FIT1013 – Digital Futures: IT for Business
Tutorial 10 – Creating a Database and Defining Table Relationships

Objectives of this tutorial

- Create a database
- Create and navigate a simple query
- Create and navigate a simple form
- Create, preview, navigate, and print a simple report
- Learn the guidelines for designing databases and setting field properties
- Create a table in Design view
- Create a table by importing an existing table structure
- Define a relationship between two tables

Exercise 1

Note: please read page 1 and 2 first. The steps to assist you with exercise 1 begin on page 3.

- Download 2 files: **accessTute10.accdb** and **excelTute10.xlsx**

- In this exercise you will first create a blank Access database called **Tute10.accdb.** you will then create 4 tables with the following table structure:

Table 1: **tblCustomer**

Field Name	Data Type	Field Size/ Format	Description
CustomerID	Short Text	5	Primary key
ContactName	Short Text	255	
Address	Short Text	255	
Suburb	Short Text	255	
Postcode	Number	Long Integer	
Phone	Short Text	255	

Table 2: tblProduct

Field Name	Data Type	Field Size/ Format	Description
ProductID	AutoNumber	Long Integer	Primary key
ProductName	Short Text	40	
QtyPerUnit	Short Text	40	
UnitPrice	Currency	Currency	
UnitsInStock	Number	Long Integer	

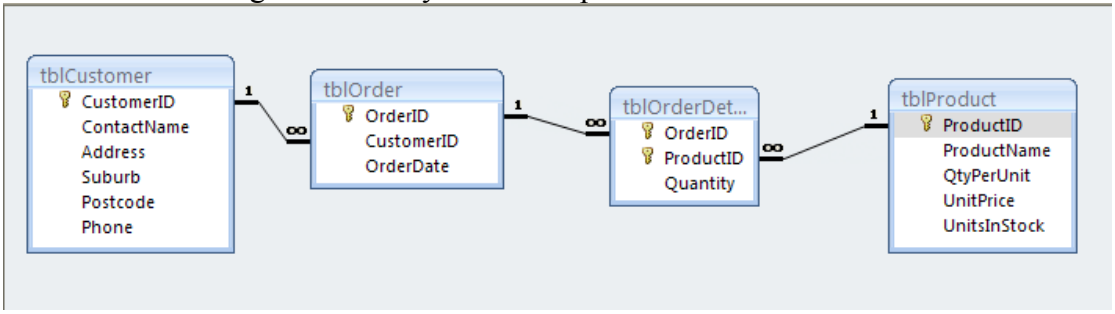
Table 3: tblOrder

Field Name	Data Type	Field Size/ Format	Description
OrderID	AutoNumber	Long Integer	Primary key
CustomerID	Short Text	5	
OrderDate	Date/Time	ShortDate	

Table 4: tblOrderDetails

Field Name	Data Type	Field Size/ Format	Description
OrderID	Number	Long Integer	Composite key
ProductID	Number	Long Integer	Composite key
Quantity	Number	Long Integer	

- Create the following one-to-many relationships between the 4 tables:



- Copy the contents of the Product table from accessTute10.accdb and the Customer list from excelTute10.xlsx into the tables, tblProduct and tblCustomer respectively.

- Once you have populated the two primary tables, you can enter the following data into the other two tables: tblOrder and tblOrderDetails.

tblOrder

OrderID	CustomerID	OrderDate
1	ALFKI	14/01/2003
2	ANATR	12/04/2003

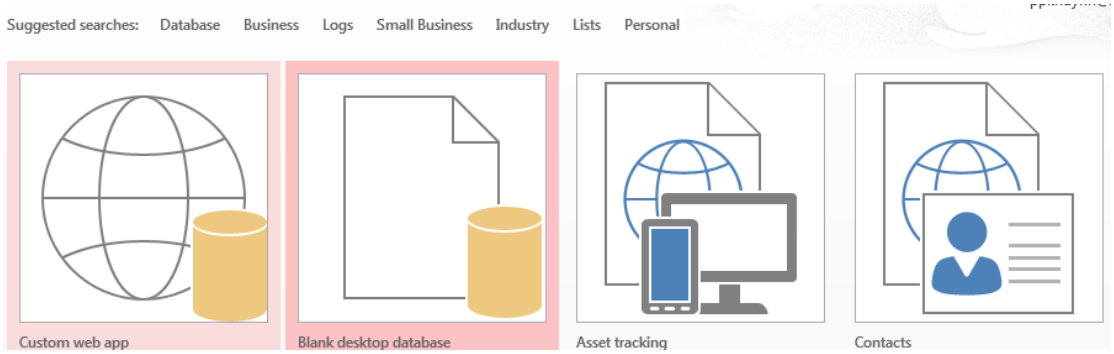
tblOrderDetails

OrderID	ProductID	Quantity
1	1	15
1	3	20
2	2	30
2	3	40
2	5	40
2	8	5

- Create a simple query to display the name and phone contact details of all customers.

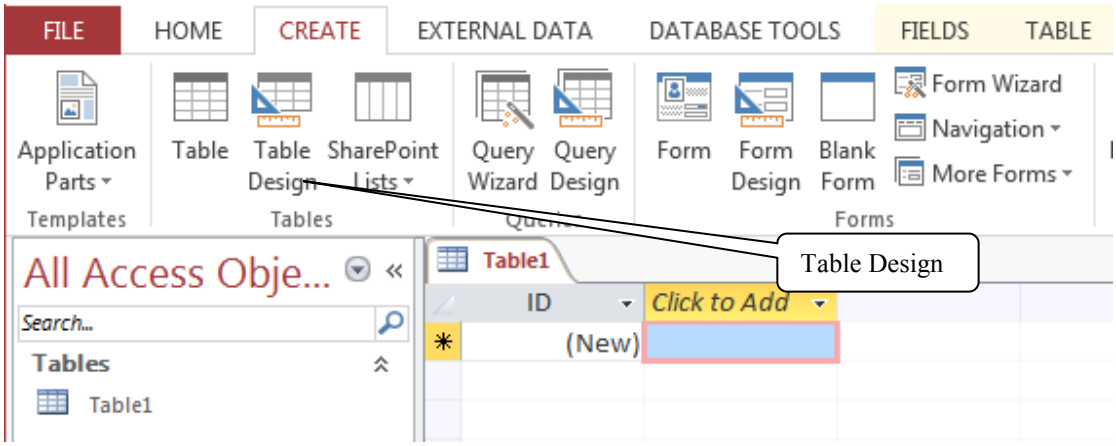
Steps to create a new Access database:

1. Open Microsoft Access and click on **Blank desktop database** (see figure below)**.**
2. Save the new database filename as **Tute10.**

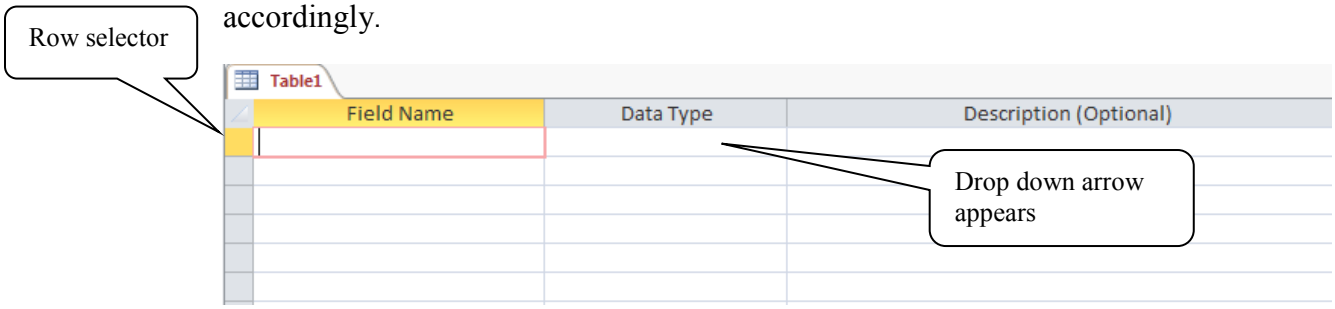


Steps to create a new Access database table:

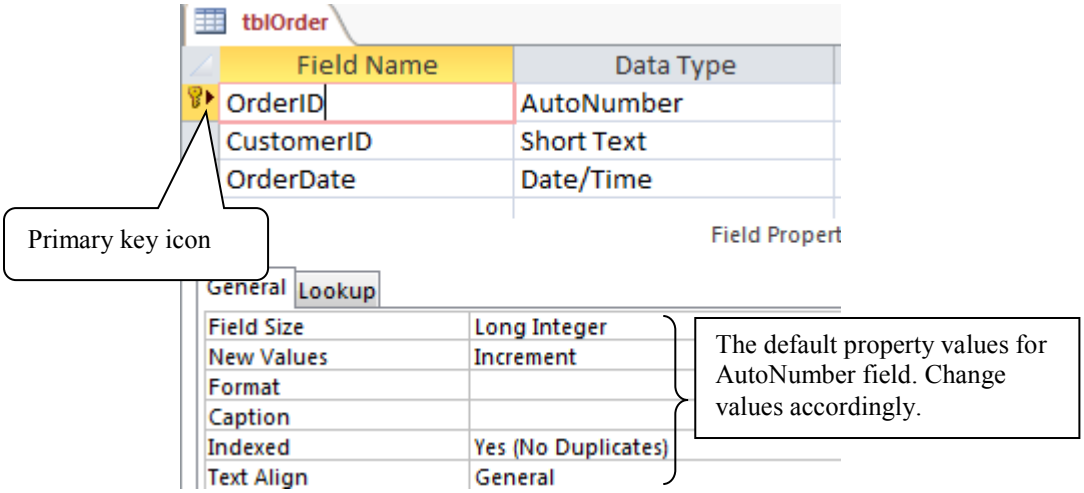
1. Select the Create tab and click Table Design in the Tables group.



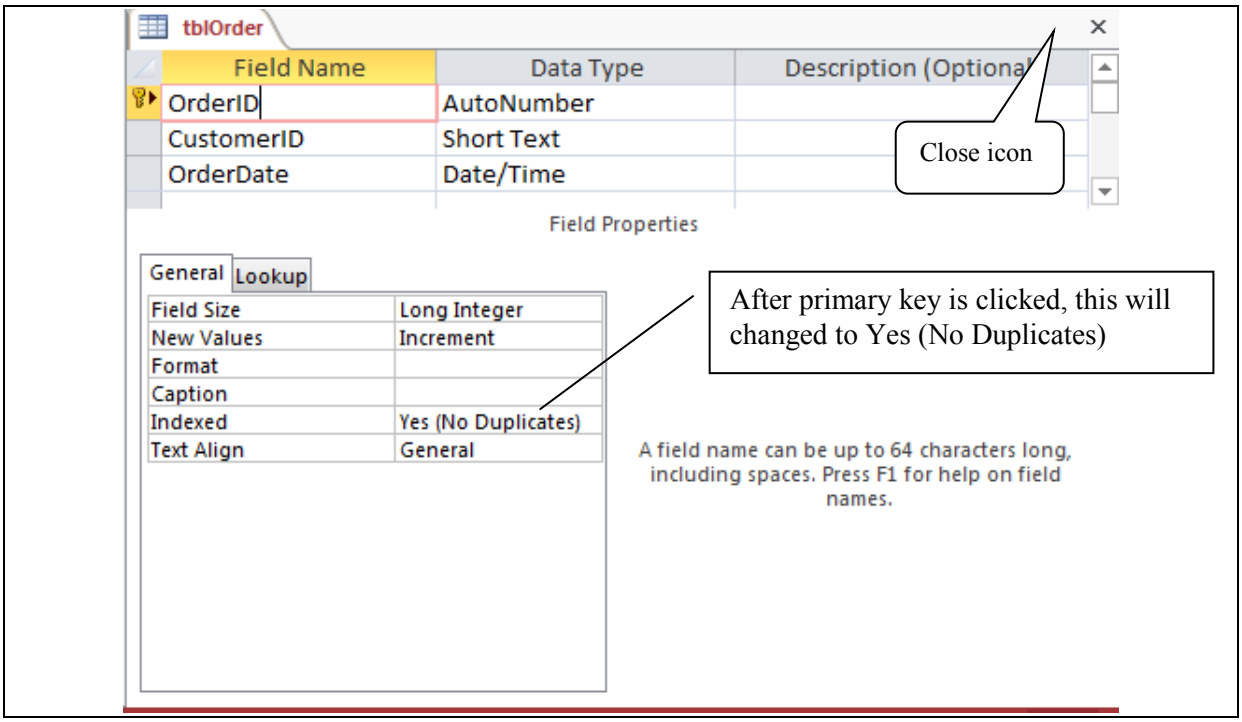
2. Refer to the table structures given earlier on page 1. Enter the name of each field under the **FieldName** and change the **Data Type** accordingly by clicking on the drop down arrow to select from a list. For each data type, there is a list of default property values, change them accordingly.



3. In the **tblOrder** table, the **OrderID** field is the primary key. Click on the row selector (to the left of OrderID) to highlight that row and click on the **Primary key** icon.



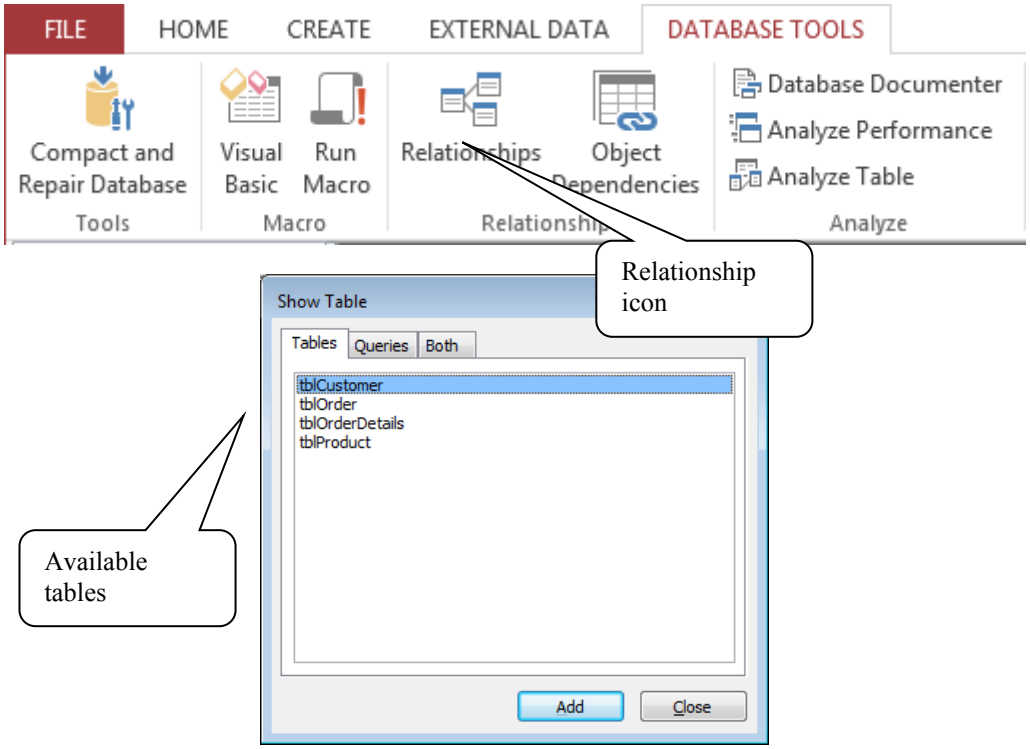
4. Once a field has been selected as the primary key, the default **Indexed** property value is changed to **Yes (No duplicates).** Close the table by clicking the **Close** icon. Click **Yes** to save the table and name the table accordingly.



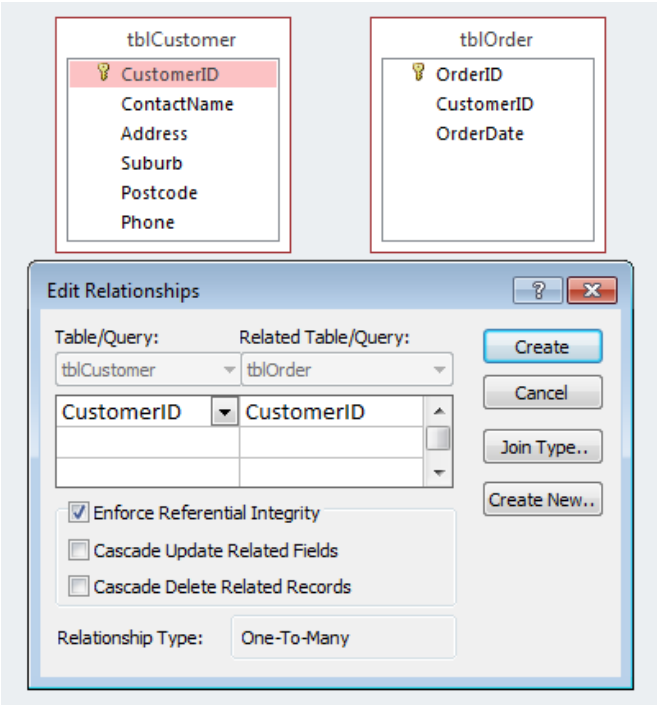
5. To create a composite primary key, for instance in the **tblOrderDetails** table, click on **OrderID** row selector, press <Ctrl> key, and at the same time select the **ProductID** row. When **OrderID** and **ProductID** row selectors are highlighted, press the primary key icon to create the composite key.

Steps to create one-to-many relationships:

1. Once all the tables have been created, the relationships among tables on page 2 can be defined. Click the **Database Tools** tab, then the **Relationships** icon to display the relationships window, click the **Show Table** button to display the available tables. Add all the tables (by selecting table and clicking **Add**).



2. To create a one-to-many relationship between **CustomerID** in tblCustomer and **CustomerID** in tblOrder, click and drag the **CustomerID** field from tblCustomer and drop it onto the **CustomerID** field in tblOrder. An **Edit Relationships** menu should be displayed. Ensure the **Enforce Referential Integrity** check box and **cascade update** and **cascade delete** options are selected before clicking the **Create** button.
3. Repeat step # 2 for creating all the other relationships. When finished, click the Close icon to save the relationships

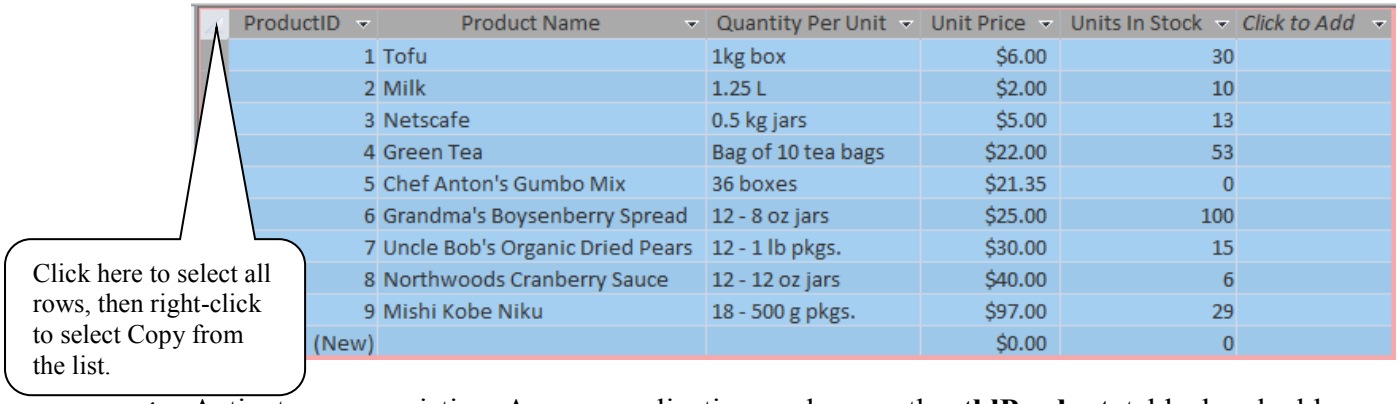


Steps to copy contents of a table from another Access database to your table

1. Do not close your existing Access application and open the Access file (**accessTute10 .accdb**) that you downloaded earlier.

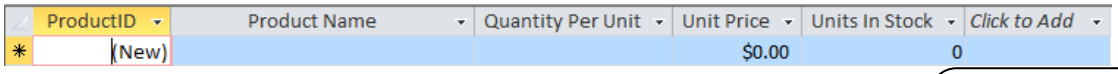
2. Open the **ProductTable** table by double-clicking the **ProductTable** item.

3. Select the entire contents by the top left corner of the datasheet. Click **Copy** on the **Clipboard** group.



ProductID	Product Name	Quantity Per Unit	Unit Price	Units In Stock	Click to Add
1	Tofu	1kg box	$6.00	30	
2	Milk	1.25 L	$2.00	10	
3	Netscafe	0.5 kg jars	$5.00	13	
4	Green Tea	Bag of 10 tea bags	$22.00	53	
5	Chef Anton's Gumbo Mix	36 boxes	$21.35	0	
6	Grandma's Boysenberry Spread	12 - 8 oz jars	$25.00	100	
7	Uncle Bob's Organic Dried Pears	12 - 1 lb pkgs.	$30.00	15	
8	Northwoods Cranberry Sauce	12 - 12 oz jars	$40.00	6	
9	Mishi Kobe Niku	18 - 500 g pkgs.	$97.00	29	
(New)			$0.00	0	

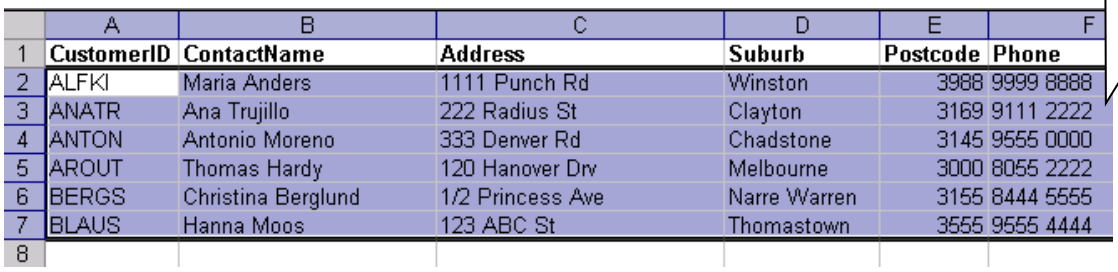
4. Activate your existing Access application and open the **tblProduct** table by double-clicking **tblProduct**. Select the first row by clicking the row selector. Click **Paste** on the **Clipboard** group**,** and press **Yes** button to paste all the 10 records into your table.



ProductID	Product Name	Quantity Per Unit	Unit Price	Units In Stock	Click to Add
* (New)			$0.00	0	

Steps for copying the contents of an Excel list

1. Open **ExcelTute10.xlsx.** Highlight cells **A2:F7**, and copy the selection.



	A	B	C	D	E	F
1	**CustomerID**	**ContactName**	**Address**	**Suburb**	**Postcode**	**Phone**
2	ALFKI	Maria Anders	1111 Punch Rd	Winston	3988	9999 8888
3	ANATR	Ana Trujillo	222 Radius St	Clayton	3169	9111 2222
4	ANTON	Antonio Moreno	333 Denver Rd	Chadstone	3145	9555 0000
5	AROUT	Thomas Hardy	120 Hanover Drv	Melbourne	3000	8055 2222
6	BERGS	Christina Berglund	1/2 Princess Ave	Narre Warren	3155	8444 5555
7	BLAUS	Hanna Moos	123 ABC St	Thomastown	3555	9555 4444
8						

2. Activate your existing Access application and open **tblCustomer** table. Select the first row by clicking the row selector. Click **Paste** on the **Clipboard** group, and press the **Yes** button to paste all the 6 records into your table.

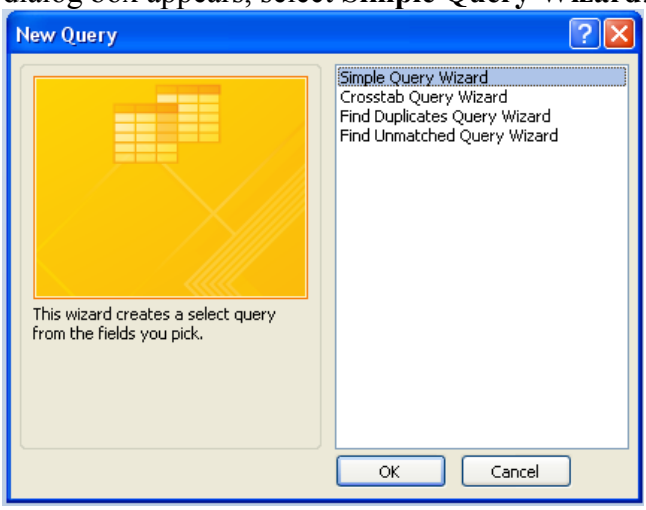
Steps for manually entering records into Access table

1. Open the table you want to populate by double-clicking on it.

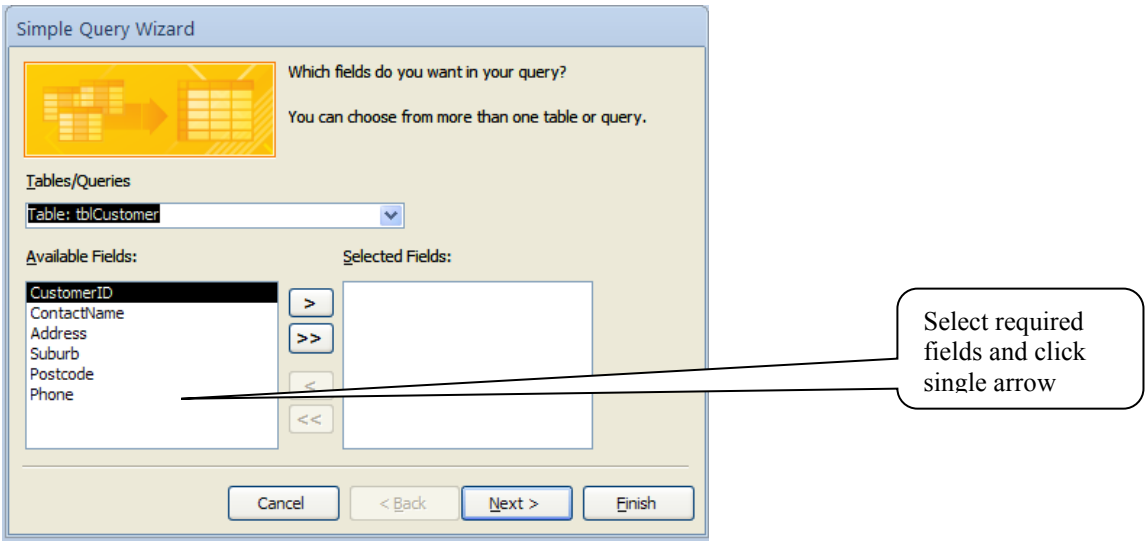
2. Enter each record at a time. Refer to page 2 for details of data for the remaining 2 tables.

Steps for creating a simple query in Access

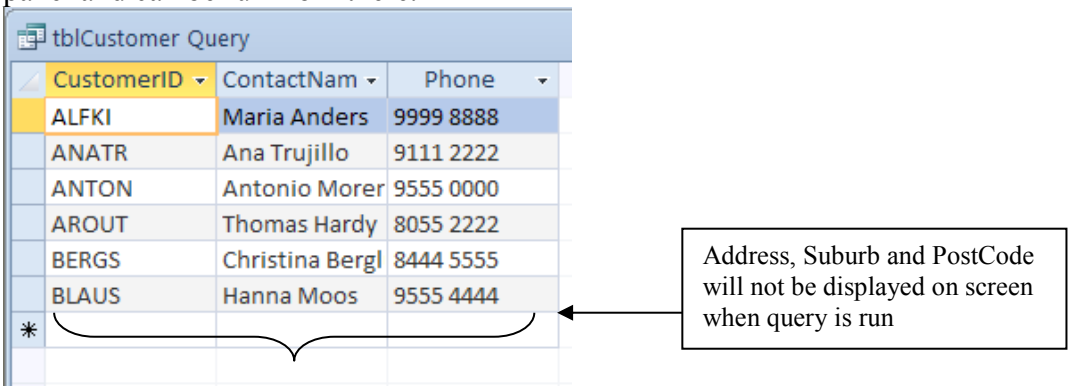
1. Select the **Create** tab, and then click the **Query Wizard** button in the **Queries** group. A dialog box appears, select **Simple Query Wizard**.



2. If you want a list of the phone contact details of all customers, then select the **tblCustomer** table, and select the required fields (**CustomerID**, **ContactName**, and **Phone).**



3. Click **Next**, name your query as **qryCustomerDetails** and click **Finish.** The results of your query should appear in Datasheet view. The query should now appear in the Navigation panel and can be run from there.



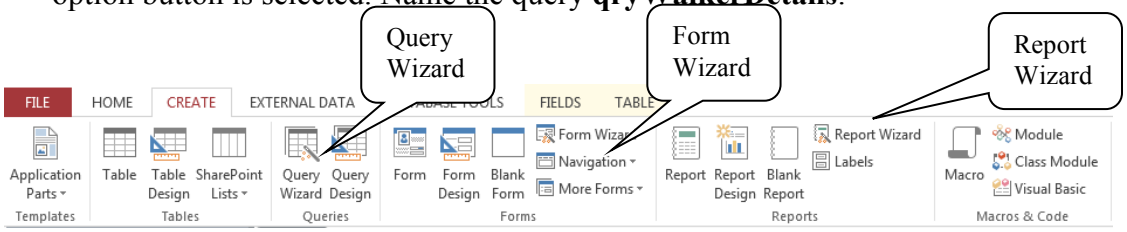
4. Open the Relationships window again. Can you see any many to many relationships? If so, explain which tables are in the many to many relationship.

Exercise 2 (Assessed in tutorial time)

1. Download the file **tutewk10_a.accdb** from the unit Moodle site

2. Open the **tutewk10_a** database that you have just downloaded.

3. Use the **Query Wizard** to create a query that includes all the fields in the **Walker** table *except* the Phone field. In the second **Query Wizard** dialog box, make sure the **Detail** option button is selected. Name the query **qryWalkerDetails**.



4. Sort the results in descending order by the Distance field. Save the query.

5. Use the **Form Wizard** (in the **Forms** group) to create a Columnar form for the **Walker** table. Save the form as **frmWalkerDetails**.

6. Use the **Report Wizard** (**Reports** group) to create a report based on the **Walker** table. Save the report as **rptWalkerDetails**.

7. Save your work.