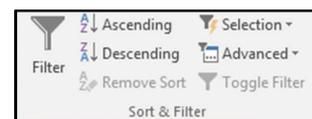
2. **Clipboard:** Contains the following commands:

- Cut
- Copy
- Format Painter
- Paste: consists of:
 - Paste
 - Paste Special
 - Paste Append



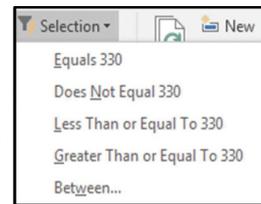
3. **Sort & Filter:** Contains the commands below

- **Filter:** To filter records in a table.
- **Ascending:** To sort text from (A - Z) and numbers from (Smallest - Largest).
- **Descending:** To sort text from (Z - A) and numbers from (Largest - Smallest).
- **Remove Sort:** To remove a sorting we previously applied to any of the records in the (table) that we have created. the



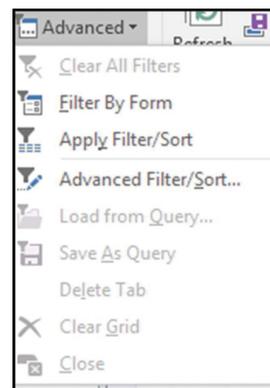
- **Selection:** To select the data with which the user want to create a **filter** and it has the following options:

- **Equals:** To find records that are identical or equal to data we have selected whether text, number or date.
- **Does Not Equal:** This is opposite to (Equals) as it includes all records that are not equal to our selected data.
- **Less Than or Equal To:** To find records that are equal to or less than our selected data whether text, number or date.
- **Greater Than or Equal To:** To find records that are equal to or greater than our selected data whether text, number or date.
- **Between:** Includes data that falls in between two selected set of data.



- **Advanced:** To perform an advanced Filtering and it has the following options:

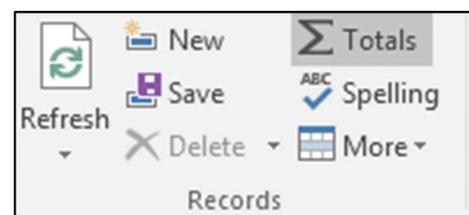
- Clear All Filters
- Filter By Form
- Apply Filter/Sort
- Advanced Filter/Sort
- Load from Query
- Save As Query
- Delete Tab
- Clear Grid
- Close



- **Toggle Sort:** Has two options which are (Apply Filter) and (Remove Filter).

4. **Records: It contains the following commands:**

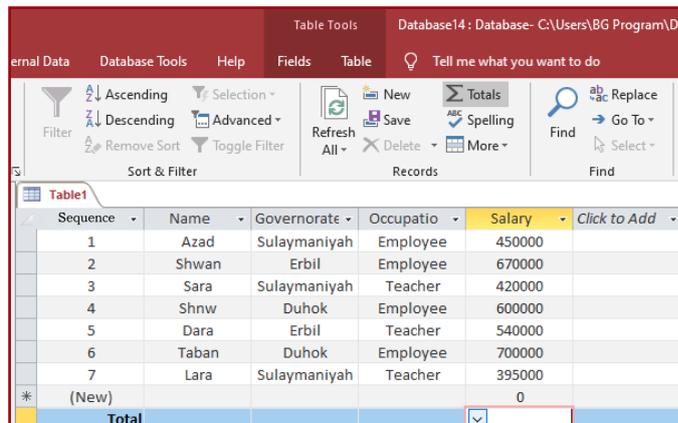
- Refresh
- New
- Save
- Delete
- Totals: Includes some calculation functions, the key ones are:



- **Sum:** Finds the sum of selected values.
- **Average:** Finds the average of selected values.
- **Count:** Counts the selected data.
- **Maximum:** Finds the highest value among selected values.
- **Minimum:** Finds the lowest value among selected values.

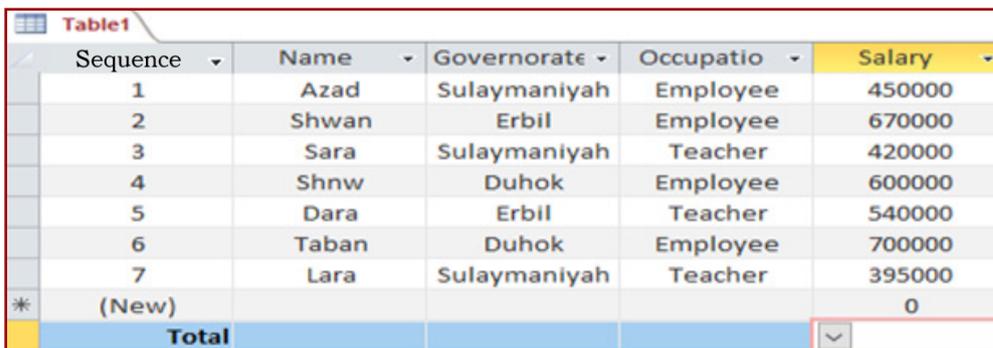
Example

We have this **table**, as demonstrated below, to which we want to apply the function (Totals). The first step is to select the field of (Salary):



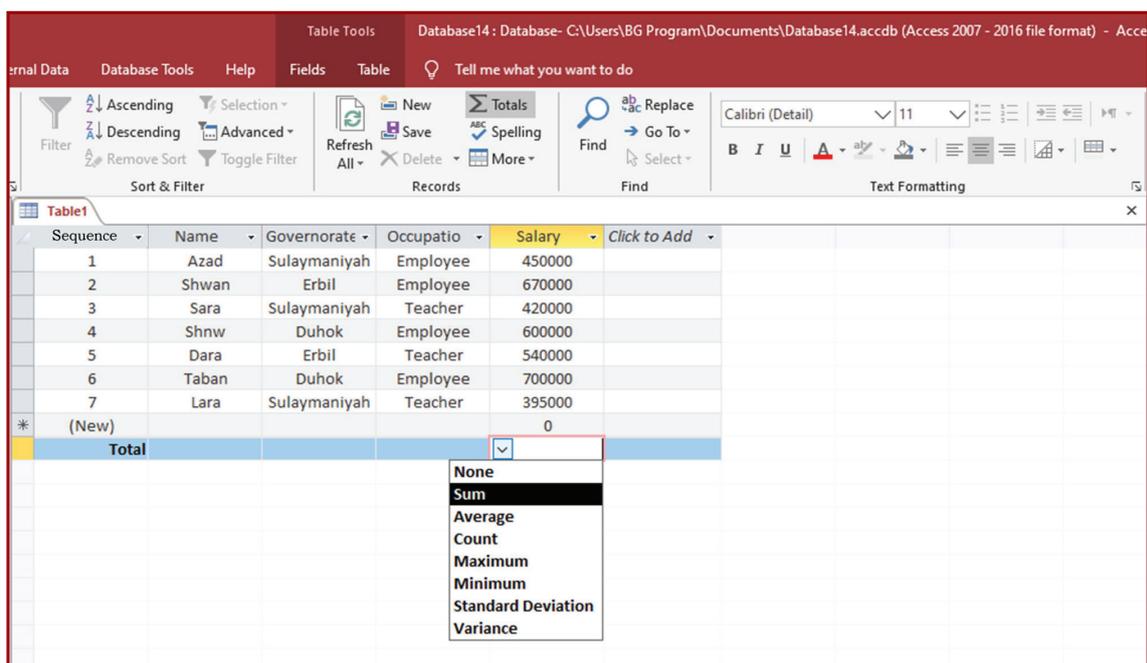
Sequence	Name	Governorate	Occupatio	Salary	Click to Add
1	Azad	Sulaymaniyah	Employee	450000	
2	Shwan	Erbil	Employee	670000	
3	Sara	Sulaymaniyah	Teacher	420000	
4	Shnw	Duhok	Employee	600000	
5	Dara	Erbil	Teacher	540000	
6	Taban	Duhok	Employee	700000	
7	Lara	Sulaymaniyah	Teacher	395000	
*(New)				0	
Total					

Then click the (**Totals**) icon in (**Records**) group.



Sequence	Name	Governorate	Occupatio	Salary	Click to Add
1	Azad	Sulaymaniyah	Employee	450000	
2	Shwan	Erbil	Employee	670000	
3	Sara	Sulaymaniyah	Teacher	420000	
4	Shnw	Duhok	Employee	600000	
5	Dara	Erbil	Teacher	540000	
6	Taban	Duhok	Employee	700000	
7	Lara	Sulaymaniyah	Teacher	395000	
*(New)				0	
Total					

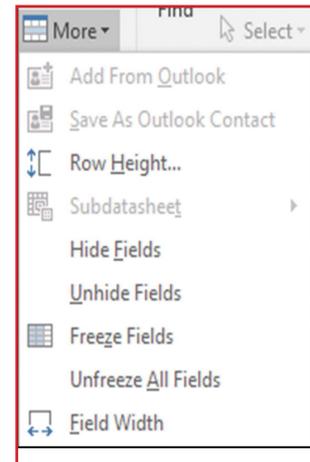
Click (**Listbox**) or (**Combobox**) and select (**Sum**) command from the list that appears as shown in the picture below:



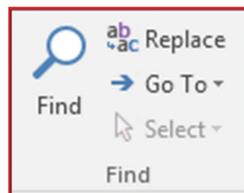
Sequence	Name	Governorate	Occupatio	Salary	Click to Add
1	Azad	Sulaymaniyah	Employee	450000	
2	Shwan	Erbil	Employee	670000	
3	Sara	Sulaymaniyah	Teacher	420000	
4	Shnw	Duhok	Employee	600000	
5	Dara	Erbil	Teacher	540000	
6	Taban	Duhok	Employee	700000	
7	Lara	Sulaymaniyah	Teacher	395000	
*(New)				0	
Total					

- None
- Sum**
- Average
- Count
- Maximum
- Minimum
- Standard Deviation
- Variance

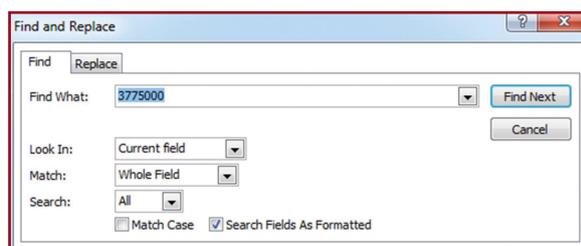
- **Spelling:** To check/correct text.
- **More:** Consists of the following:
 - Add From Outlook
 - Save As Outlook Contact: To save under different name in (Outlook) content.
 - Row Height
 - Subdatasheet
 - Hide Field
 - Unhide Field
 - **Freeze Fields:** To keep some data fixed on the screen while scrolling downward through the form, select this option.
 - **Unfreeze fields:** To remove the data that remains fixed on the screen while scrolling down through the form, click this option.
 - Field Width



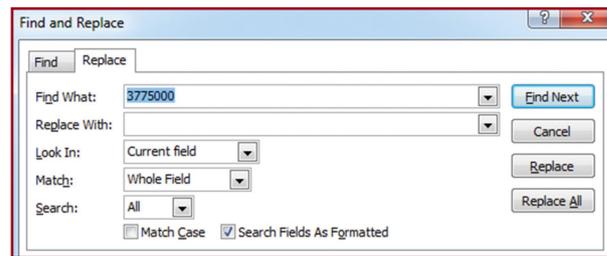
5. **Find:** Includes the following commands:



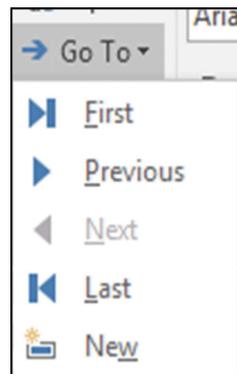
- **Find:** To search for data in general.



- **Replace:** To replace the text in (Find).



- **Go to:** to Go to/find a wanted record.



- **Select:** Consists of two options which are (Select) and (Select All).

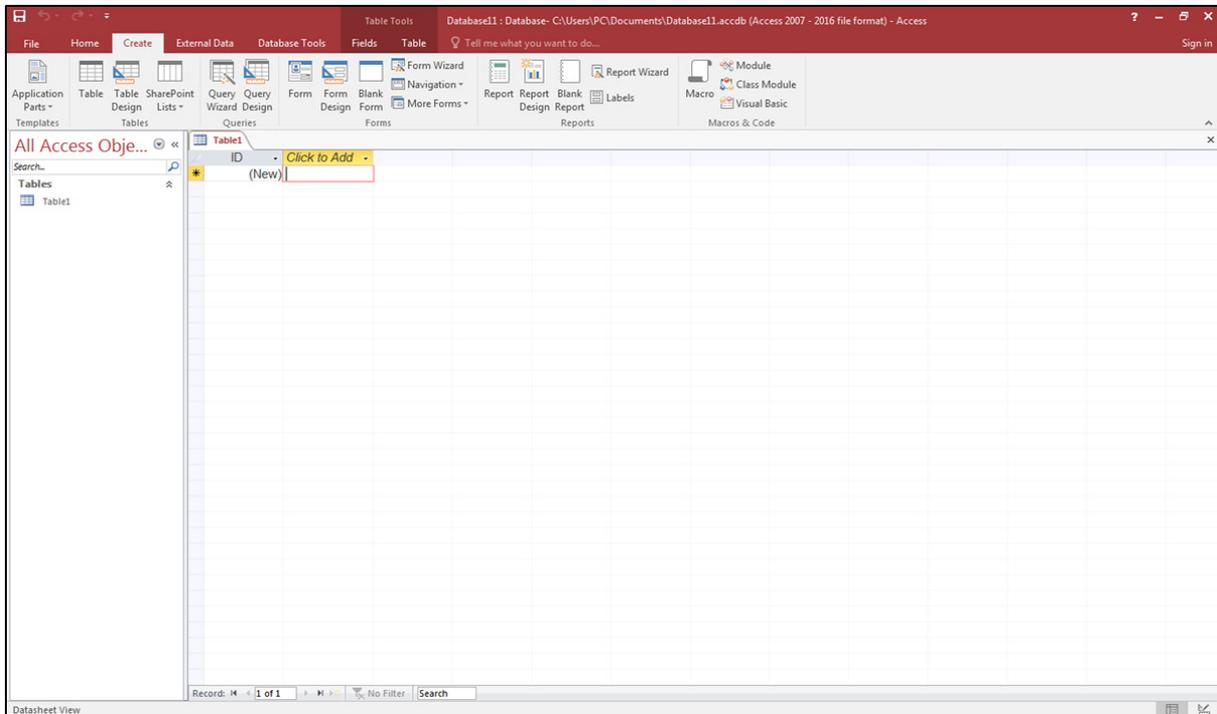
6. **Text Formatting:** Includes the following commands:



- Fonts
- Font Size
- Bullets
- Numbering
- Increase List Level
- Decrease List Level
- Bold
- Italic
- Underline
- Font Color
- Text High Light Color
- Background Color
- Align Left
- Center
- Align Right
- Alternate Row Color
- Grid Lines



Create



*Application Parts:

Contains templates that can be downloaded from the internet.

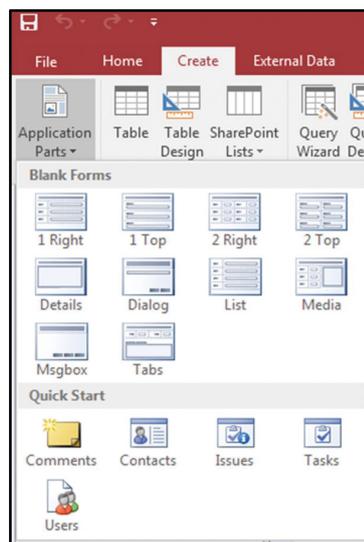


Table:

It is the main object in (Access) used to create (table) and store data, Without (table) nothing can be done.

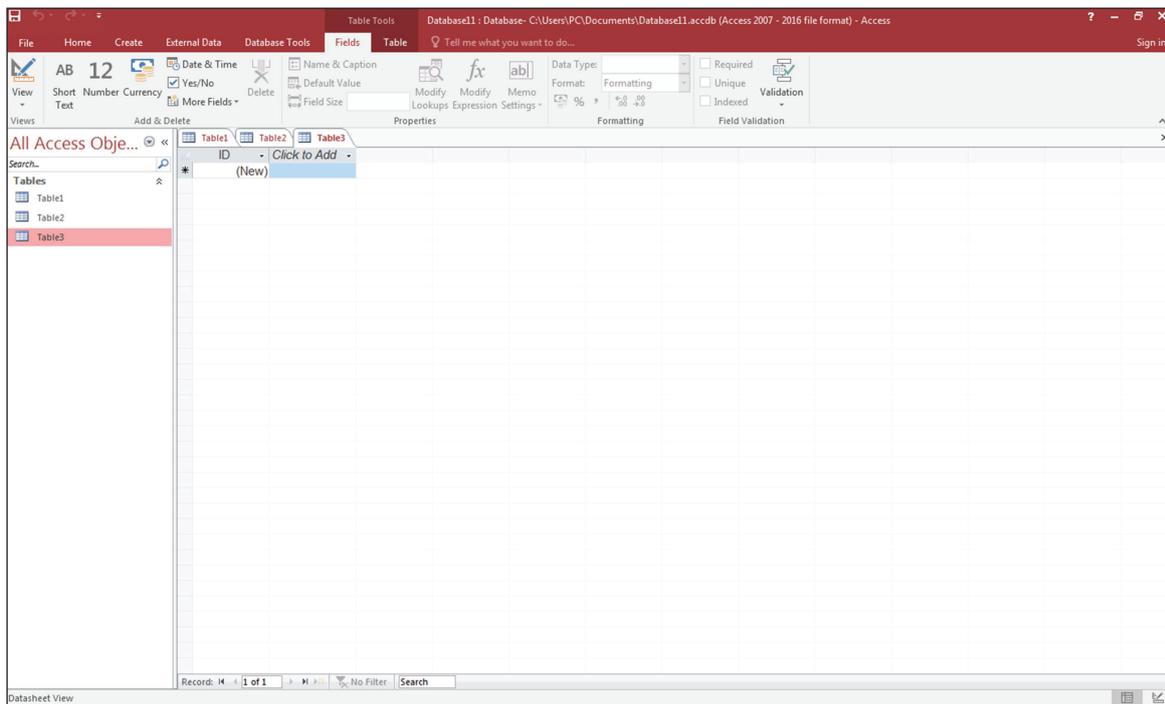
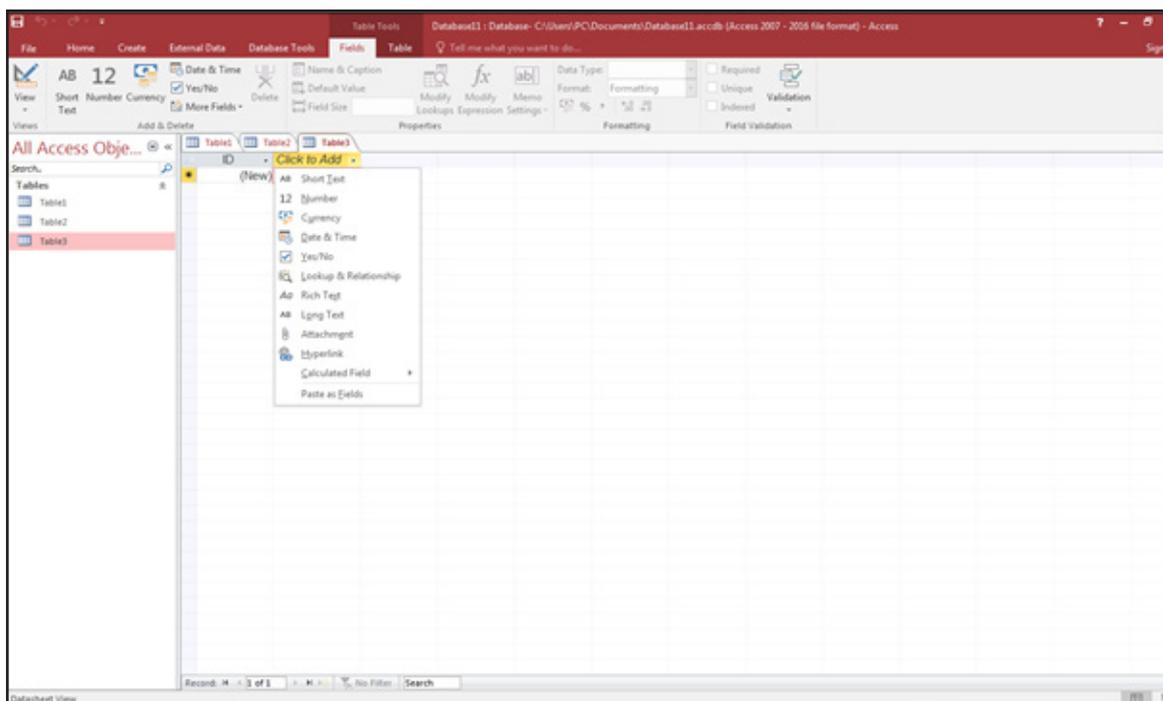


Table: Click (table) to create one, then click (Click to Add) to have data type as shown in the bellow picture:





Data Type



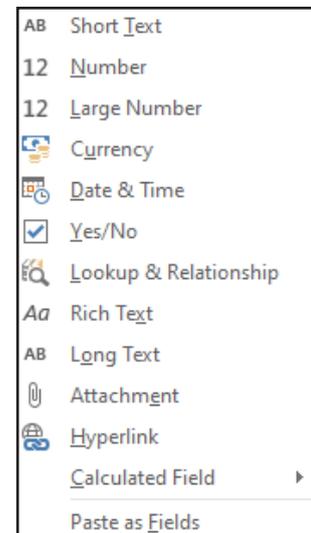
Data Type:

In Computer science and programming, the type of any piece of data stored in computer should be indicated.

1. Short Text
2. Numbers
3. Large text: it is a new data type introduced in (Access 2016) that can handle bigger numbers

Such as $(-2)^{31}$

4. Currency
5. Date/Time
6. Yes/No
7. Lookup & Relationship
8. Rich Text: a new data type used for formatting Texts like (color, font, bold, underline).
9. Long Text
10. Attachment
11. Hyperlink
12. Calculate Field
13. Paste as Fields: a new data type used to paste large data, large numbers of (row , column)

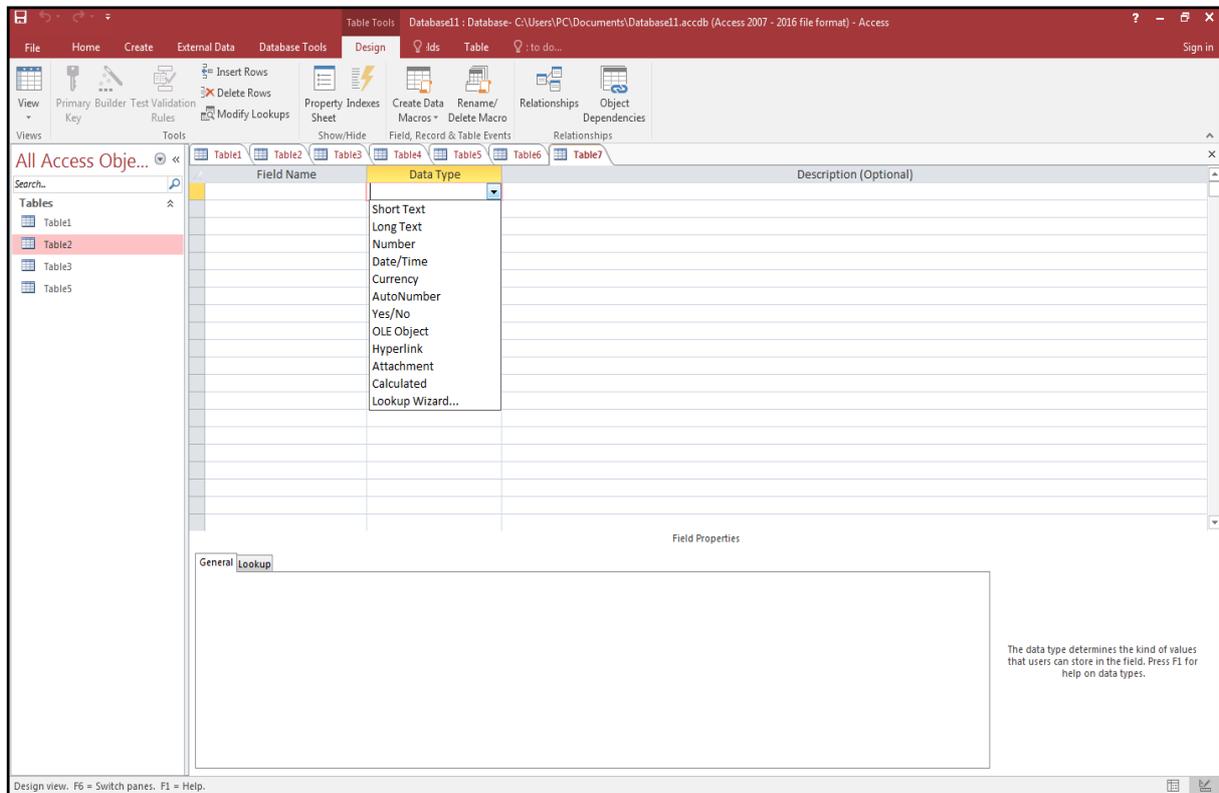


Tip:

After a (table) is finished, click (save) so as to save it.

Table Design:

Is the second way to create a table. Click **Table Design** and a box appears that allows to design a table as desired.

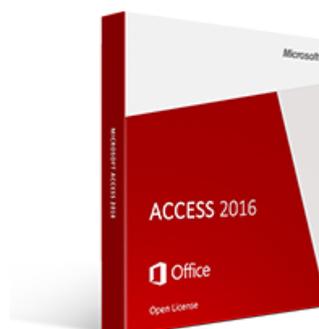


SharePoint Lists:

To share (table) using internet.

Tip:

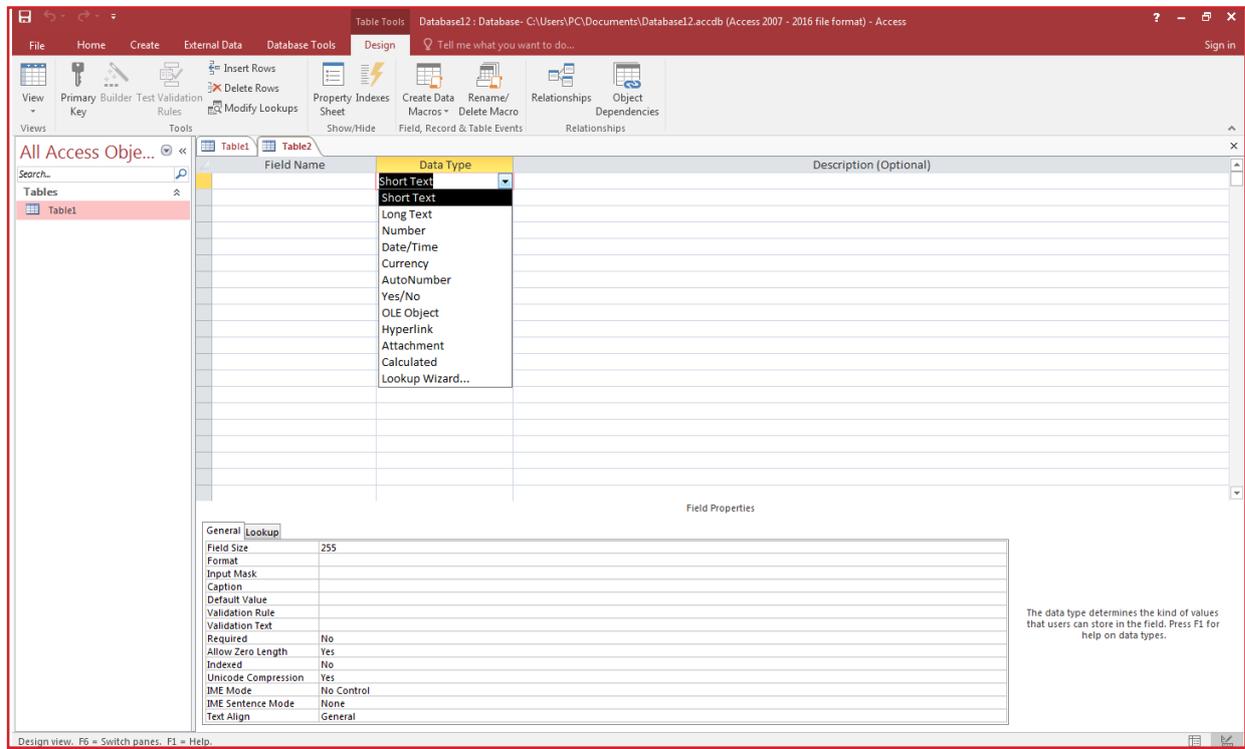
Description Optional: Is used to provide a description to a field.



Field Properties:

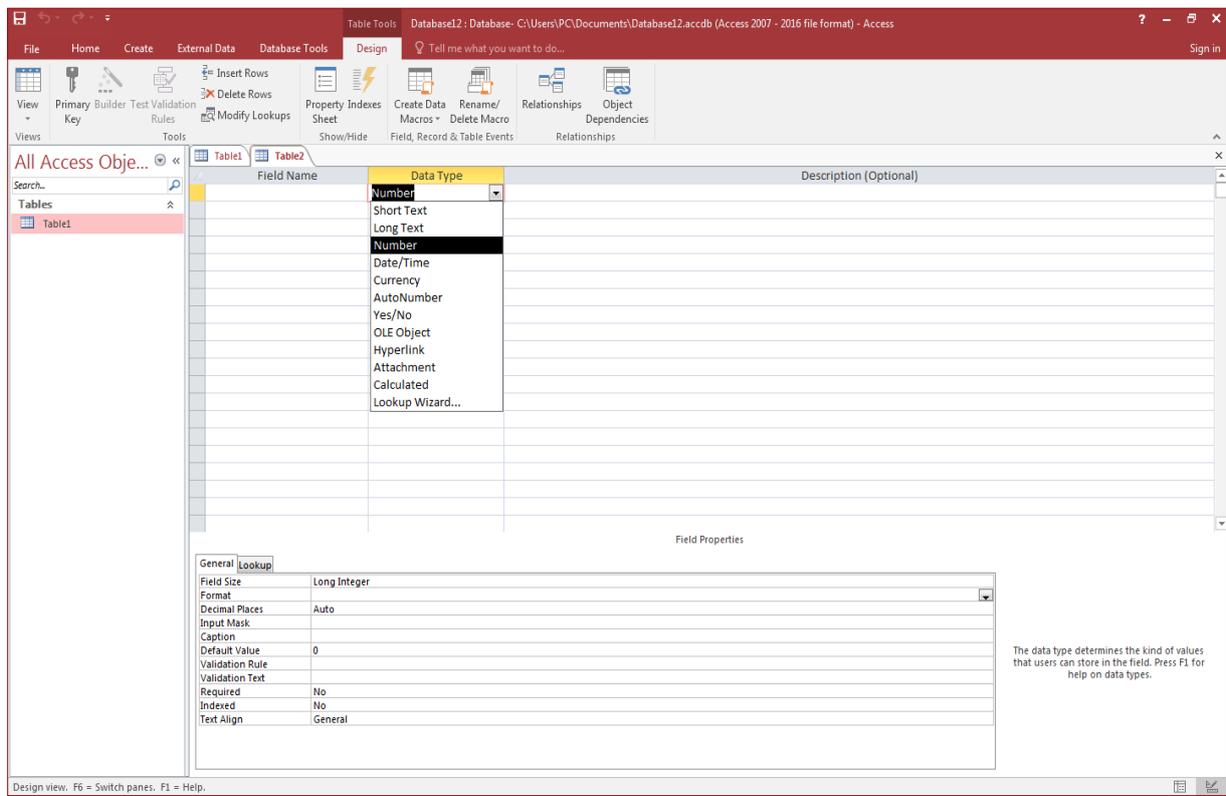
Consist of a group of properties, the most significant of which are:

1- Short Text



- **(Field Size):** To limit the number of characters that can be stored in a field up to (255).
- **(Format):** To make changes in the field, for example: change the text color in a field selected to format.
- **(Input Mask):** To make changes in the field, like: (set a text in form of password, set time and date templates, set a store- limit to characters that can be entered into a field.
- **(Caption):** To change the field name.
- **(Default Value):** To set a selected text to be automatically re- entered in the whole field.
- **(Validation Rule):** To set a condition for a field.
- **Validation Text):** Related to (Validation Rule), as an explanation of the condition set is typed here.

2- Number



- **(Field Size)**: To determine the size of numbers. It is defined by the type of the number or the size of it.
- **(Format)**: To set types of currency, percentage, and number formatting.
- **(Decimal Places)**: To limit the number entered after (,) in a field.
- **(Input Mask)**: To set templates.
- **(Caption)**: To change the field name with any text wanted.
- **(Default Value)**: To fix a selected number to be automatically re-entered in the whole field.
- **(Validation Rule)**: To set a condition for a field.
- **(Validation Text)**: Related to (Validation Rule), as an explanation of the condition set is typed here.



Queries



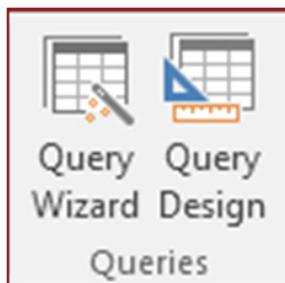
• Queries:

It is the second object in access and it cannot be created without (table). It allows to perform actions and set criteria.

Purposes of Using (Query):

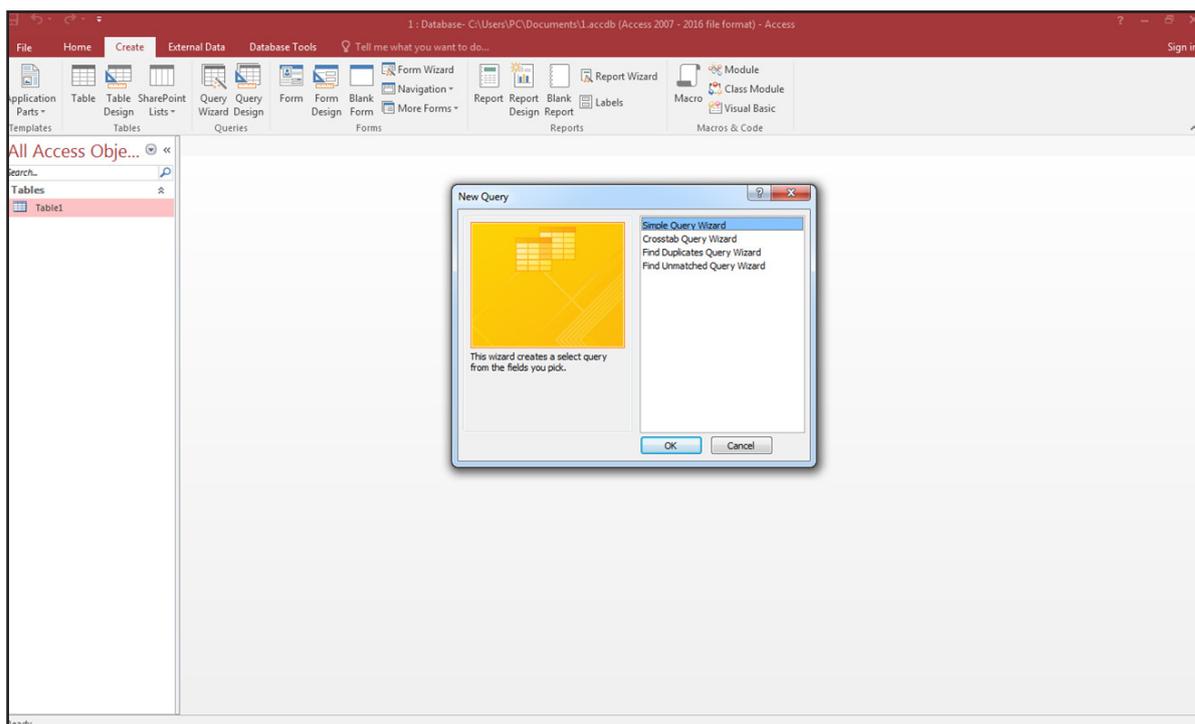
- 1- (View)
- 2- (Sort)
- 3- (Filter)
- 4- (Analyzing)

• Ways to Create (Query):



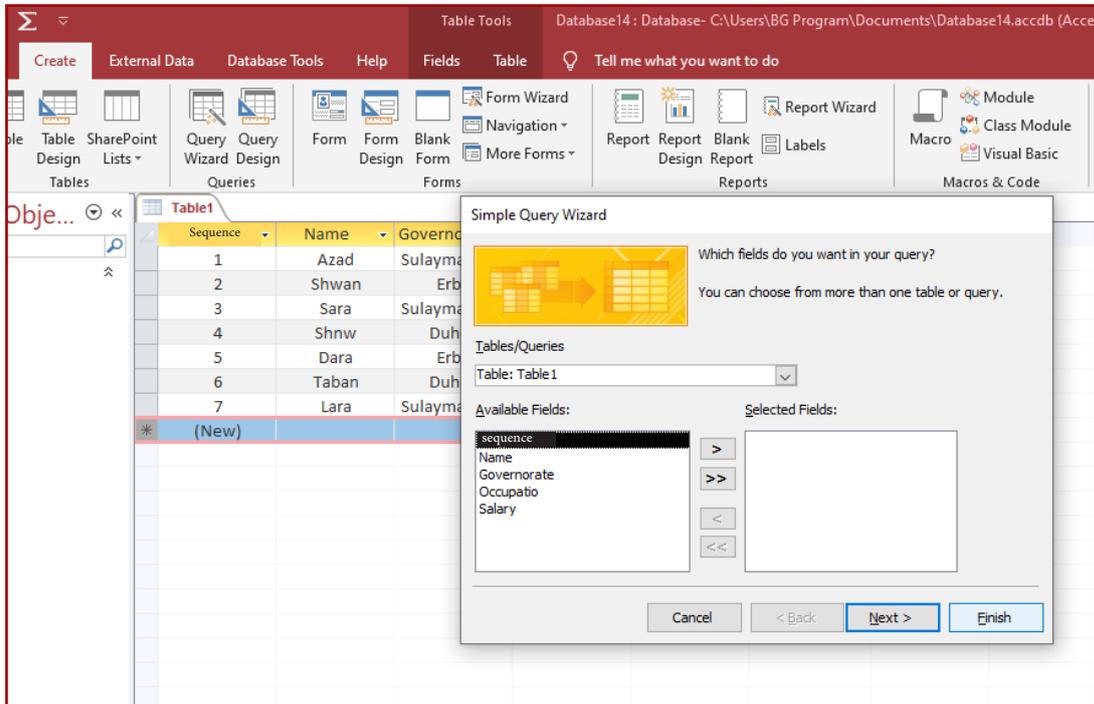
First Way Query Wizard:

Contains these options:



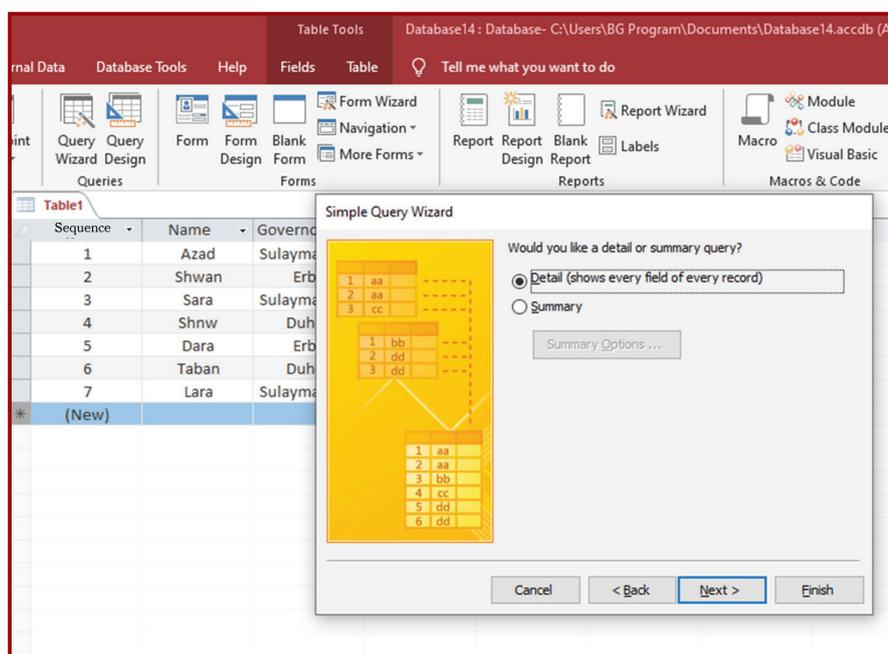
1. Simple Query Wizard

Double click this option and a box appears from which we can select fields to use in the (query) as shown in the picture:

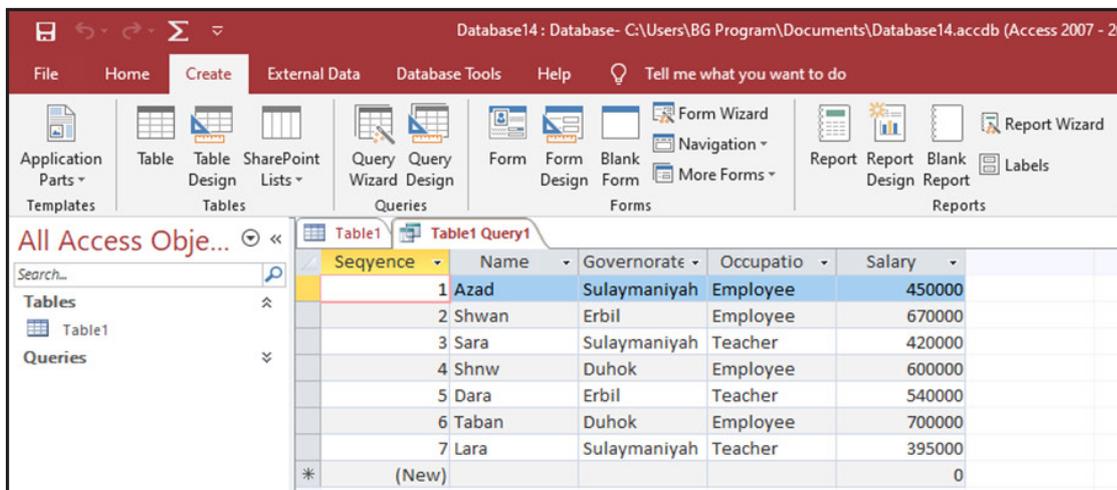
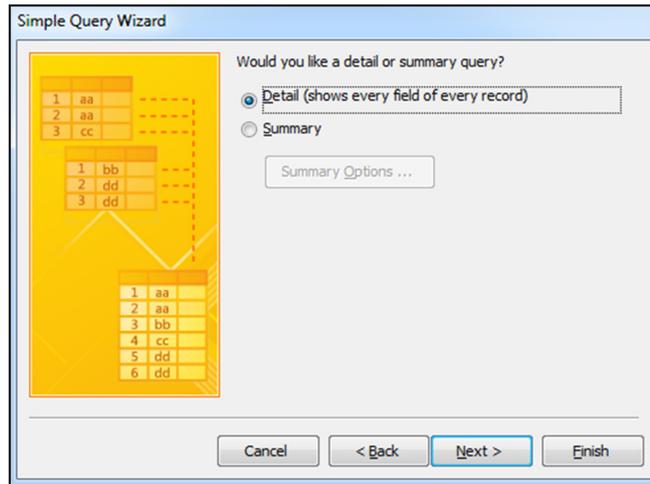


Then, click (>) and another box appears, here; to perform calculations we click (Summary), or we set the type of query we want to create.

After that, click (Next) and a box appears where we can type a name for our (Query).



At last, we click (Finish).



2. Crosstab Query Wizard

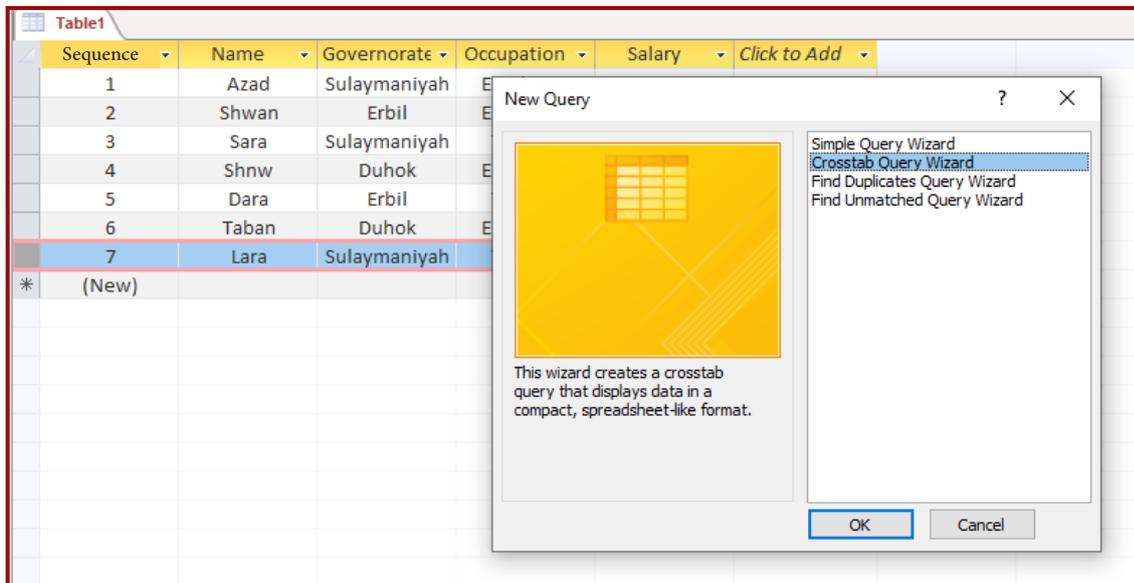
It is an aggregate (Query) used to summarize data within a (table).

Example:

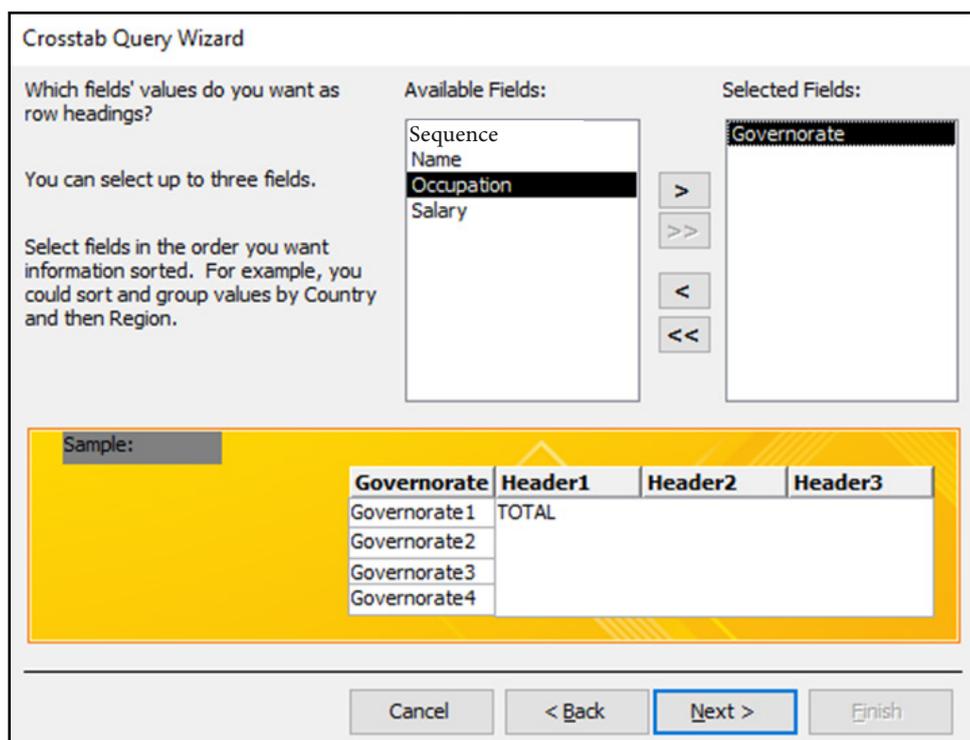
If we have a (table), and we want to find the salary totals assigned for the Governorates according to various Occupation titles

Sequence	Name	Governorate	Occupation	Salary	Click to Add
1	Azad	Sulaymaniyah	Employee	450000	
2	Shwan	Erbil	Employee	670000	
3	Sara	Sulaymaniyah	Teacher	420000	
4	Shnw	Duhok	Employee	600000	
5	Dara	Erbil	Teacher	540000	
6	Taban	Duhok	Employee	700000	
7	Lara	Sulaymaniyah	Teacher	395000	
*(New)				0	

First, we click (Crosstab Query Wizard) and click (OK).



- This box appears in which we select the table we want



- Then, we click (**Next**) and this box appears in which we select (**Governorate field**) as row heading to the left side.

Crosstab Query Wizard

Which fields' values do you want as row headings?
You can select up to three fields.
Select fields in the order you want information sorted. For example, you could sort and group values by Country and then Region.

Available Fields:

- Sequence
- Name
- Occupation**
- Salary

Selected Fields:

- Governorate**

Sample:

Governorate	Header1	Header2	Header3
Governorate1	TOTAL		
Governorate2			
Governorate3			
Governorate4			

Buttons: Cancel, < Back, **Next >**, Finish

- Later, we click (**Next**) and this box appears in which we select (**Occupation Title field**).

Crosstab Query Wizard

Which field's values do you want as column headings?
For example, you would select Employee Name to see each employee's name as a column heading.

Available Fields:

- Sequence
- Name
- Occupation**
- Salary

Sample:

Governorate	Occupation1	Occupation2	Occupation3
Governorate1	TOTAL		
Governorate2			
Governorate3			
Governorate4			

Buttons: Cancel, < Back, **Next >**, Finish

- We click (Next), another box appears where we select the (Salary field) and (Sum) function or any other function we want.

Crosstab Query Wizard

What number do you want calculated for each column and row intersection?
For example, you could calculate the sum of the field Order Amount for each employee (column) by country and region (row).

Do you want to summarize each row?
 Yes, include row sums.

Fields:

- Sequence
- Name
- Salary

Functions:

- Avg
- Count
- First
- Last
- Max
- Min
- StDev
- Sum
- Var

Sample:

Governorate	Occupation1	Occupation2	Occupation3
Governorate1	Sum(Salary)		
Governorate2			
Governorate3			
Governorate4			

Cancel < Back Next > Finish

After, we click (Next), another box appears in which we type the (Query) name.

Crosstab Query Wizard

What do you want to name your query?
Employee

That's all the information the wizard needs to create the query.

Do you want to view the query, or modify the query design?

View the query.
 Modify the design.

Cancel < Back Next > Finish

At last, we click (Finish) and this is the (Query) we have created.

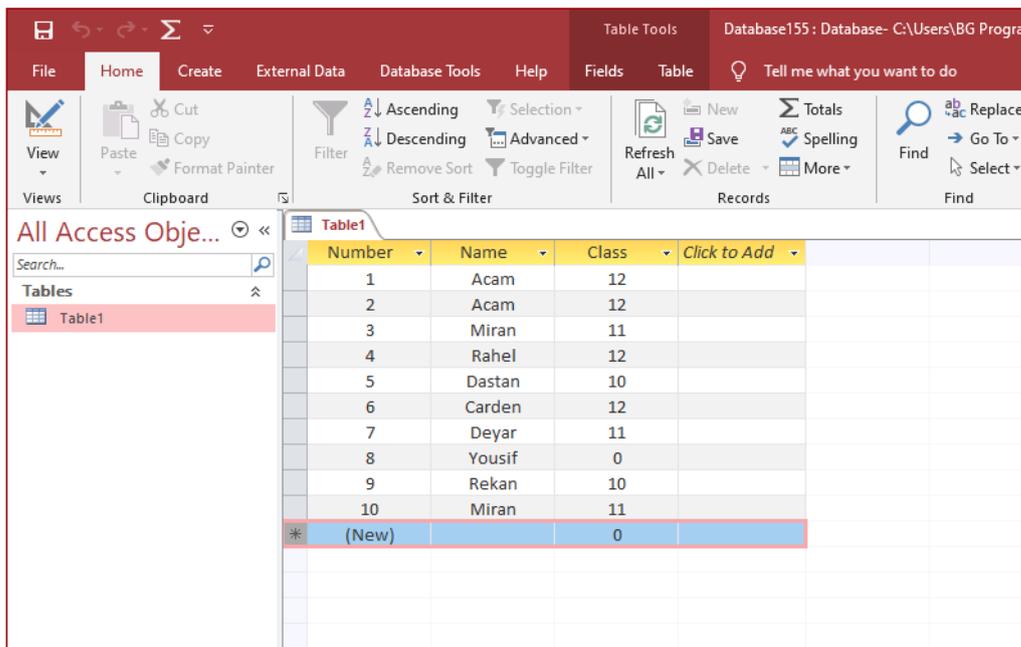
Governorate	Total Of Sala	Employee	Teacher
Duhok	1300000	1300000	
Erbil	1210000	670000	540000
Sulaymaniyah	1265000	450000	815000

3. Find Duplicates Query Wizard

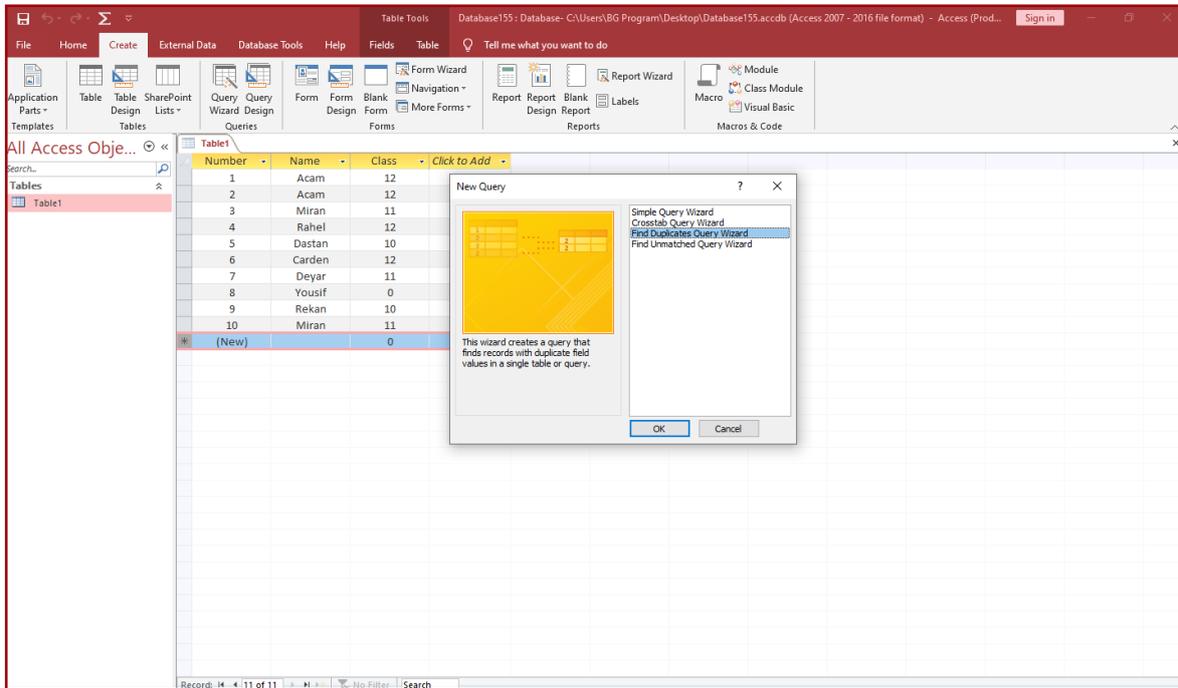
It is used to identify duplicate data in a table.

Example:

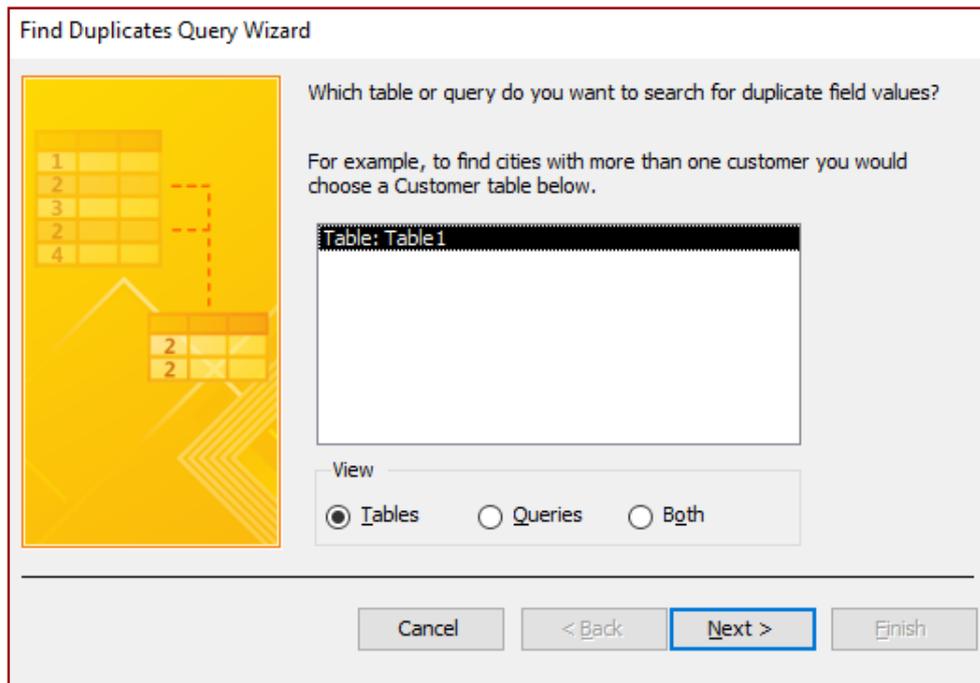
We have a table that have been modified several times so eventually we may need to search for duplicate data.



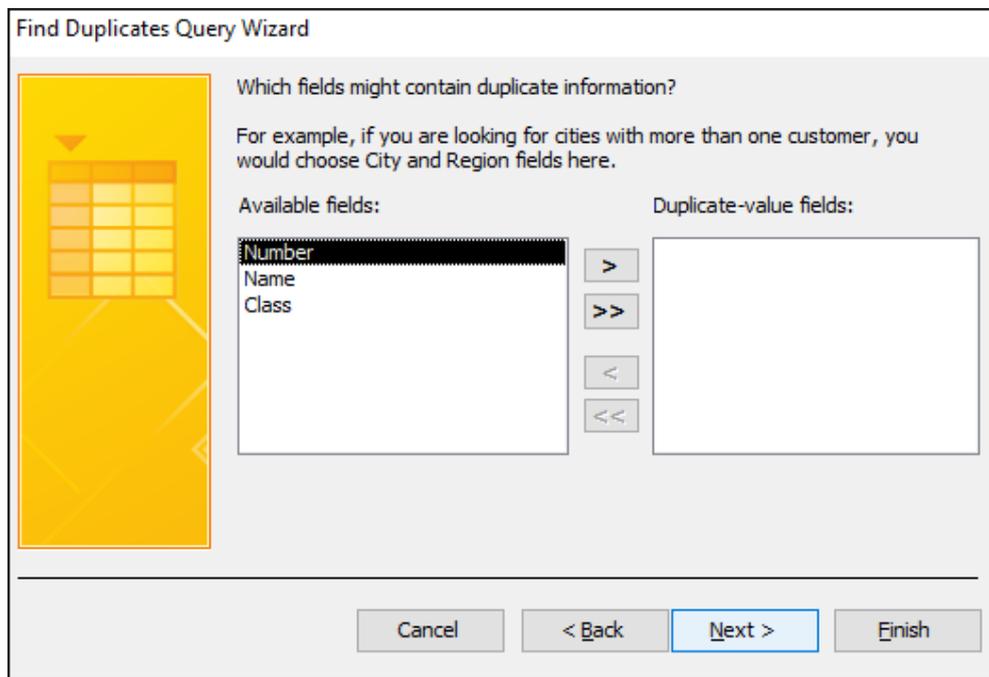
After selecting (Query Wizard), we select (Find Duplicate Query Wizard) and then click (ok).



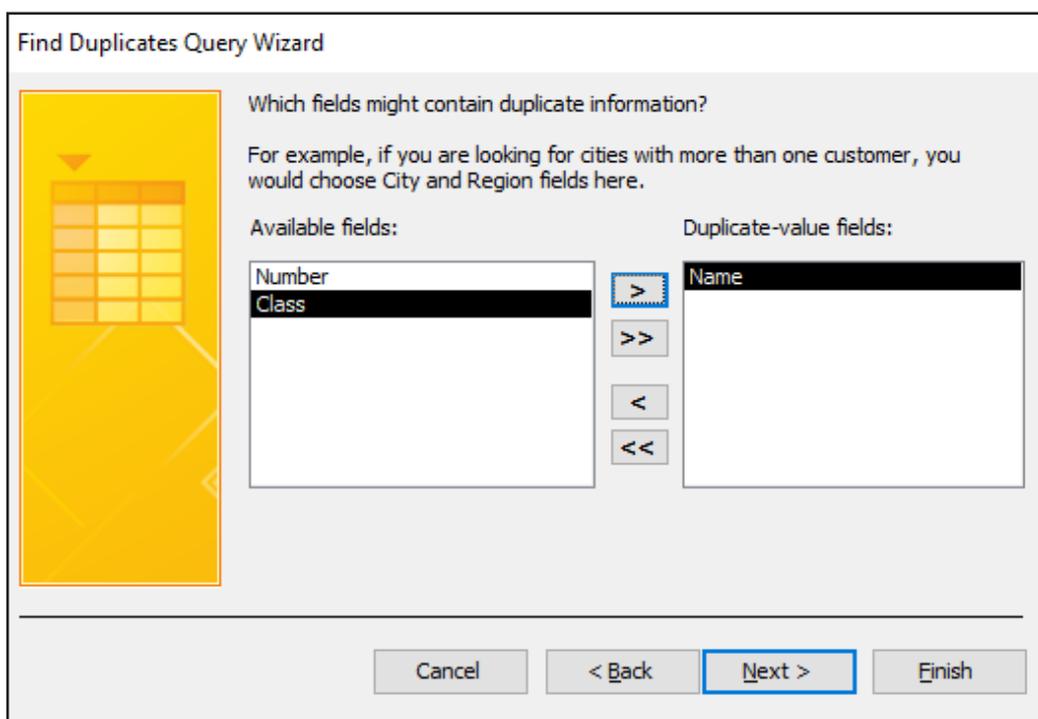
•This box appears:



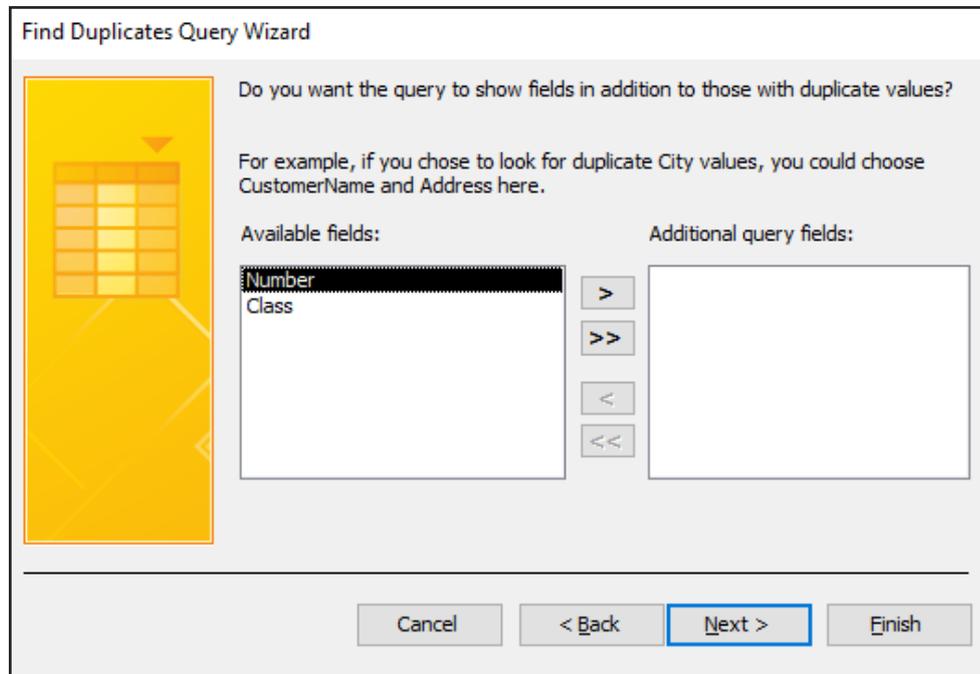
- We select the wanted table as shown in the picture above, then, we click (**Next**) and this appear.



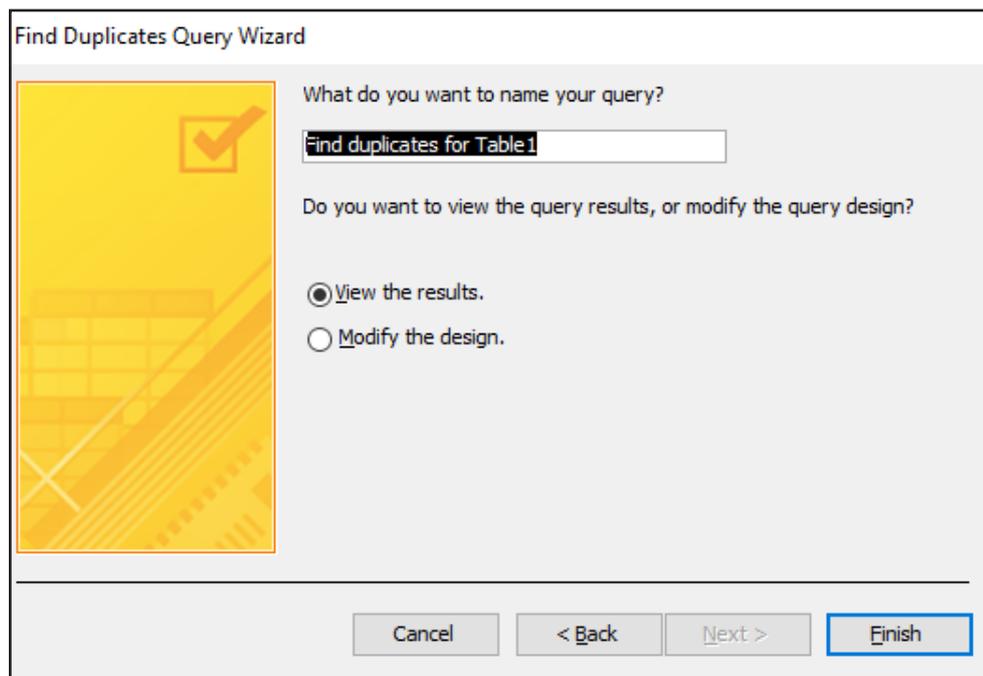
- We select the field in which we want to identify duplicate data as (**Duplicate-value fields**) as shown below:



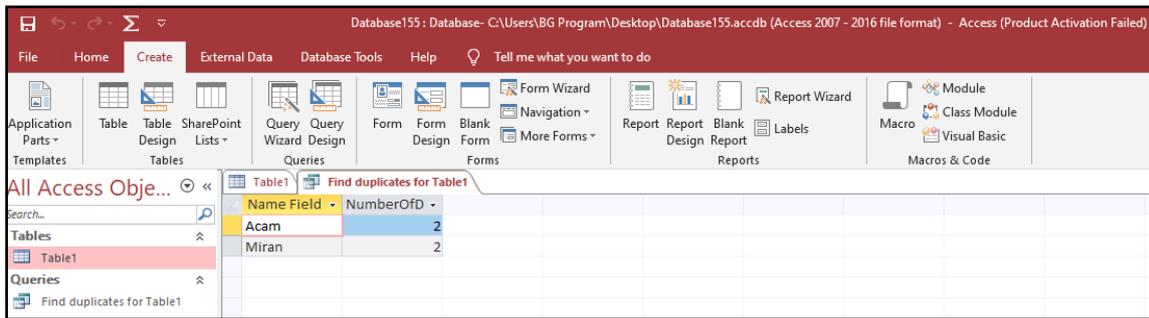
- Later, we click (**Next**) and this box appears in which we can choose more fields to search for duplicate data.



Finally, we click (**Next**) and name the (**Query**) in the box that appears:



We click (Finish) and a (Query) is created as below:

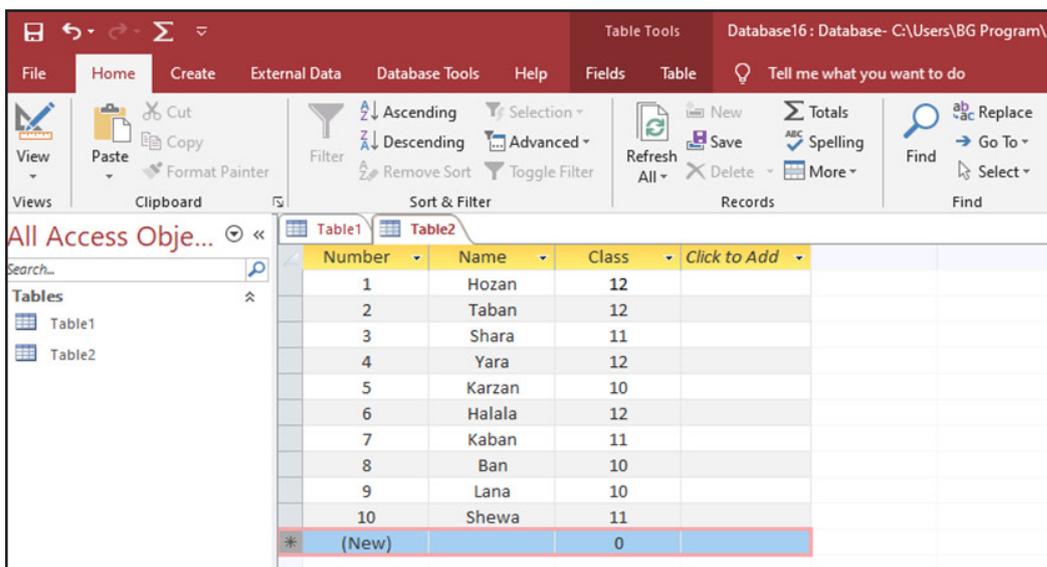
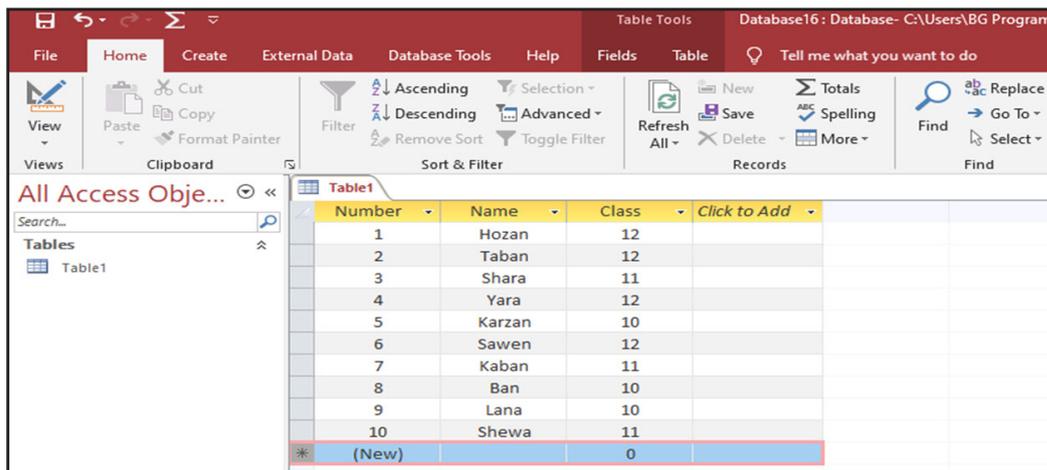


4. Find Unmatched Query Wizard

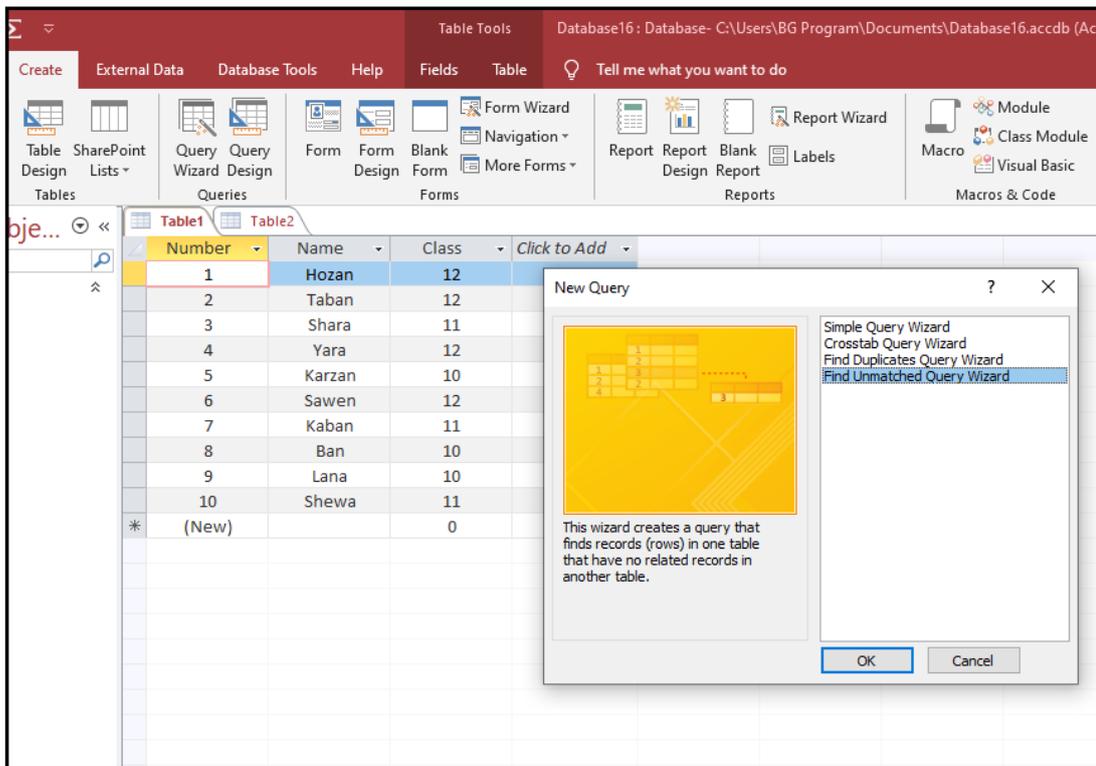
It is used to find unmatched data in two tables.

Example:

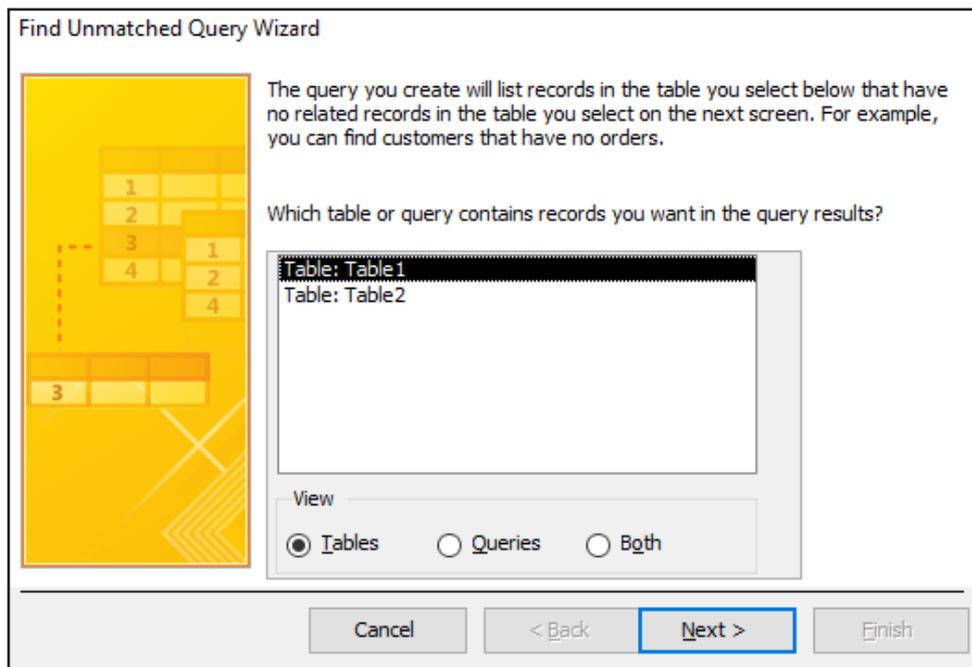
We have two tables (table 1, table 2) as shown below:



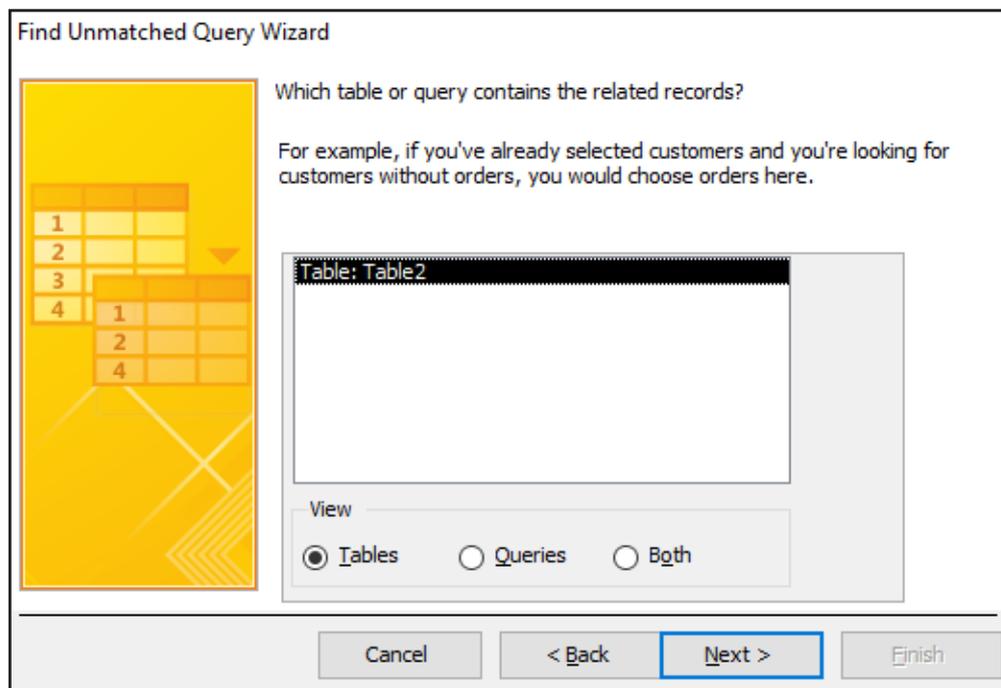
We want to find the unmatched data in (table 1), so first in (Query Wizard), we click (Find Unmatched Query Wizard).



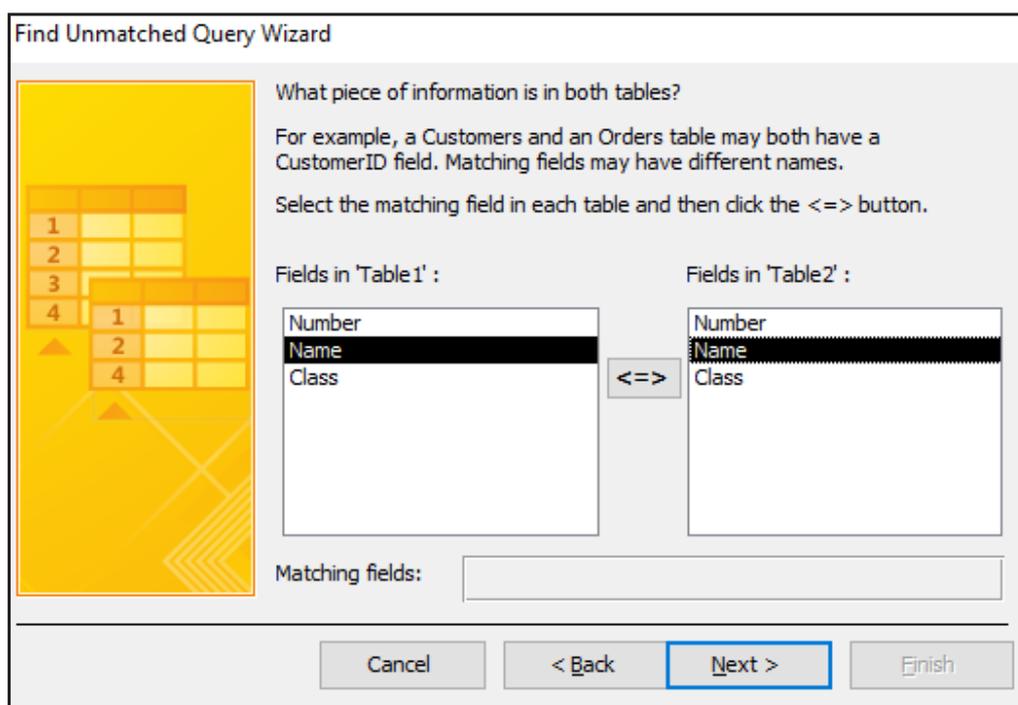
This box appears in which we select (table 1) as below:



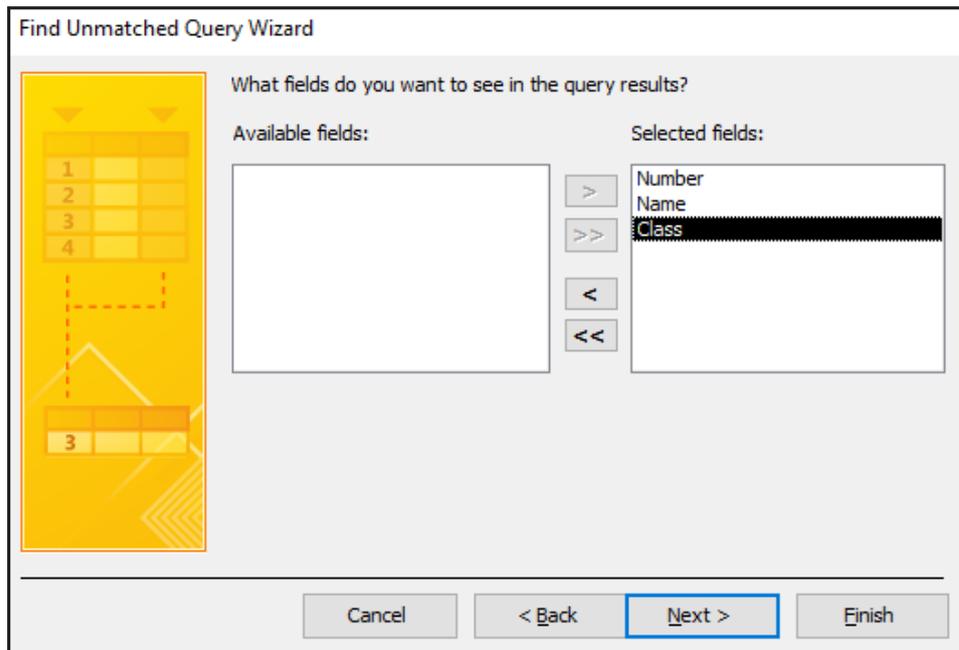
Then, we click (next) and this box appears in which we select (table 2):



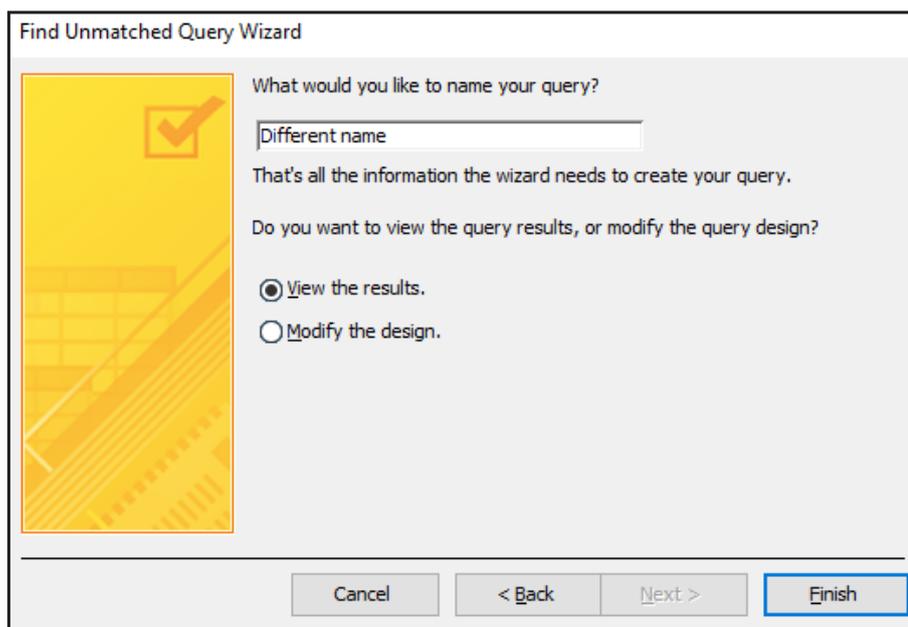
We click (Next) and this box appears in which we select the field (Name) in both tables as shown below:



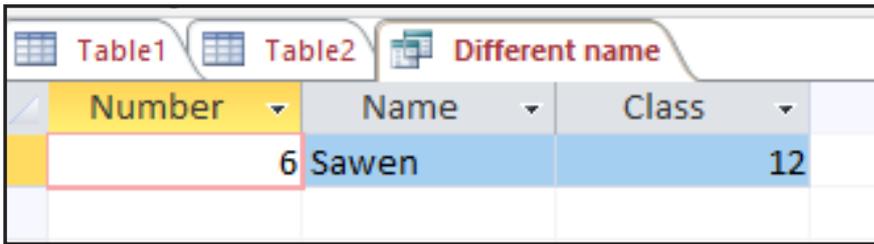
After that, we click (Next) and this box appears in which we can choose other fields that we want to see in our query next to the names as in the below picture:



Then click (Next) and a box appears in which we can name the query as below:



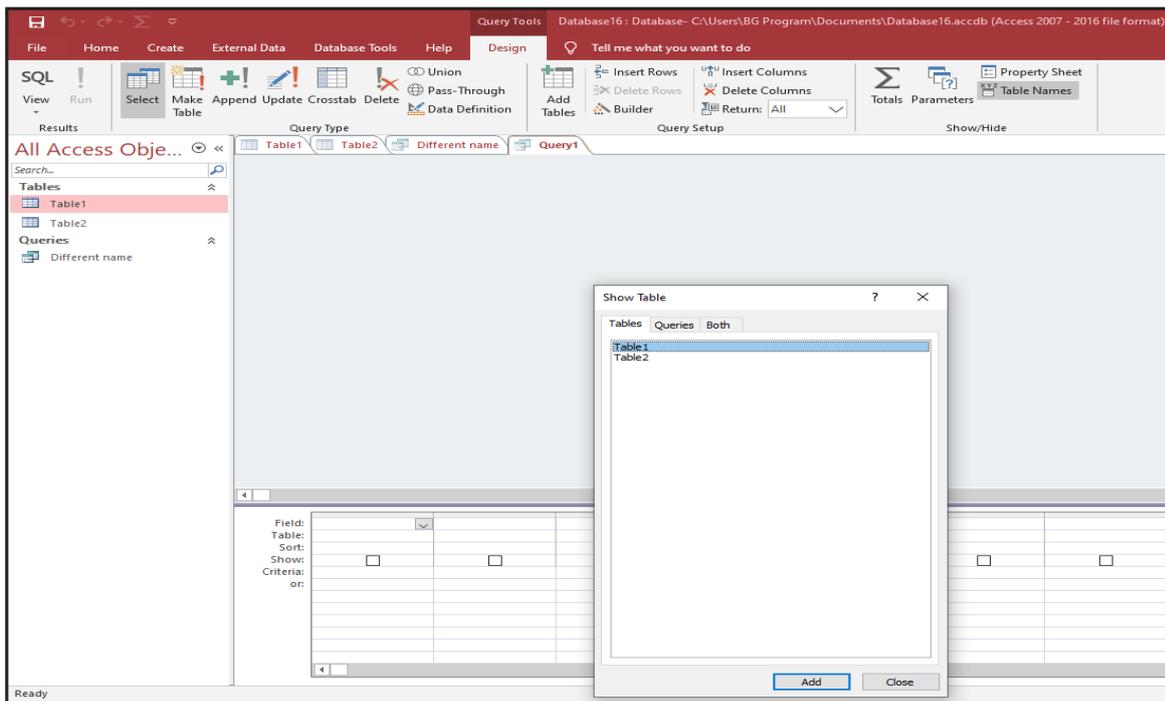
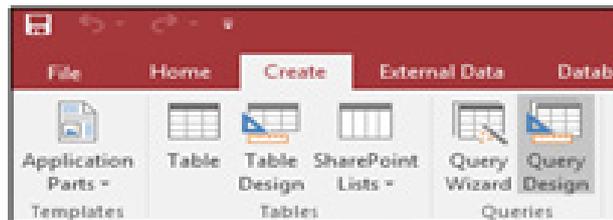
Click (Finish) and our query is created.



Number	Name	Class
6	Sawen	12

Second Way Query Design:

In (Create) tab, we click (Query Design) as shown below:



It contains two parts:

First Part: Contains an open box with the already created tables in our database; if we want to run a query on any of those tables, we need to select the name of the table and click (Add) and then (Close).

Second Part: Here we create a query and it consists of the following:

- (Field): The name of the field is entered here.
- (Table): To type the name of the table.
- (Sort): To sort the selected data from (A-Z) or (Z-A).
- (Show): To show or hide a wanted field.
- (Criteria): To set a criteria for the field.
- (Or): To set a second criteria in our query. For example we ask for names of students aged (18 or 19) then only the names of students aged (18 or 19) will be presented to us in our query.

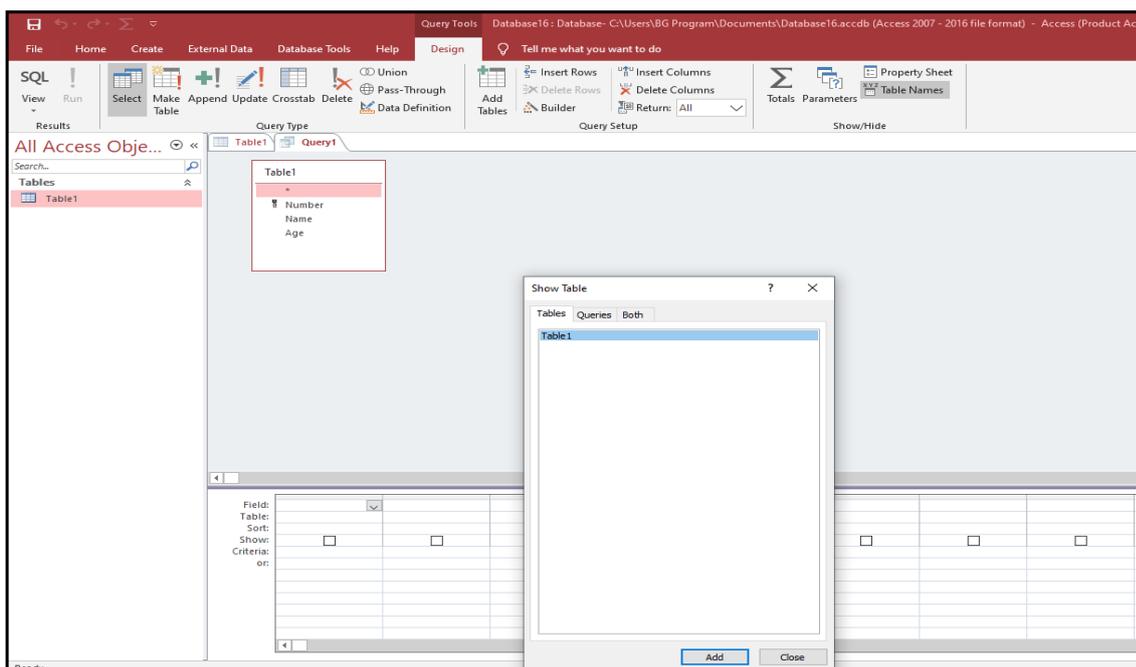
Example:

Number	Name	Age	Click to Add
1	Hozan	17	
2	Taban	19	
3	Shara	20	
4	Yara	17	
5	Karzan	19	
6	Sawen	20	
7	Kaban	23	
8	Ban	18	
9	Lana	19	
10	Shewa	19	
11	Sawen	20	
*	(New)	0	

We have a table on which we want to run a query to find out how many students are aged (20).

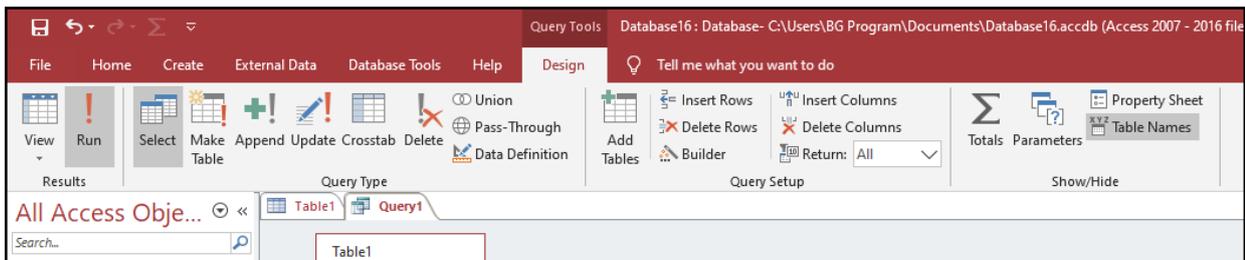
First we click (**Design Query**) and select the name of the table wanted, then (**Add**) and then (**Close**).

This will appear:

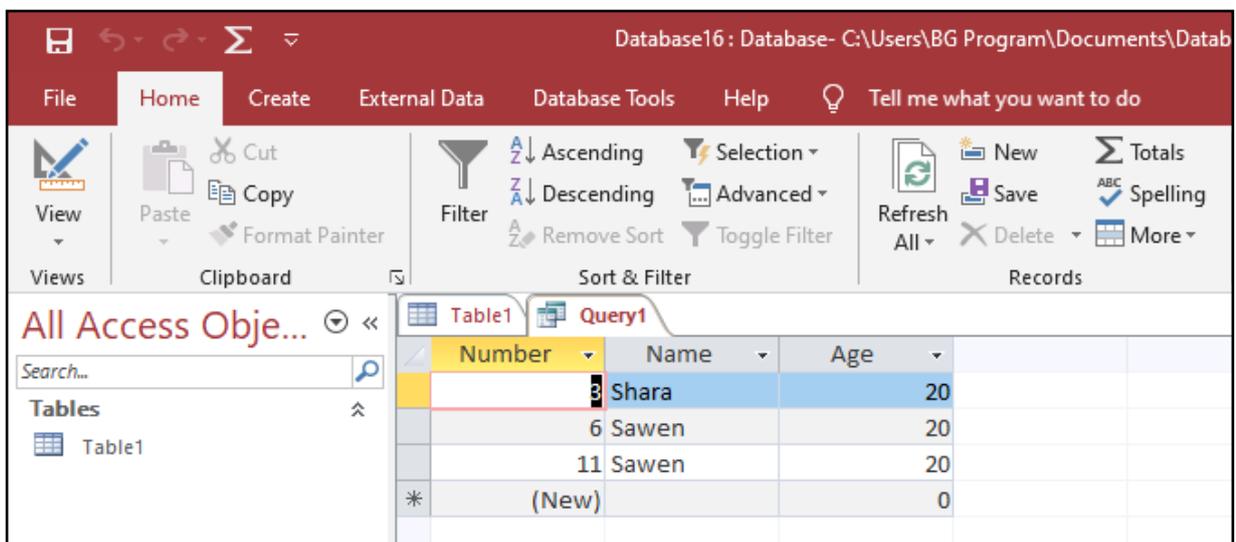


In the part where to create a query, we start to fill-in the options according to our query; then, in the (Criteria) option for the (Age) field, we type (=20) to find out how many students in the table are 20 years old.

Then we go to (Design) and click (Run).

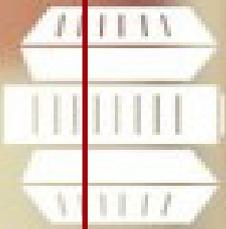


The result will be as this:



Second Semester





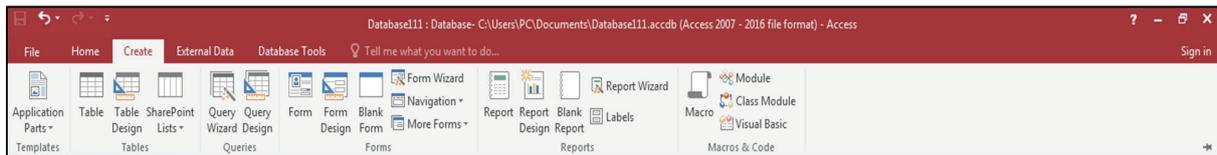


Form



Form:

It is a database object that can be created with (Table) and (Query), it can be modified as well as used to modify; as to add new data or edit old data within a database.



• Ways to Create Form

First Way (Form):

Click (Form) and a form is simply created

Example:

We have a table consisting of these fields: (Sequence , Name, Governorate, Occupation, Salary) from which we want to create a form, and so we click (Form).

Field	Value
Sequence	1
Name	Azad
Governorate	Sulaymaniyah
Occupatio	Employee
Salary	450000

Second Way (Form Design):

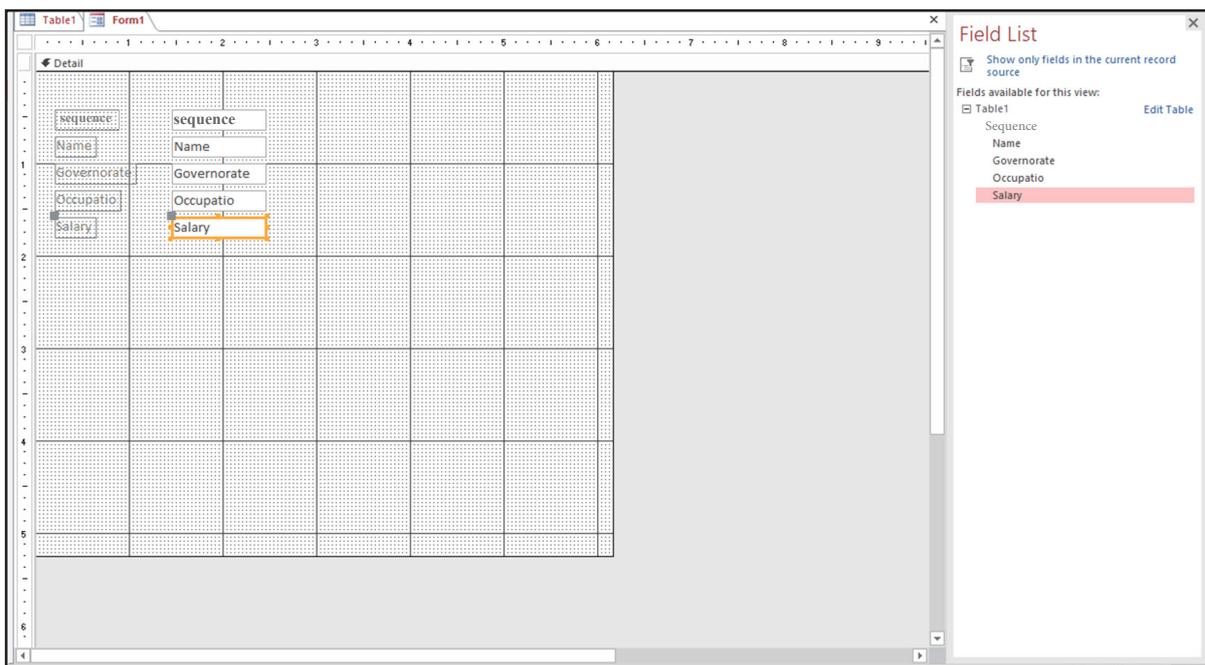


It is used to create a form as wanted and that is by double clicking each field.

Example:

We create a form by using (Form Design) as following:

1. In (Create) list, we click (Form Design).
2. We click (Add Existing Fields) icon in (Design) list to show the tables.
3. We select the table from which we want to create a form.
4. By double click (Drag and Drop) any field in the (Field List), it moves into the design form.



• How to Add Icon to Form Using (Design View)

After creating a form using (Design View), we can add a group of icons to make it easier for the user to store data to the database.

How to Add Control to Form:

After creating a form in (Design), the Controls group appears.

As shown in the picture:

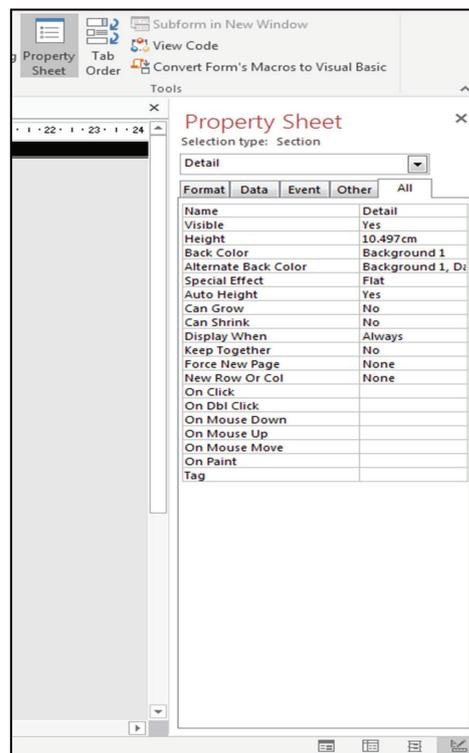


- (Select) 

(Text Area): (Shapes) are used to choose (colors, shapes).

- (Text Box) 

(Properties) to create a cell for typing, or, add a cell where we can change data types.

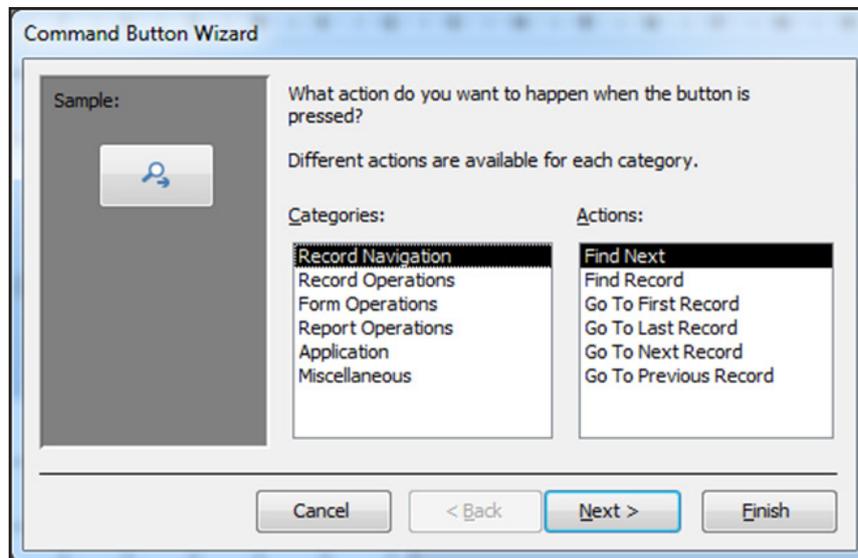


- (Label) 

It is used to define a field.

- (Button) 

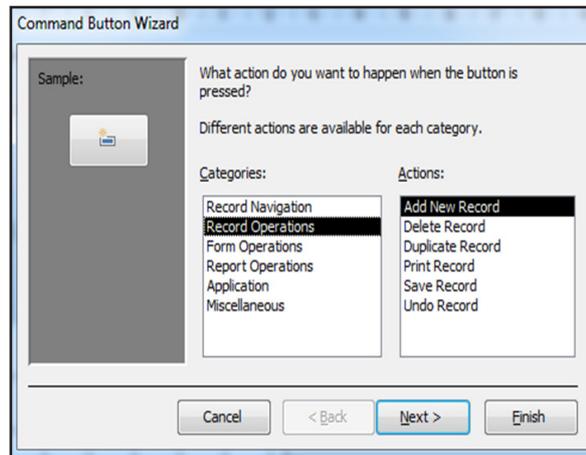
When we click (Button), this box appears and we select the command we want to apply.



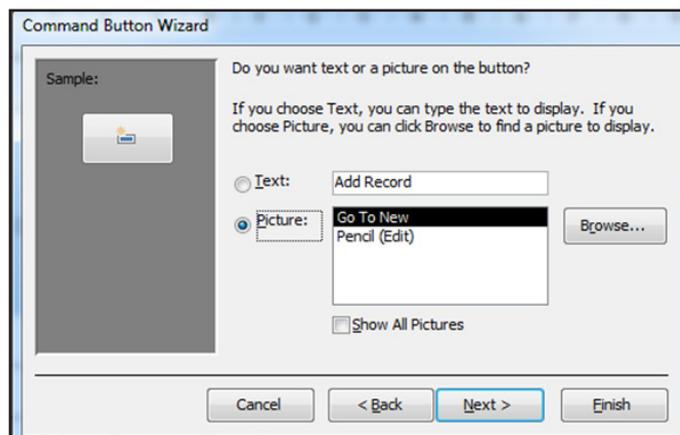
Example:

If we want to add two commands to our form; one to add data and the other to delete data, we do it in the following way:

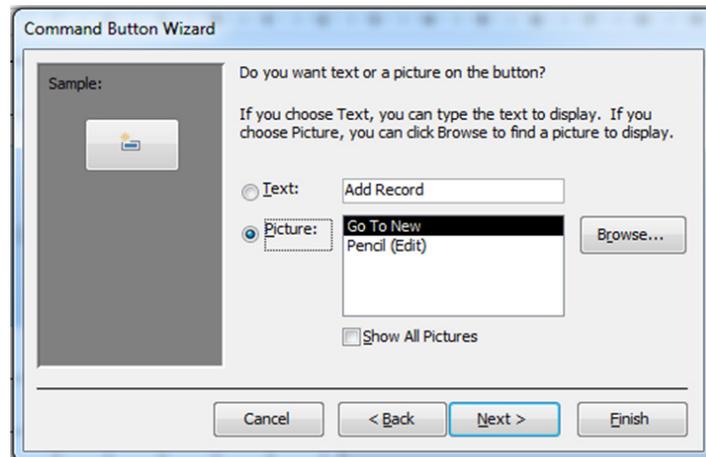
- We create a form using (Design View).
- From (Controls) group we drag two (Button)s to the form.
- A box appears and we select (Record Operations) in (Categories) and (Add New Record) in (Action) for the first button.



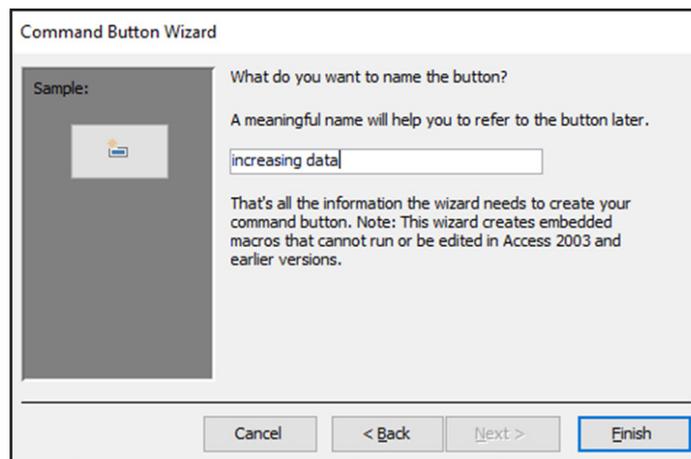
- Then we click next and another box appears as shown below.



- As shown, this box consists of two sections: **(Text)** and **(Picture)**. If we select **(Text)**, we type the name of the icon with the command to apply in the form. But, if we select **(Picture)**, then we choose a picture that refers to the command in the form.

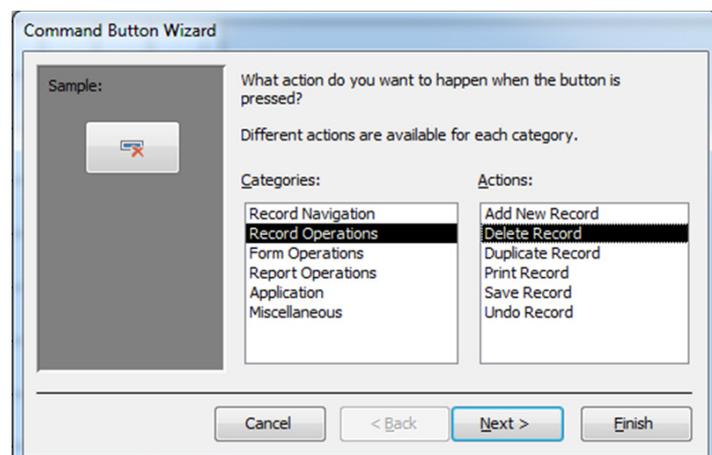


- We Click **(Next)** and then name the **(Command)** and change it to **(increasing data)** and we click **(Finish)**.



- Finally a command is created, and so, by a click on **(increasing data)** button after running the form, we can add **(Record)** to the database.

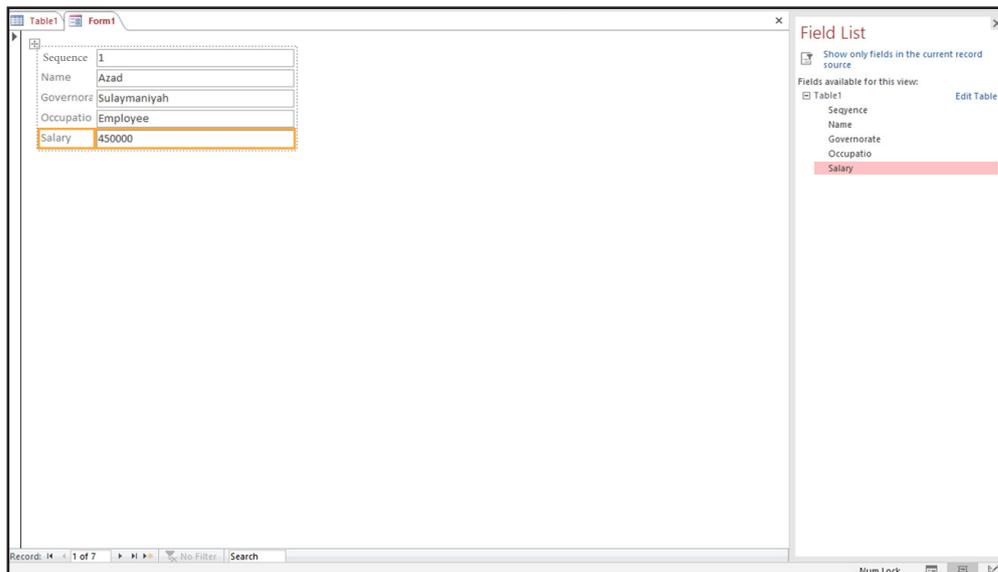
For the second **(Button)** we follow the same way but in **(Action)** section we select **(Delete Record)**.



• **Third Way (Blank Form):**



It is used to create a simple following the same steps mentioned in the second way.



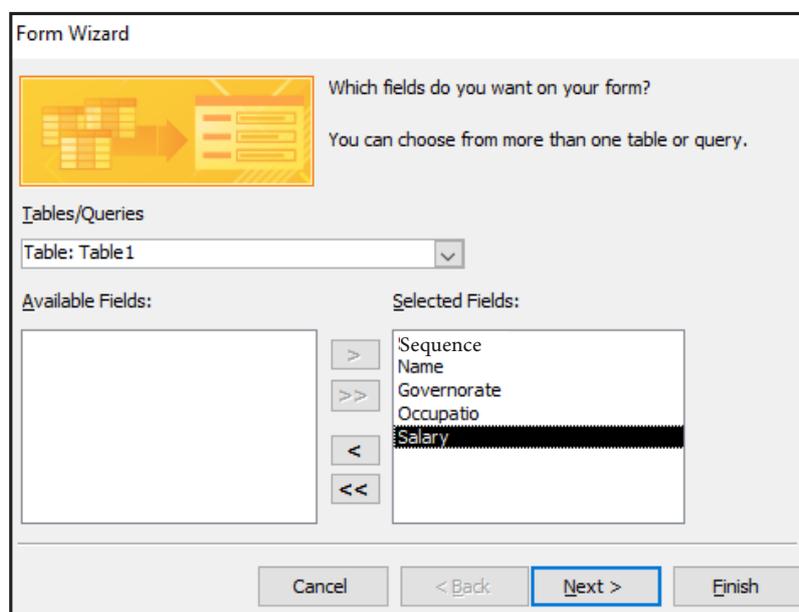
• **Forth Way (Form Wizard) :**



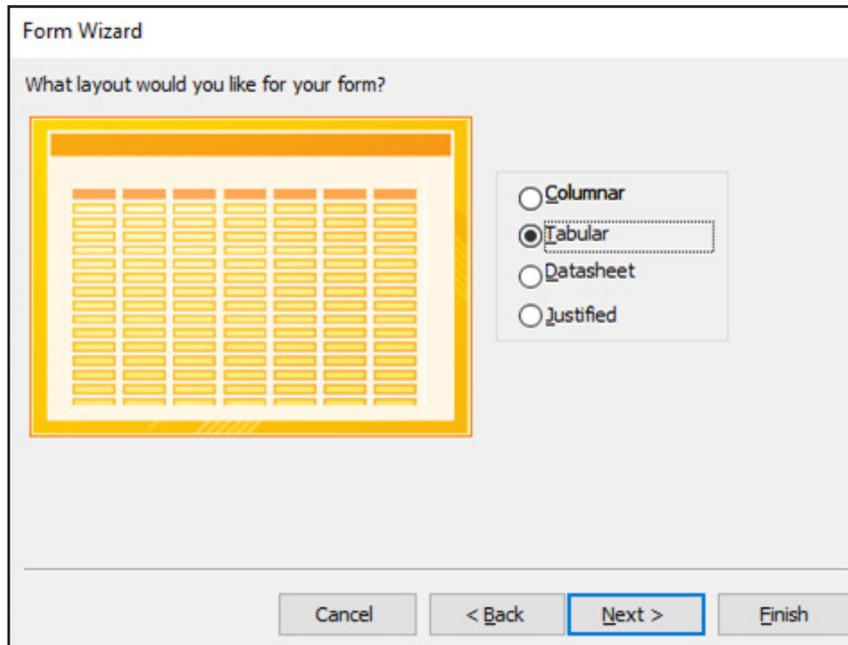
To create a form from templates.

Example: To create a form using (Form Wizard) is as follows:

1. In the (Create) list, we click (Form Wizard) and a box appears that contains the following sections.
 - *In (Table /Query) we select a table or a query.
 - * (Available Fields) shows the fields in the table.

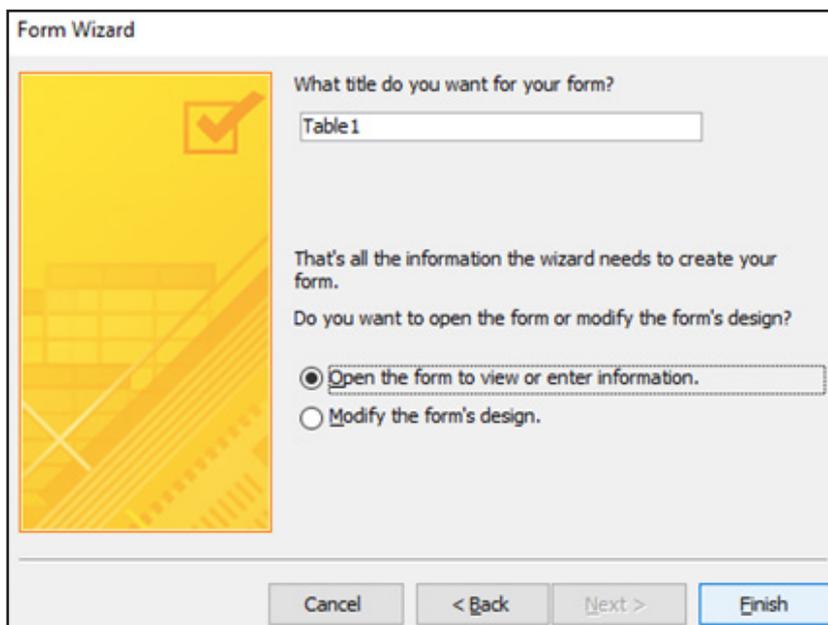


2. Click (Next) and this box appears.



The image shows a 'Form Wizard' dialog box with the title 'Form Wizard'. The main question is 'What layout would you like for your form?'. On the left, there is a preview of a tabular form layout with a yellow border. On the right, there are four radio button options: 'Columnar', 'Tabular', 'Datasheet', and 'Justified'. The 'Tabular' option is selected and highlighted with a dashed border. At the bottom, there are four buttons: 'Cancel', '< Back', 'Next >', and 'Finish'. The 'Next >' button is highlighted with a blue border.

3. Click (Next) and this box appears.



The image shows a 'Form Wizard' dialog box with the title 'Form Wizard'. The main question is 'What title do you want for your form?'. The text 'Table1' is entered in the text box. Below this, there is a message: 'That's all the information the wizard needs to create your form. Do you want to open the form or modify the form's design?'. There are two radio button options: 'Open the form to view or enter information.' and 'Modify the form's design.'. The 'Open the form to view or enter information.' option is selected and highlighted with a dashed border. At the bottom, there are four buttons: 'Cancel', '< Back', 'Next >', and 'Finish'. The 'Finish' button is highlighted with a blue border.

Two options appear .

*(Open the form to view or enter information).

*(Modify the form's design).

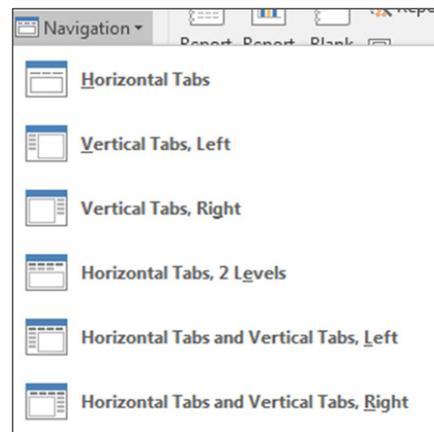
4. We click (**Finish**).

Fifth Way (Navigation):



To create a form from navigation layouts which are:

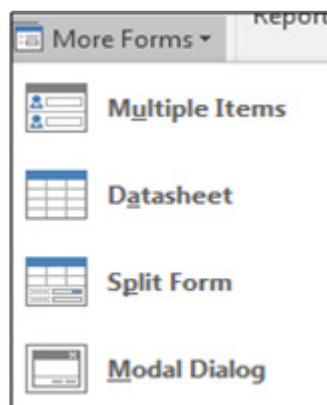
- Horizontal Tabs
- Vertical Tabs, Left
- Vertical Tabs, Right
- Horizontal Tabs, 2 Levels
- Horizontal Tabs and Vertical Tabs, Left
- Horizontal Tabs and Vertical Tabs, Right



Sixth Way (More Form):

To create forms in different ways, it contains:

- Multiple Items: To create a form that presents multiple records at a time.
- Datasheet: To create a form in the form of excel sheet.
- Split Form: To create and split a form in two displays: a display as form and a display as data
- Modal Dialog: A new icon in access (2016) that has new methods to create forms.

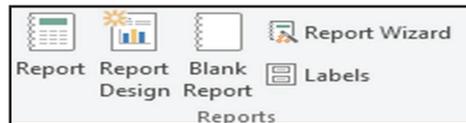




Report



It is the object with which (Table, Query) can be displayed and printed.



Ways to Create Report

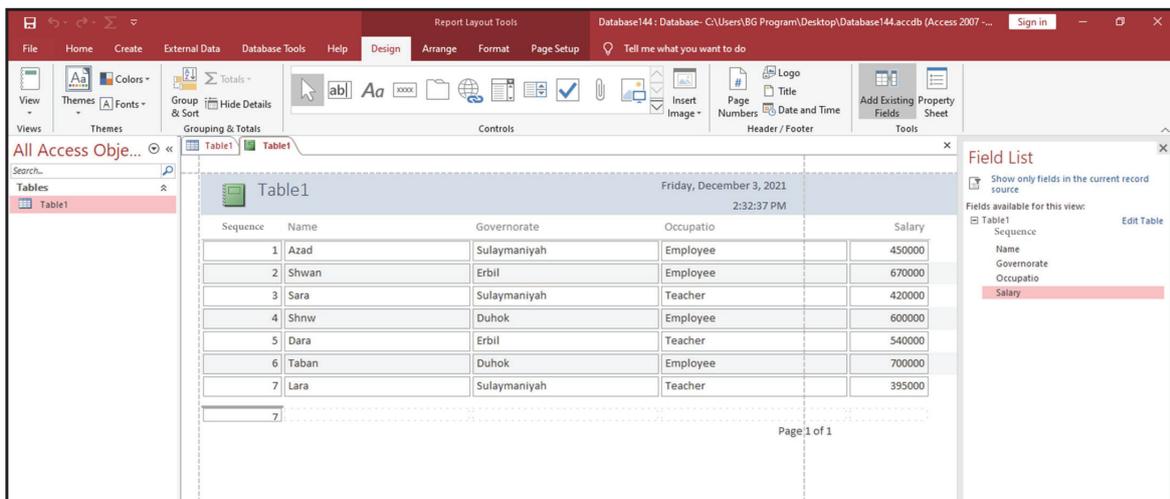


- **First Way (Report):**

In the (Create) list, we click (Report) and directly a report will be created.

Example:

With the same table we used in the former lesson to create a form, we will create a report as shown below:

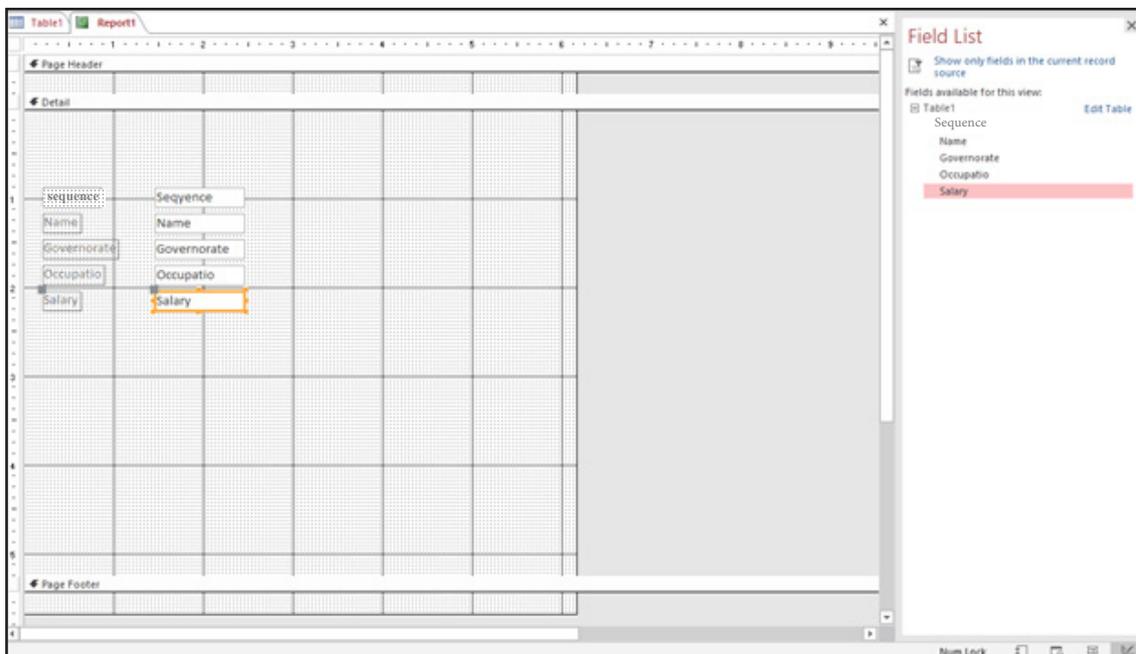




Second Way (Report Design):

In the (Create) list, we click (Report Design), and we can create a report following the below steps:

1. In the (Create) list, we click (Report design).
2. In case the fields of the table did not appear in the (Field List), we would click (Add Existing Fields) in the (Design) list to present the table.
3. We select the table on which we want to create a report.
4. By double click or (Drag & Drop) any field in the (Field List), it moves to the design report.



5. Click (Report View), to get ready to print view of the report.

Sequence	<input type="text" value="1"/>
Name	<input type="text" value="Azad"/>
Governorate	<input type="text" value="Sulaymaniyah"/>
Occupatio	<input type="text" value="Employee"/>
Salary	<input type="text" value="450000"/>

Sequence	<input type="text" value="2"/>
Name	<input type="text" value="Shwan"/>
Governorate	<input type="text" value="Erbil"/>
Occupatio	<input type="text" value="Employee"/>
Salary	<input type="text" value="670000"/>

6. We save the report with a name.

Third Way (Blank Report):



To create a report in an easy way.

Sequence	Name	Governorate	Occupation	Salary
1	Azad	Sulaymaniyah	Employee	450000
2	Shwan	Erbil	Employee	670000
3	Sara	Sulaymaniyah	Teacher	420000
4	Shnw	Duhok	Employee	600000
5	Dara	Erbil	Teacher	540000
6	Taban	Duhok	Employee	700000
7	Lara	Sulaymaniyah	Teacher	395000

• Forth Way (Report Wizard):



To create a report from templates.

Some of the significances of (Report Wizard) are:

- Selecting multiple fields.
- Modifying report.
- Listing fields.
- Categorizing/ summarizing fields.
- Applying the functions of (sum, average, the greatest, the least).

With the following steps, we can create a report using (Report Wizard):

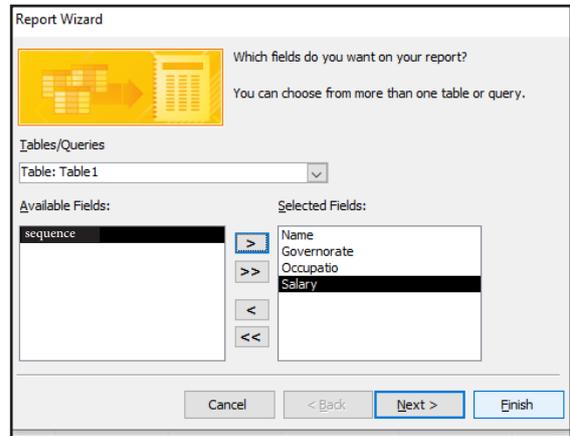
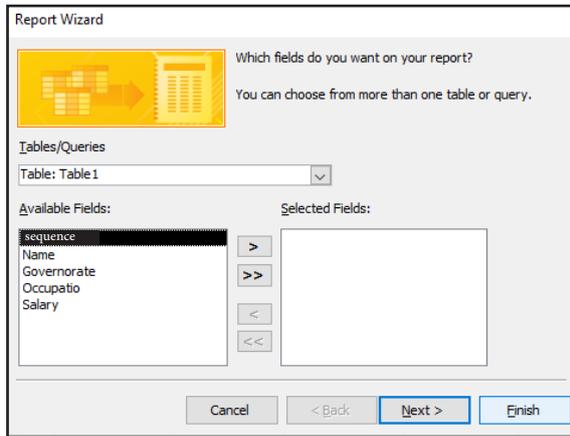
Example:

Sequence	Name	Governorate	Occupation	Salary
1	Azad	Sulaymaniyah	Employee	450000
2	Shwan	Erbil	Employee	670000
3	Sara	Sulaymaniyah	Teacher	420000
4	Shnw	Duhok	Employee	600000
5	Dara	Erbil	Teacher	540000
6	Taban	Duhok	Employee	700000
7	Lara	Sulaymaniyah	Teacher	395000
*	(New)			0

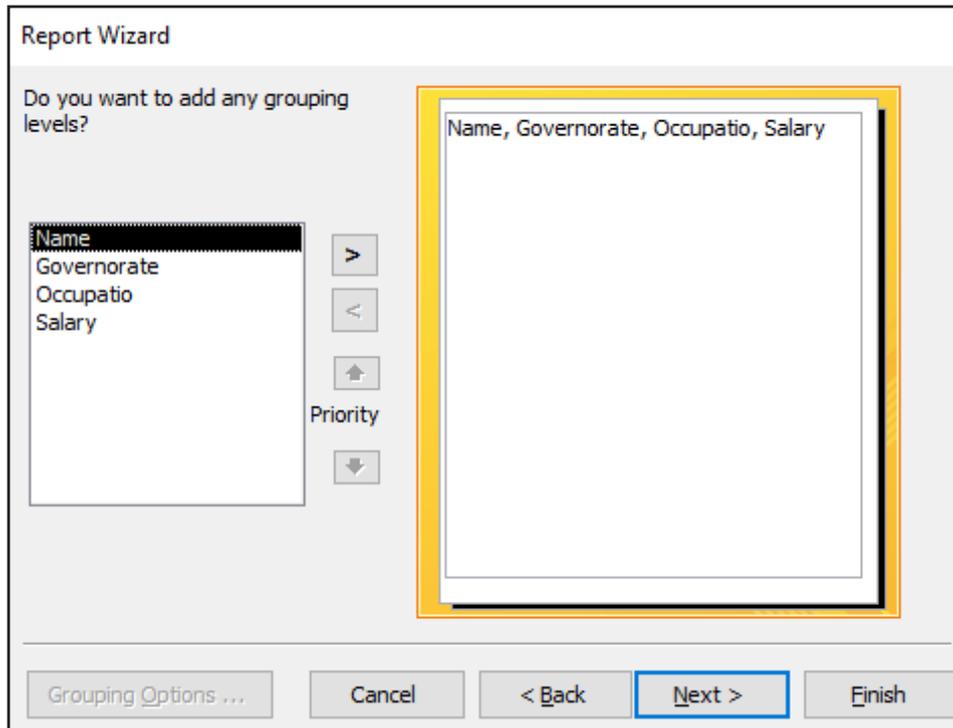
1) In Create list, we click (**Report wizard**) and a box appears that contains these section.

*In (Table /Query) we select a table or a query.

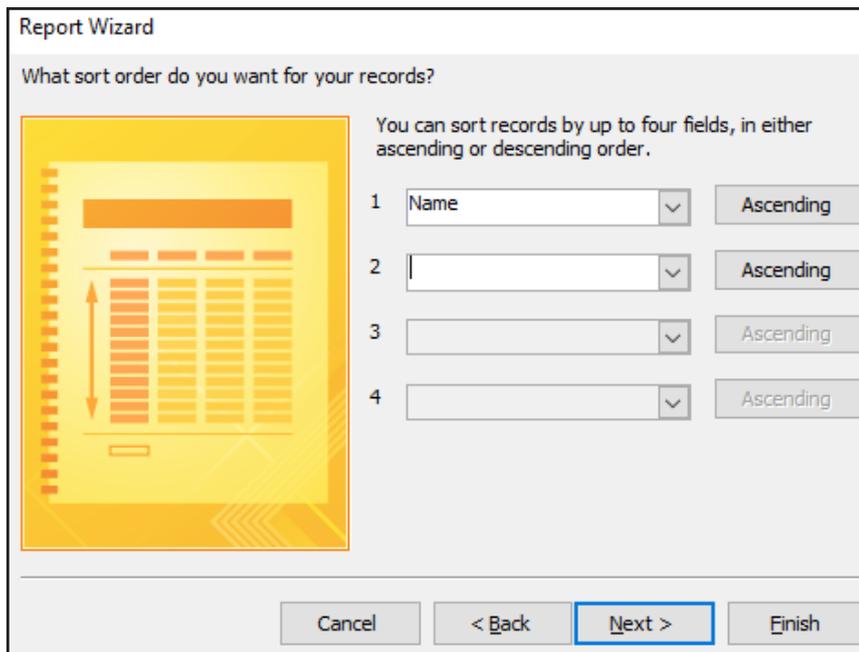
*(Available Fields) shows the fields in the table.



2) We click (Next) and this box appears.

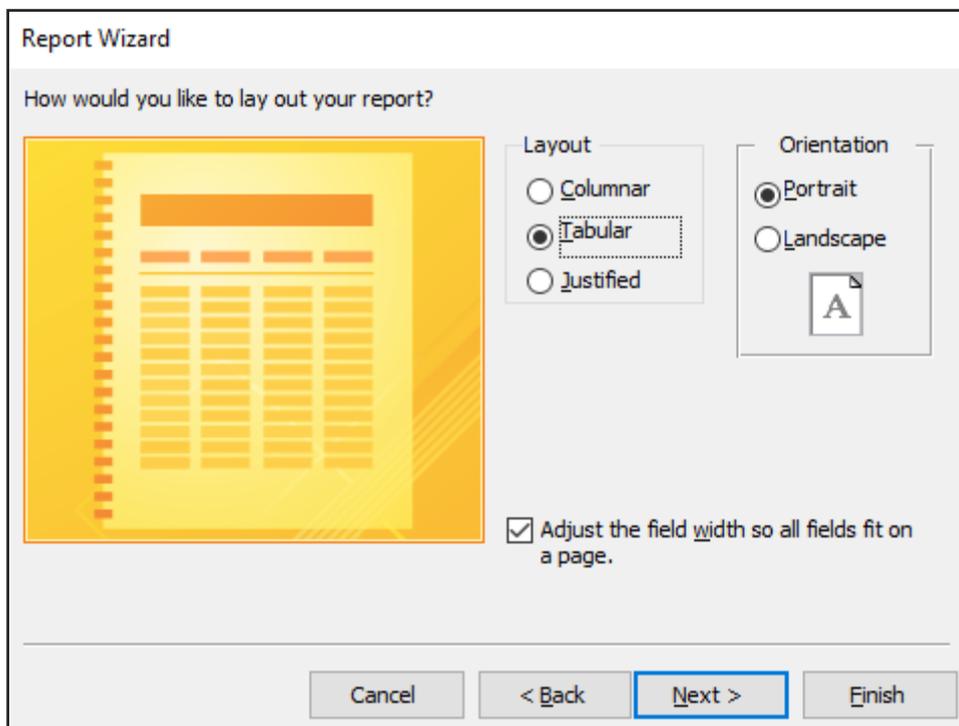


- 3) We click (Next) and this box appears where we can sort the records from (A-Z) or (Z-A).



The screenshot shows the 'Report Wizard' dialog box with the title 'Report Wizard'. The main question is 'What sort order do you want for your records?'. Below this, there is a preview window on the left showing a report with a table and a vertical double-headed arrow indicating sorting. To the right of the preview, there is a text box that says 'You can sort records by up to four fields, in either ascending or descending order.' Below this text, there are four rows of controls, each with a number (1-4), a dropdown menu, and a button labeled 'Ascending'. The first dropdown menu is set to 'Name'. At the bottom of the dialog, there are four buttons: 'Cancel', '< Back', 'Next >', and 'Finish'. The 'Next >' button is highlighted with a blue border.

- 4) We click (Next) and this box appears where we can modify the report design and its orientation as we want.

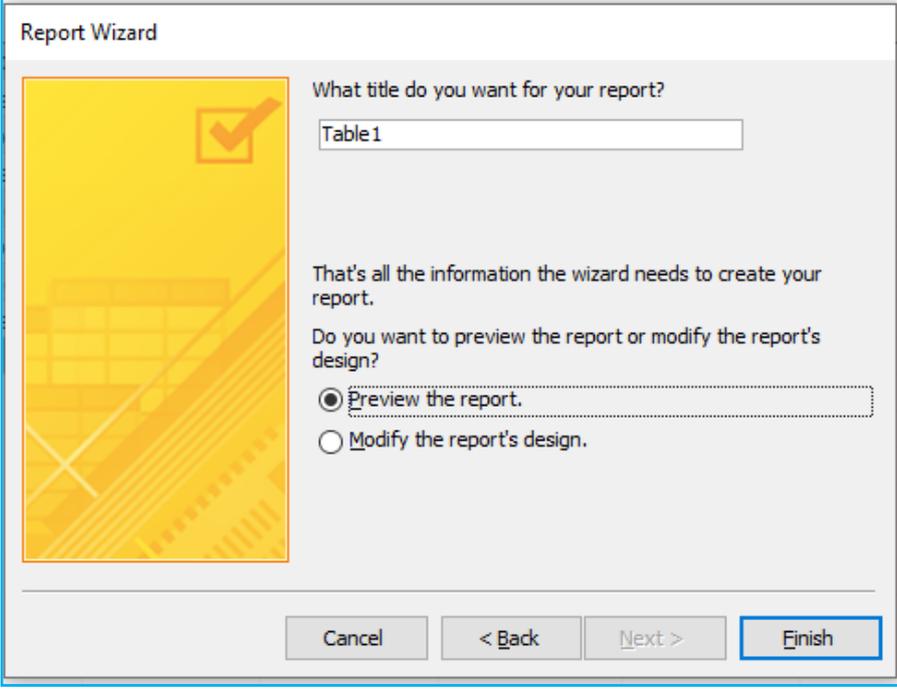


The screenshot shows the 'Report Wizard' dialog box with the title 'Report Wizard'. The main question is 'How would you like to lay out your report?'. Below this, there is a preview window on the left showing a report with a table. To the right of the preview, there are two sections: 'Layout' and 'Orientation'. The 'Layout' section has three radio buttons: 'Columnar', 'Tabular' (which is selected and has a dotted border around it), and 'Justified'. The 'Orientation' section has two radio buttons: 'Portrait' (which is selected) and 'Landscape'. Below these sections, there is a checkbox labeled 'Adjust the field width so all fields fit on a page.' which is checked. At the bottom of the dialog, there are four buttons: 'Cancel', '< Back', 'Next >', and 'Finish'. The 'Next >' button is highlighted with a blue border.

two options appear.

*(Open the form to view or enter information)

*(Modify the Report design)



Report Wizard

What title do you want for your report?

Table1

That's all the information the wizard needs to create your report.

Do you want to preview the report or modify the report's design?

Preview the report.

Modify the report's design.

Cancel < Back Next > Finish

5) We click (Finish).

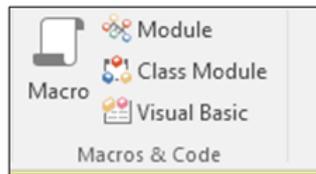
Table1		
Name	Governorate	Occupatio
Azad	Sulaymaniyah	Employee
Dara	Erbil	Teacher
Lara	Sulaymaniyah	Teacher
Sara	Sulaymaniyah	Teacher
Shnw	Duhok	Employee
Shwan	Erbil	Employee
Taban	Duhok	Employee

Fifth Way (Tabels):



This way is used to create badge and identity cards in an express way.

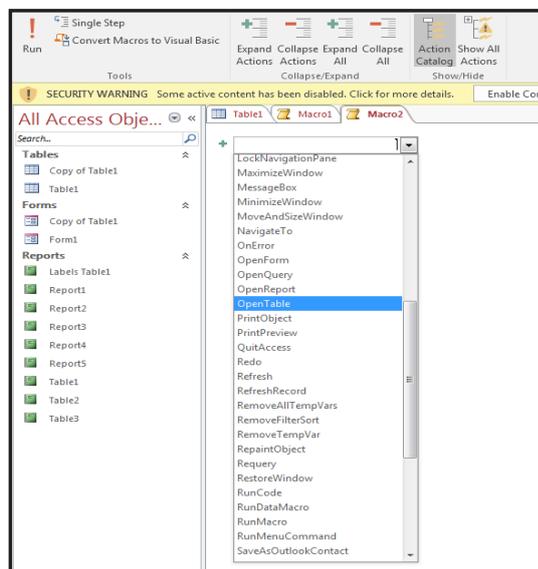
Macros & Code



Macro: Used to apply a selected function in a database.

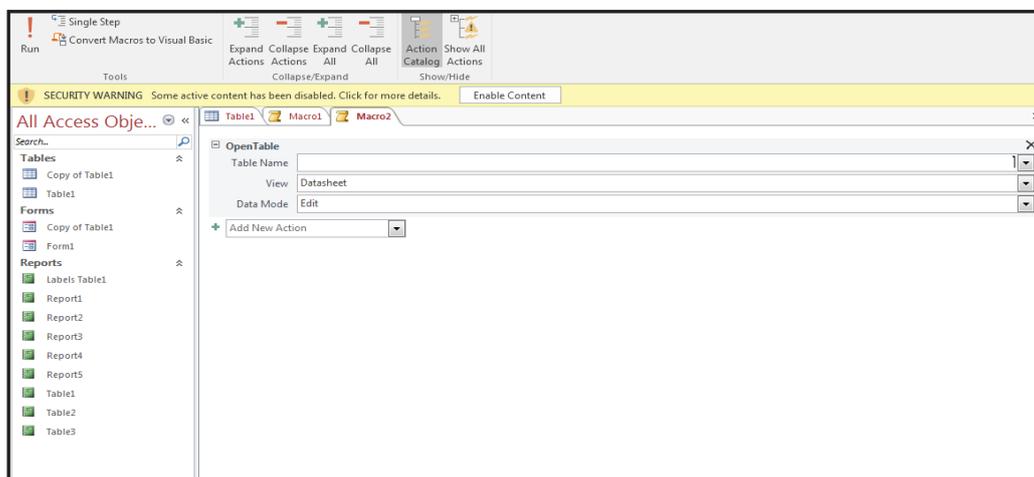
Steps to create (Macro)

- We click on (Create) list.
- We click (Macro) in (Macro & Code) group.
- A box appears as shown:



Here, in the (Add New Action) section, we select the icon we want. For example:

(Open Table) here means that the (Macro) which we are creating opens the table as shown:





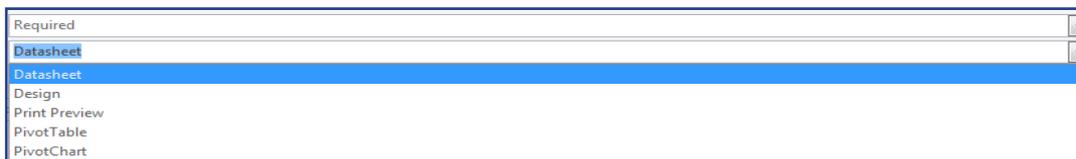
Open Table



Has the following action arguments:

***Table Name:** We select the name of the table we want.

***View:** To select the view in which the table will open, it will be one of the below options.



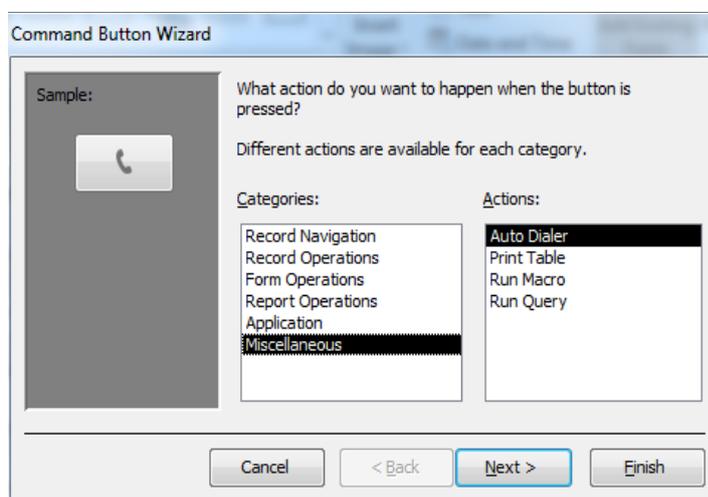
***Data Mode:** Consists of these options:

- Add
- Edit
- Read Only



• How to assign a (Macro) to a (Form)

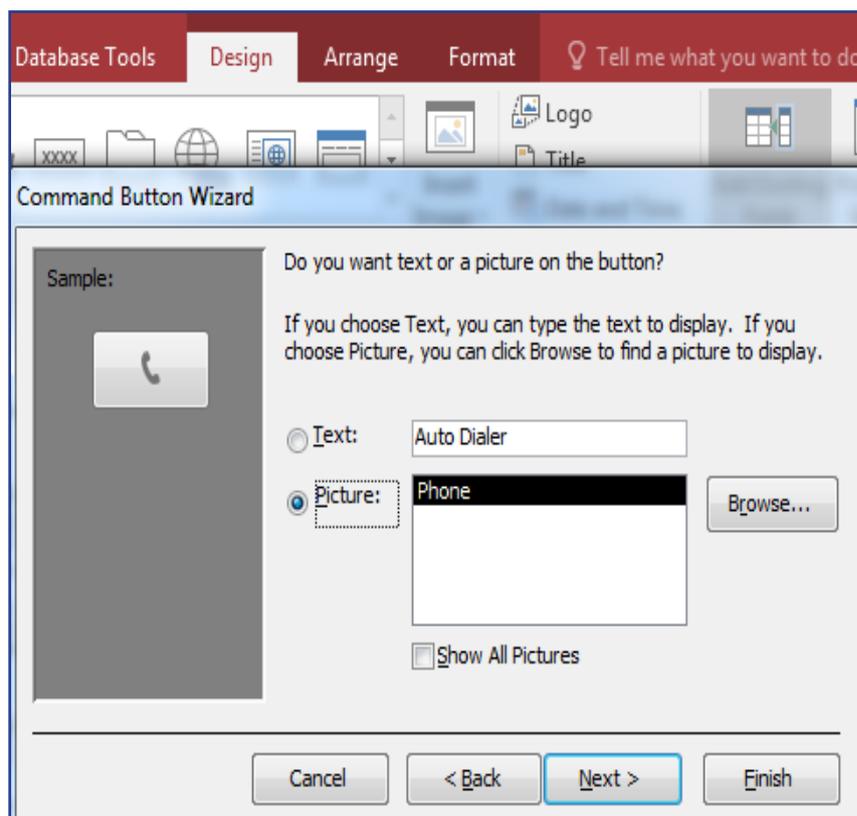
- We open the form in (Design View) command.
- We go to (Control) group in (Design) list.
- We click (Button).
- Here, a box appears and we click (Miscellaneous).



- After that, we click (Run Macro) and then (Next) ,

Here, another box appears where we select the name of the (Macro). Later, we click (Next) and another box appears Here in the (Text) section, we name the command as we want; or in (Picture) section, we select a picture that refers to the command we have created.

Besides, we can click (Browse) and insert a (BMP) picture that is already saved in our computer, then we click (Next) and finally (Finish).

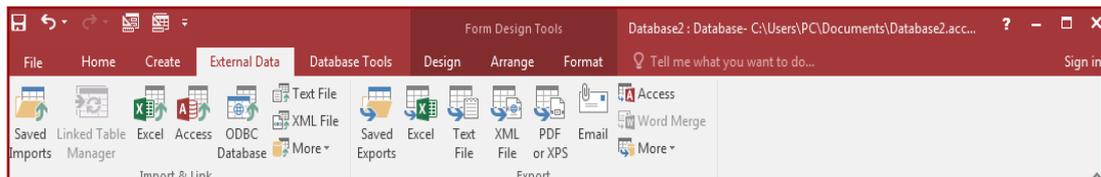




External Data



EXTERNAL DATA



Consists of two main groups:

1. **(Import & Link)**

To see and use saved import.

- Excel:

This option is for importing a (table) from Microsoft Excel program to Microsoft Access program.

-Access:

To link two tables in Microsoft Access program.

-ODBC:

This stands for (Open Database Connectivity) and is used to connect Microsoft Access program to other program such as: (Visual Basic) and (Visual C++) etc.

2. (Export)

To export a (table) from Microsoft Access program to Microsoft Excel program, xml, txt, and pdf.

Steps to Import (table) from Excel Program to Access Program (2016)

a) In (External Data) tab, we select (Excel) icon.



b) Through the (Browse) option, we select the excel table that we want to import to the database.

Then, we click (OK).

c) Later, we click (Next).

d) Here, we have (Field Option) that consists of these options:

*(Field Name): By selecting a field, we can change its name.

*(Data Type): We select data type.

*(Indexed): Contains two options: (Yes) and (No), if we select (Yes), then Yes (Duplicate OK) or Yes (No duplicates).

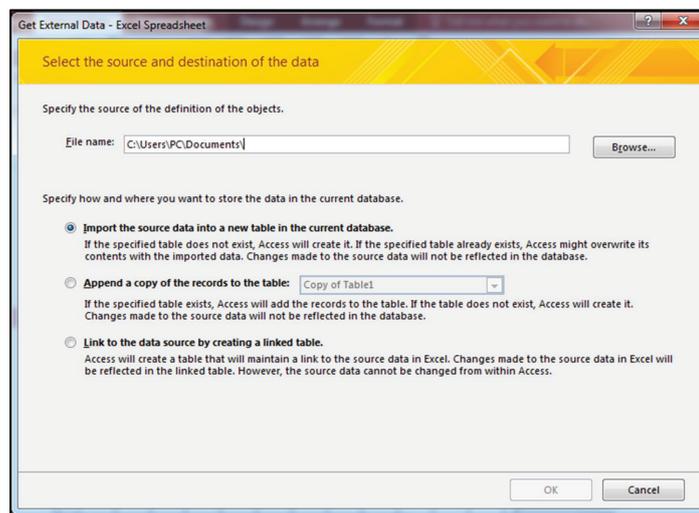
*(Do not import field Skip): We can let the (table) as it is and then click (Next).

e) In this box, three options for adding or not adding (Primary Key) are viewed.

*Primary Key: To avoid having repeated data in a field.

f) In this last box, we name the imported table and then we click (Finish).

g) Save Import Steps: To save the file that we have imported.



Tip:

The import table in Microsoft Access program will become spreadsheet table and will not have any links to its original sheet from excel program.



Database Tools:



Database Tools:



- Compact and Repair Database



- Relationships



This group is in the (Database Tools) list and it is used to combine (tables, queries) or both in the database.

There are three types:

First One - to - One:

When we have two tables, these tables can have only one relationship for each record in each of them with the other, which means, a record in the first table can be related to only one record from the second table.

Second One - to - Many:

Meaning, a record in the first table can have relationships with many records in the second table and vice versa.

Third Many - to - Many:

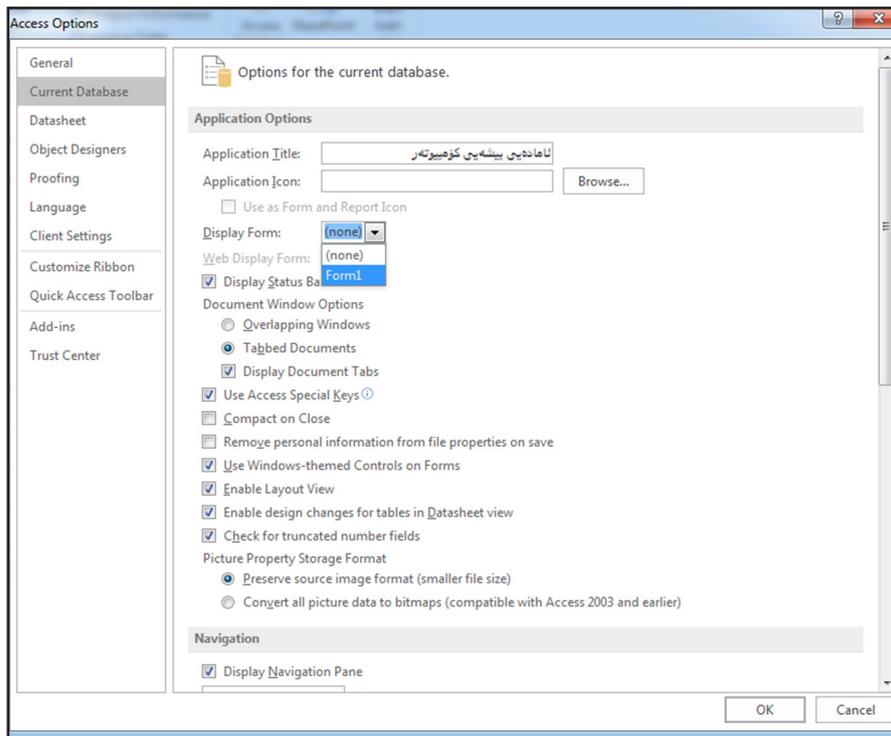
Meaning, many records in the first table can be related to many records in the second table and vice versa.

Customizing Final Database

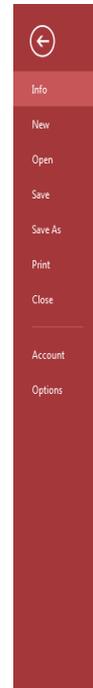
At the end of creating the database, a form must open at the same time when the database is opened.

Steps to Creating Final Database

- Click (file).
- Click (options).
- Click (current database).
- Here, in (Application Title) section, we type the title that will be displayed at the top of the database.



- In (Display Form) section, here, we select the form that we want to open once the database is opened.
- Finally, we click **OK**.



Exercises



Q/1 Write down the ways to start Microsoft Access program in Windows 10.

Q/2 Write down the components of Access Interface (2016) Program.

Q/3 Define the followings:

(Template, One Drive, Filter, Database, Record)

Q/4 Create a database titled (**Employee**) that contains data about

Full Name – Salary – Job Title – First Employment Date), then save the table under your name.

Q/5 Choose the right answer:

- To organize data alphabetically, we use this command:
 - A. Sort
 - B. Filter
 - C. Report
- The list that contains all database parts is:
 - A. Document Tabs bar
 - B. Navigation pane
 - C. Ribbon
- Refers to files that were used previously:
 - A. Account
 - B. Recent
 - C. One Drive
- We use this to attach file:
 - A. Hyperlink
 - B. Calculated
 - C. Attachment
- We use this to change field title:
 - A. Input mask
 - B. Caption
 - C. Format

Law Number 6 of 2008
Law on Prevention of Misuse of Communications Devices
In Kurdistan Region- Iraq

Article ١

Telephone calls, postal and electronic communications are private and inviolable.

Article ٢

A person who misuses a cell phone or wired or wireless communication devices or the Internet or electronic post (email) for threatening, slandering, insulting or spreading fabricated news that provoke terror or leaking out conversations or publishing fixed or animated pictures or short text messages which are inconsistent with public morals or taking photos without permission or attribution of dishonorable matters or incitement to commit crimes or acts of debauchery or publishing information about individual's private life or family no matter how the information is obtained and even if it is true, if the information leakage and distribution would offend or harm him/her, shall be punished by imprisonment for a period of no less than six months and not exceeding five years and a fine of no less than one million Iraqi dinars and not more than five million Iraqi dinars, or one of these two penalties.

Article ٣

A person who intentionally uses a cell phone or any wired or wireless communication devices or the Internet or electronic post (email) to disturb people other than those cases mentioned in article 2 of this Law, shall be punished by imprisonment for a period of not less than three months and not more than one year and a fine of not less than seven hundred and fifty thousand dinars and not more than three million dinars or one of these two penalties.

Article ٤

If the committed acts in accordance with articles 1 and 2 of this law results in committing of a crime, the person who incites the crime is considered a partner in crime and shall be punished with the penalty prescribed for the committing the offence.

Article ٥:

Committing one of the crimes mentioned in the articles 2 and 3 is an aggravating circumstance for the purpose of implementing the provisions of this law. If the perpetrator is a member of the armed forces or internal

security forces or who takes advantage of an official power or who is informed of the personal or family privacy of individuals by virtue of his/her job or profession and anyone who uses a device of others to commit one of the aforementioned offenses.

Article ٦ :

Telecommunication companies operating in the Region shall perform the following:

1. Registration of the electronic mobile card, electronic communication devices and other mobile phones supplied by company prior to the implementation of this Law in the name of the person who is the owner and not subscribed within a period of six months from the effective date and cancellation of the card if the holder fails to visit the company during that period.
2. To submit any information relating to the subscription card and the subscriber to the court when necessary.
3. The company who is violating sections 1 and 2 of this article shall be liable to a fine of not less than 50 million dinars and not more than 100 million dinars.

Article ٧:

The Council of Ministers and the relevant authorities shall implement the provisions of this Law.

Article ٨:

This Law shall be implemented from the date of its issue and shall be published in the Official Gazette (Waqaa'ia Kurdistan).

Masud Barzany
President of Kurdistan Region-Iraq

- This law is issued in Erbil on 13th Jozardan 2708 (Kurdish calendar) opposite to 29th Jamadi al-awal 1429 of Hijri calendar and opposite to 3rd June 2008

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**WATER IS THE SOURCE OF LIFE
THEREFORE PRESERVE IT**

