وزارة التربيـــة والتعليـــم والتعليـــم العالـــي
Ministry of Education and Higher Education
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ICT Skills

مهـارات تكنـولوجيـا المعلومـات

Grade 12 | Business

نبنـــي اقتصاديًّي المستقبل

- **Semester 2**

طبعـة 1444 - 2022

حضرة صاحب السّموّ

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قَسَماً بِمَنْ رَفَعَ السَّمَاءْ
قَسَمًا بِمَنْ نَشَرَ الضِّيَاءْ

قَطَرٌ سَتَبْقَى حُرَّةً
تَسْمُو بِرُوحِ الأَوْفِيَاءْ

سِيرُوا عَلَى نَهْجِ الأُلَى
وَعَلَى ضِيَاءِ الأَنْبِيَاءْ

قَطَرٌ بِقَلْبِي سِيرَةٌ
عِزٌّ وَأَمْجَادُ الإِبَاءْ

قَطَرُ الرِّجَالِ الأَوَّلِين
حُمَاتُنَا يَوْمَ النِّدَاءْ

وَحَمَائِمٌ يَوْمَ السَّلاَمْ
جَوَارِحٌ يَوْمَ الفِدَاءْ

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Contents

About this Learner Resource:

The purpose of this Learner Resource is to provide you with the underpinning knowledge required to assist you in completing assessment/s in Create and use databases.

This Learner Resource also contains activities for you to test your knowledge and examples of skills application.

Throughout this Learner Resource you will see icons that identify important information, provide opportunities to test your knowledge and practice skills as well as suggested times to begin a formal assessment. These icons are displayed as follows:

This icon is used to highlight important information, notes, research or training and assessment tips.

This icon is used to highlight an ideal time to test your knowledge or practise what you have learnt.

How will I be assessed?

In order to achieve competency in Create and use databases you will need to demonstrate the skills and knowledge required for the unit.

Your teacher will decide with you how and when you will be assessed.

Copyright

About this unit:

Welcome to the Learner Resource for Create and use databases. In this Learner Resource you will be learning about the performance outcomes, skills and knowledge required to create simple two table relational databases with reports and queries, for the storage and retrieval of information.

It is suggested that to meet all the requirements of Create and use databases you will need to complete the following tasks:

- Read the information contained in this Learner Resource.
- Complete the activities.
- Complete all the required assessment/s for this unit.

The topics in this Learner Resource are:

- Create and use a simple database, reports and queries.
- Quick reference guide.

Introduction

You are about to commence a vocational course where you will be required to demonstrate your competency in creating simple two table relational databases with reports and queries, for the storage and retrieval of information.

A database is a collection of information organized in such a way that a computer program can quickly select desired pieces of data. You can think of a database as an electronic filing system.

Traditional databases are organized by fields, records, and files. A field is a single piece of information; a record is one complete set of fields; and a file is a collection of records. For example, a telephone book is analogous to a file. It contains a list of records, each of which consists of three fields: name, address, and telephone number.

To access information from a database, you need a database management system (DBMS). This is a collection of programs that enables you to enter, organize, and select data in a database.

A database contains both text and numeric data

What is the difference between a spreadsheet and a database?

- A spreadsheet is an application used for entering data into a table, while a database is where data is stored so that it can be retrieved by users.
- The amount of data that is normally contained in a database is considerably more than what is stored in a spread sheet.
- A spreadsheet is edited directly be people, while a database is accessed by applications that enter and modify data.
- A spreadsheet is often used for presentations and calculations, while databases are commonly used in cases where a lot of data needs to be stored.
- Excel is considered a spreadsheet application, while Access is considered a 'relationship database management' system.

We will be using the Microsoft Office Access database application throughout this unit.

Reference will be made to the following concepts:

- Tables – used to store your data.
- Queries – used to find and retrieve only the data you want.
- Forms – used to view, add and update data in tables.
- Reports – used to analyse or print data in a specific layout.

Create and use a simple database, reports and queries:

Careful planning is essential to ensure that your database works efficiently and produces the required information. It is important to take the following into consideration:

- Determine the purpose of the database – who will use it.
- Determine ***what*** information will be required from the database – this will allow you to specify the fields required.
- Store information in its smallest parts to make your database more flexible, eg the complete address including the PO Box and location as one field will not allow retrieval of, for example, all residents of AlKhor.
- Consider whether to store numbers as text or number fields. Numbers can have calculations performed on them, text cannot. However, postcodes and telephone numbers could be stored as text, as there will be no calculations performed on them.
- Abbreviations can be used to save memory space and time entering data, eg sex can be M or F not Male or Female.
- Try to avoid duplication of data held in other databases. It is easier to join files through the use of a Primary Key Field than to have the same data across several files.
- It is important to create relevant and clear documentation for users of the database.

This Learner Resource will walk you through the process of creating simple databases and creating and printing reports and queries.

Locate and open the Microsoft Office Access software application.

The opening Access screen

The opening Access screen is divided into three main panels.

- The left panel displays available templates.
- The centre panel displays a 'Blank Database'. If you click on this, a new file is created ready to create tables. This is the starting point of a new database.
- There is also a list of templates available from the Microsoft Office website.
- The local templates are data bases set up with tables that can be used immediately.
- The right panel lists the recently opened databases.

Creating a database file:

The following activity requires you to create a database file.

Practice

Practice activity *1*

- Click on the '***blank database***' icon under the ***New Blank Database***

header in the middle pane of the window.

- The ***Blank Database*** pane appears on the right side of the screen. Type the file name '***Qatar Rentals***' into the file name field.
- The database will be created in either the 'Default' location or a location specified by your Teacher.
- Click on the ***Create*** button.
- Close and exit your Access program.

Saving changes in Access:

Access automatically saves changes made to the data in your database. If you add, edit or delete records in the Datasheet view, Access will automatically save the changes for you. A Datasheet provides a way for you to view and edit your data and looks similar to a spreadsheet.

Opening a database file:

The following activity requires you to open an existing database file.

Practice

Practice activity 2

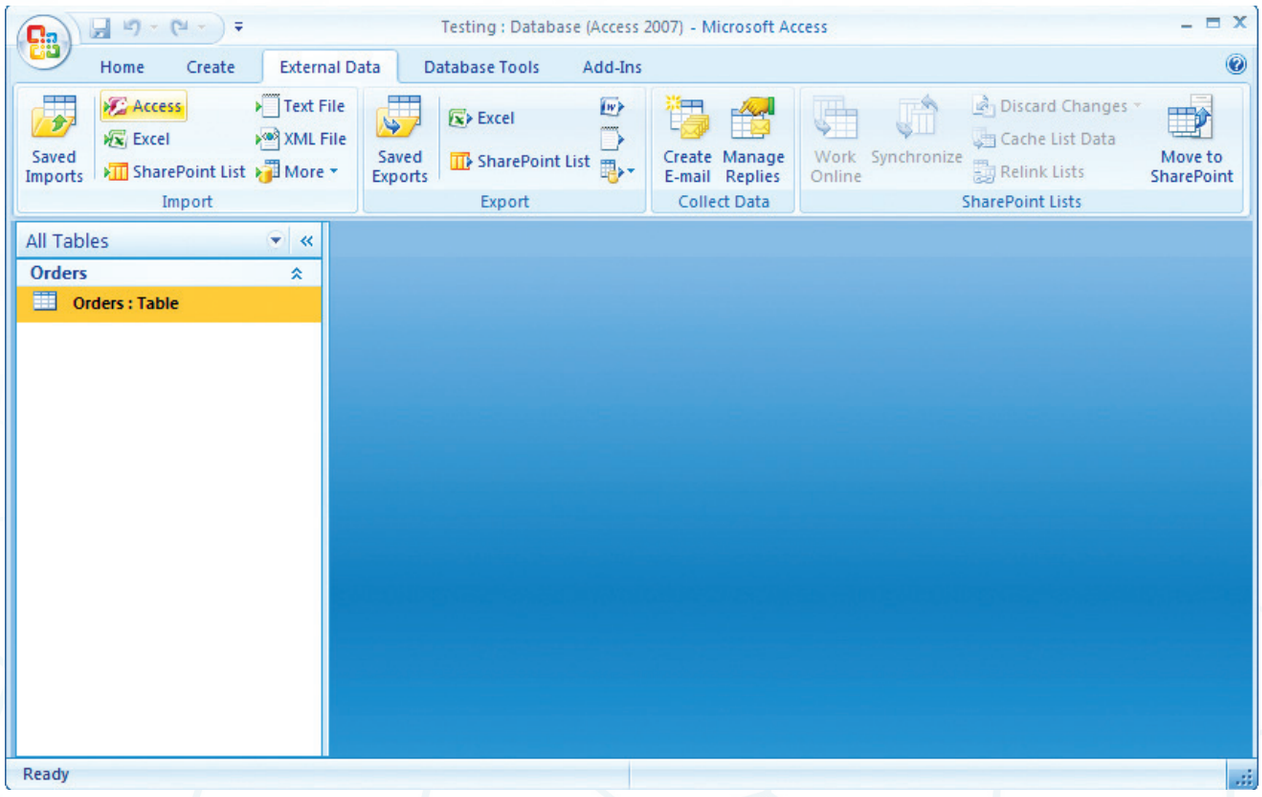
Locate and open Microsoft Access.

Click on the '***Qatar Car Rentals***' database file in the right pane under the O***pen Recent Database*** header. The database file will open for viewing and editing.

Alternatively, you can click on the '***More***' link under the ***Open Recent Database*** header. Navigate through your computer to locate and open the appropriate database.

The Access workspace:

When you open an Access file, the screen will appear as follows.



The Quick Access Toolbar contains commands to Save, Undo, and Redo and allows you to add frequently used commands.

If the ***security warning*** message displays, click on the Options button to display the security alert dialogue box. Read the information and click to ***enable this content***. The security warning will disappear.

The ***navigation pane*** appears on the left side of the screen and provides a quick view of all your database objects such as tables, queries, reports and forms.

Click on the downward pointing arrows button on each object window to display the Tables, Queries, Forms or Reports (objects) those have been created.

The ***ribbon*** displays the various commands available in the same way as it does with Word and Excel.

Features of the *Home* tab include:

- Clipboard – commands to cut and paste objects such as text and pictures.
- Font – contains commands to format your text.
- Records – commands to work with the records in the table, including adding, saving and deleting a record.

The *create* tab enables the creation of commands to:

- Create a variety of tables.
- Create a variety of forms displaying data or entering data into fields.
- Create reports showing selected information from the current table.

The layout of the form defaults to the ***Layout View***. This enables you to edit the layout and appearance of the form such as resizing its controls including text boxes, list boxes and buttons. The ***Form View*** lets you type data into the fields and the ***Design View*** lets you make detailed changes such as adding and editing the controls on the form.

The ***External Data*** tab allows for exporting data from the database and importing data into the database.

The Database Tools tab allows you to manage and analyse the data in your database.

Tables:

Data in the database is stored in tables, with each of the tables representing a different subject. For example you could have a sales table and a contacts table.

The data in the tables are arranged into rows and columns. Each row represents one item in the table and is referred to as a record. Each ***record*** is made up of fields with each ***field*** representing a column in the table. For example, each record in your Contacts table can consist of fields such as 'Name', 'Address' and 'Phone ***No***'.

Data types:

Data can be entered into the database in many formats. ***Text*** is the default setting.

- ***Memo*** – this field is used for notes or comments.
- ***Number*** – used for numbers when calculations are required.
- ***Date/Time*** – used for dates and times in various formats.
- ***Currency*** – Stores numbers in money format.
- ***AutoNumber*** – automatically adds a number to a record as it is typed in.
- ***Yes/No*** – Can be in the form of Yes/No, On/Off or True/False.
- ***OLE object*** – a linked or embedded object such as a spreadsheet, word documents etc.
- ***Hyperlink*** – links to another file or website.
- ***Attachment*** – attaches any type of text file, picture or text file similar to an email attachment.
- ***Look up Wizard*** – creates a drop down list to choose from when entering data in a field.

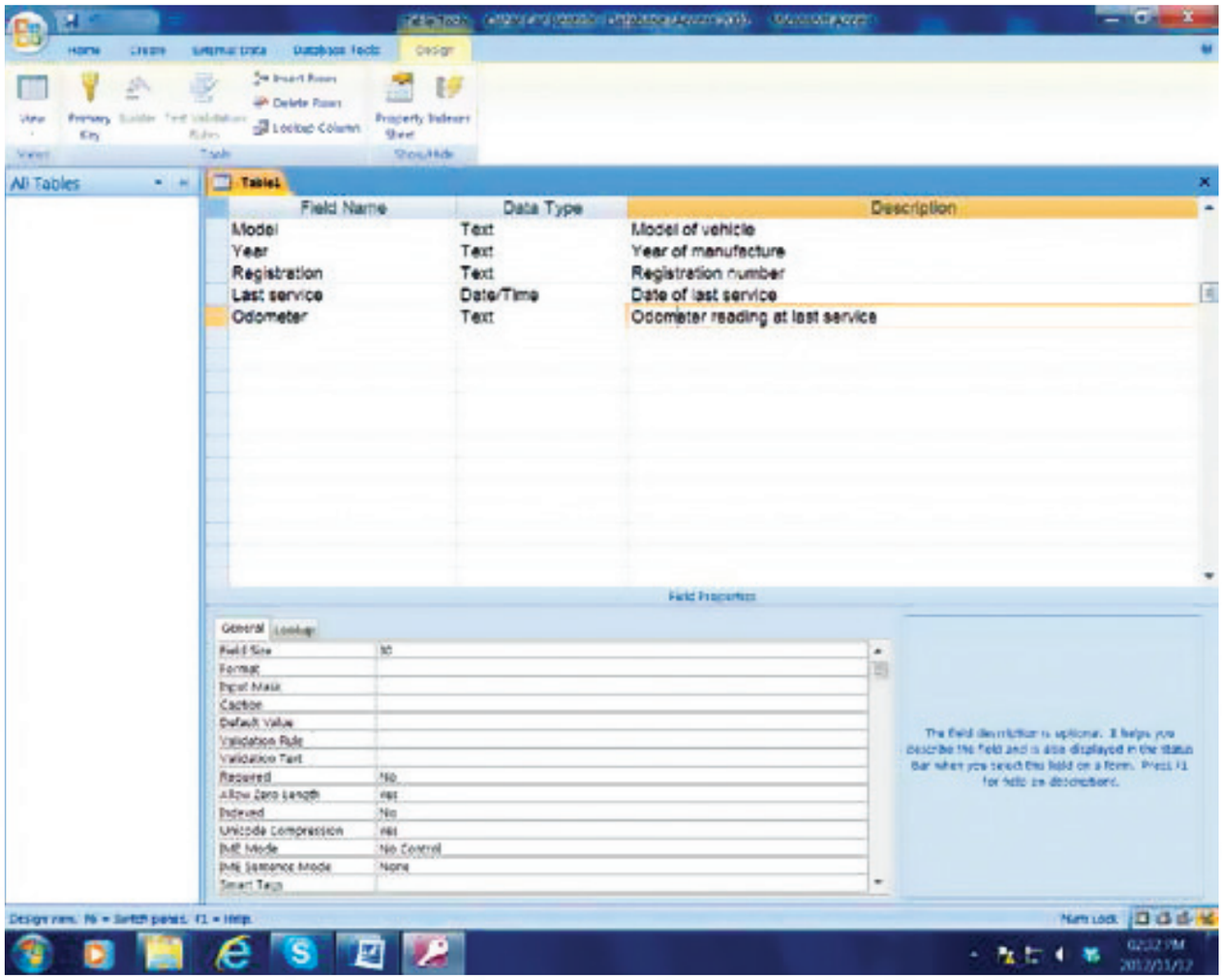
Tables can be created in either the Datasheet view or the Design view. Read the activity below and the following steps that are required to create the database in the Design view.

Practice

Practice activity 3

Assume you are working for a car rental company in Qatar. The company wants to set up a database to keep track of their rental cars. Information required by the business is the brand and the model of the car, its year of manufacture, its registration number, the date it was last serviced and the odometer reading at the time of the last service. The ID field is not required.

- Open your Access database application.
- Click to open your Qatar Car Rentals database file.
- On the Create tab/ribbon, click on Table Design. You will be asked to save your table. Type 'Car Inventory' as your table name.
- Type the first field name for 'Brand' and tab across to the data type. The default 'Text' will appear. Click on the drop arrow at the right of Text.
- Review the alternative data types available.
- Refer to the bottom half of the Design Screen and enter '30' as the field size.
- Go back to the 'Description' in the top half of the screen and enter 'Brand of vehicle' as the description.
- Repeat the procedure for the remaining field names. Enter field sizes of 30 and appropriate descriptions. The data type for all field names should be text except for the date of last service. The data type for this field name should be date/time.
- Review your work and check that it is the same as the example over the page.



Solution to Activity 3

Practice

Practice activity 4

- Retrieve the Qatar Car Rentals database.
- Locate the table.
- Go to the Datasheet view and enter the data below.

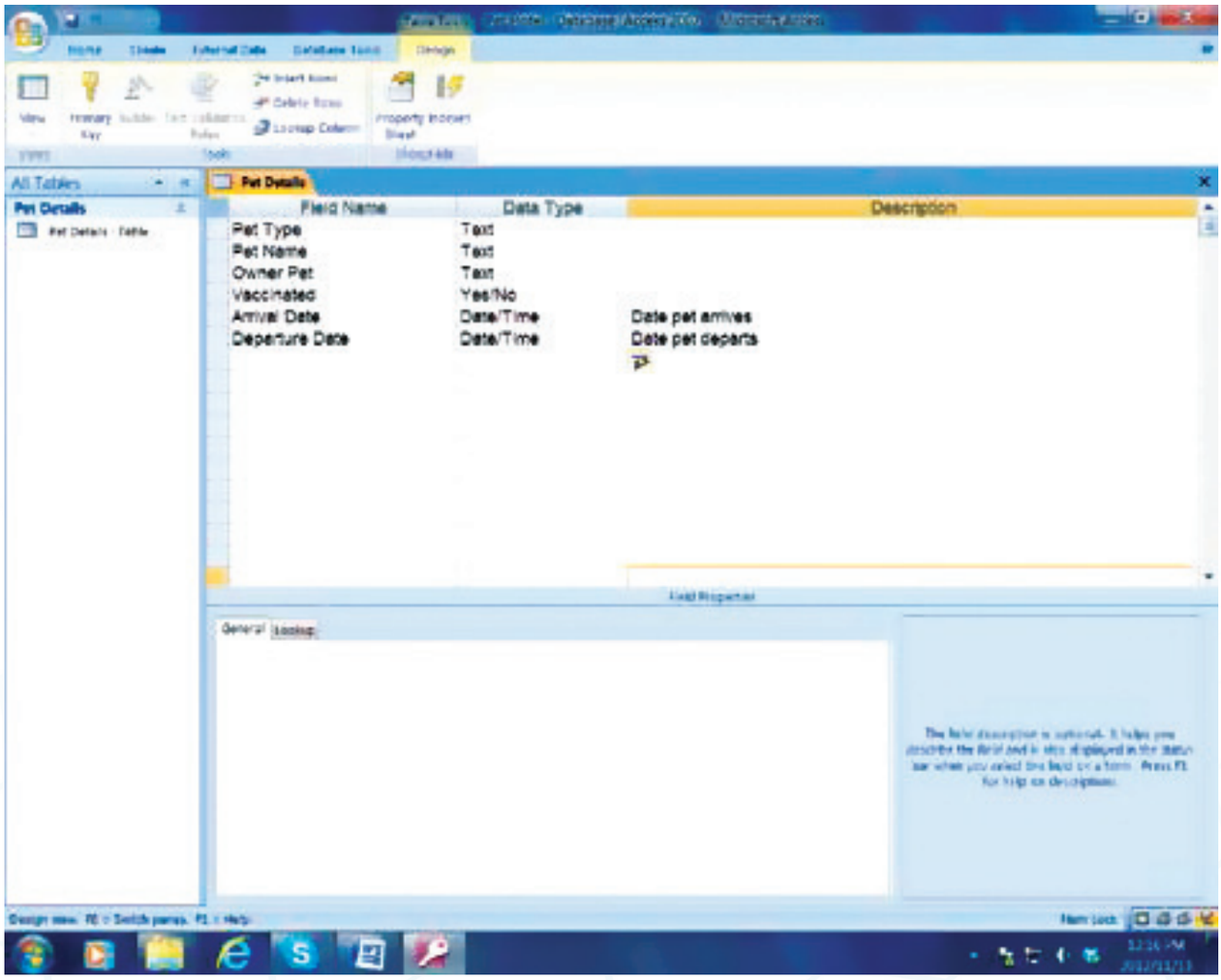
Brand	Model	Year of manufacture	Registration	Last service	Odometer
Toyota	*Yaris*	*2009*	*27314*	*1/6/12*	*81,564*
Nissan	*Altima*	*2009*	*45296*	*9/8/12*	*62,348*
Ford	*Taurus*	*2009*	*32581*	*20/7/12*	*54,219*
Toyota	*Camry*	*2010*	*20148*	*12/7/12*	*60,751*
Nissan	*Pathfinder*	*2010*	*32982*	*4/10/12*	*65,018*
Nissan	*Maxima*	*2010*	*36482*	*18/5/12*	*70,842*
Toyota	*Land Cruiser*	*2010*	*14892*	*19/8/12*	*40,528*
Ford	*Expedition*	*2010*	*30574*	*19/7/12*	*35,894*
Toyota	*Corolla*	*2010*	*21890*	*15/11/12*	*44,257*
Nissan	*Xterra*	*2010*	*25483*	*3/6/12*	*58,324*
Nissan	*Murano*	*2010*	*62058*	*12/9/12*	*48,685*
Toyota	*Land Cruiser*	*2010*	*10562*	*5/9/12*	*52,474*
Ford	*Mustang*	*2011*	*48358*	*23/5/12*	*15,125*
Nissan	*Maxima*	*2011*	*98562*	*17/10/12*	*18,563,*
Toyota	*Camry*	*2011*	*85212*	*31/8/12*	*17,985*

Brand	Model	Year of manufacture	Registration	Last service	Odometer
Nissan	*Altima*	*2011*	*21155*	*24/7/12*	*14,802*
Ford	*Mustang*	*2011*	*63720*	*20/9/12*	*22,158*
Nissan	*Murano*	*2011*	*56284*	*30/5/12*	*20,906*
Toyota	*Camry*	*2011*	*29584*	*9/9/12*	*11,884*
Ford	*Expedition*	*2011*	*30588*	*15/10/12*	*15,719*
Toyota	*Land Cruiser*	*2011*	*65247*	*12/6/12*	*20,039*
Ford	*Taurus*	*2011*	*24108*	*25/6/12*	*27,667*
Ford	*Expedition*	*2011*	*98554*	*14/5/12*	*18,378*
Ford	*Taurus*	*2011*	*23056*	*13/11/12*	*14,882*
Nissan	*Altima*	*2012*	*48962*	*28/7/12*	*7,140*
Nissan	*Maxima*	*2012*	*30571*	*19/11/12*	*7,553*
Ford	*Expedition*	*2012*	*21554*	*18/6/12*	*9,365*
Nissan	*Pathfinder*	*2012*	*68009*	*22/12/12*	*6,871*
Ford	*Taurus*	*2012*	*63975*	*25/5/12*	*7,223*
Nissan	*Xterra*	*2012*	*25891*	*4/12/12*	*5,125*

Practice

Practice activity *5*

- Create a new database file called 'Pet Hotel'.
- Create a table called 'Pet details' using the Design view.
- Use the following field names and data type.



Enter the following data:

Pet details					
Pet type	**Pet name**	**Pet owner**	**Vaccinated**	**Arrival date**	**Departure date**
Dog	*Shaggy*	*Bill and Jane Perentes*	*Yes*	*16/03/2012*	*22/04/2012*
Dog	*Delilah*	*Mr Hughes*	*No*	*02/02/2012*	*16/02/2012*
Cat	*Fluffy*	*Ahmad Mansouri*	*Yes*	*23/05/2012*	*25/05/2012*
Bird	*Pebbles*	*Faisal Saed*	*Yes*	*09/09/2012*	*20/09/2012*
Mouse	*Squeak*	*Fahad Al Saad*	*No*	*22/08/2012*	*23/08/2012*
Bird	*Peep*	*Ellen Casey*	*Yes*	*20/08/2012*	*27/08/2012*
Cat	*Samson*	*Tracey Smith*	*No*	*15/05/2012*	*30/05/2012*
Cat	*Spud*	*Sherif*	*No*	*07/09/2012*	*12/09/2012*

Practice

Practice activity 6

Create a database called 'Plant Nursery'. Use the Datasheet view to enter the following data into a table called 'Planting Season'. Use the appropriate data type. No Primary Key is required

Item	Category	Price	Planting season
Geranium	*Perennial*	*$8.95*	*Spring*
Lavendar	*Perennial*	*$12.95*	*Winter*
Jasmine	*Annual*	*$12.95*	*Spring*
Petunia	*Annual*	*$2.50*	*Spring*
Pansy	*Annual*	*$2.50*	*Spring*
Impatiens	*Perennial*	*$4.50*	*Winter*
Gerbra	*Perennial*	*$8.50*	*Summer*
Calendula	*Annual*	*$5.95*	*Autumn*

Practice

Practice activity 7

Create a database called 'Qatar Company'. Use the Design view to enter the following data into a table called 'Employees'. Use the appropriate data type. No Primary Key is required.

Employees				
Employee name	**Department**	**Start date**	**Monthly salary**	**On staff**
Yasser Alshareef	*Accounts*	*17/03/2000*	*25,000*	*No*
Sharq Mahmoud	*Sales*	*23/04/1998*	*35,000*	*No*
Rizwan Ahmad	*Personnel*	*02/05/2001*	*40,000*	*Yes*
Virenda Kumar	*Advertising*	*24/09/2009*	*42,000*	*Yes*
Khaleel Rasheed	*Advertising*	*19/06/2002*	*28,000*	*No*
Khalid Abdulla	*Sales*	*25/04/2007*	*30,000*	*No*
Ahmad Yousef	*Accounts*	*23/11/2004*	*36,500*	*Yes*
Aisha Masoud	*Personnel*	*04/08/2005*	*45,000*	*Yes*
Gamal Fathy	*Accounts*	*30/11/2010*	*16,500*	*No*
Hassan Jassim	*Personnel*	*14/06/2006*	*26,000*	*Yes*

Editing a database

A database table can be edited using both the Design view and the Datasheet view.

The Design view is used to edit fields, eg moving, inserting, deleting and changing a field name.

The Datasheet view is used to edit data eg updating data, sorting, adding or deleting a record and adjusting column widths.

Practice

Practice activity 8

- Enter the following into a database called 'Auto Suppliers'.
- Save the table as 'Contact Details'.
- No Primary Field Key is required.

Contact details						
Customer no	**Business name**	**Contact name**	**Telephone**	**Email**	**PO Box**	**Area**
1	*Qatar Car Parts*	*Abdulrahman Khalifa*	*4452 8915*	*abdul@qatcarparts.qa*	*8514*	*Al Rayaan*
2	*Doha Cars*	*John Anderson*	*3352 8516*	*john@dohacars.com.qa*	*7415*	*Old Airport*
3	*Markhyra Autos*	*Baker Al Mansouri*	*6691 0358*	*baker.mansouri@ markhyramotors.qa*	*5784*	*Al Khor*
4	*UK Car Sales*	*Miles Wilson*	*3385 4128*	*miles@ukcars.qa*	*2245*	*The Pearl*
5	*4WD Accessories*	*Waleed Al Dosari*	*3574 8925*	*waleed@4wheels.qa*	*1985*	*Al Wakhra*

Practice

Practice activity 9

- Retrieve the Auto Supplies database.
- Switch to the Design View.
- Move the Email field to before the Telephone field.
- Delete the Customer No field.
- Add a field for Fax after the Telephone field.
- Change the email field name to Email address

Practice

Practice activity *10*

- Retrieve the 'Auto Suppliers' database.
- Make the following changes in the Datasheet View.
- Add the following fax numbers.

Business Name	Fax
Qatar Car Parts	*4457 4512*
Doha Cars	*6654 1204*
Markhyra Autos	*6678 0089*
UK Car Sales	*3381 8962*
4WD Accessories	*7742 6981*

Practice

Practice activity 11

- Change the data so that all the business names are in bold.
- Adjust the column widths so that all the data is visible.
- Sort the data into ascending (A to Z) order.
- Add the following two records.
- Delete the record for Doha Cars

Contact details						
Business name	**Contact name**	**Email**	**Telephone**	**Fax**	**PO Box**	**Area**
Qatar Luxury Cars	*Ali Rashid Nasser*	*Rashid@qatluxurycars.qa*	*4489 2354*	*4489 2355*	*2514*	*The Pearl*
Car Importers	*Faisal Elsayed*	*faisal@carimports.qa*	*7778 9854*	*7752 1405*	*3984*	*Al Dafna*

Practice

Practice activity *12*

- Retrieve the database 'Pet Hotel'.
- Add the following records.

Pet type	Pet name	Pet owner	Vaccinated	Arrival date	Departure date
Dog	*Max*	*Hosam Soliman*	*Yes*	*04/06/12*	*08/06/12*
Dog	*Spot*	*Jabir Hamad*	*Yes*	*08/04/12*	*25/04/12*
Bird	*Nina*	*Pradip Singh*	*No*	*23/07/12*	*30/07/12*

Sort the table alphabetically in order of arrival date.

Practice

Practice activity *13*

- Retrieve the 'Plant Nursery 'database'.
- **Add the following:**
  - Rose, Annual, $11.40, Spring
- Sort in alphabetical order of item.

Practice

Practice activity *14*

- Retrieve the database 'Qatar Company'.
- Sharq Mahmoud's salary has been entered incorrectly. It should be QR 35,500.
- Aisha Masoud has left the company. Delete this record.
- Add the following records.

Employee name	Department	Start date	Salary	On staff
Salah Hussain	*Personnel*	*27/08/2010*	*QR 18,500*	*Yes*
Saif Mubarak	*Advertising*	*13/09/2008*	*QR 23,500*	*No*

Sort the table in alphabetical order of Department.

Creating forms:

A form is simply another way of displaying the data stored in a table. An advantage of using a form is that you can see all the fields in a single record together.

Practice

Practice activity *15*

- Retrieve the 'Pet Hotel' database and open the table.
- Create a Form from the table.
- Add the following records.

Pet type	Pet name	Pet owner	Vaccinated	Arrival date	Departure date
Dog	*Jem*	*Elaine Wells*	*Yes*	*10/07/12*	*17/07/12*
Cat	*Tibs*	*Bassil Nour*	*Yes*	*15/07/12*	*24/07/12*

Save the form as Bookings.

Practice

Practice activity *16*

- Retrieve the 'Qatar Company' database and open the table.
- Create a Form from the table.
- Add the following record.

Employee name	Department	Start date	Salary	On staff
John Brown	*Advertising*	*05/12/2012*	*QR 37,500*	*On staff*

Save the form as Employee Details Form.

Changing a form:

It is possible to edit the data in a form as well as make changes to the layout of the form.

This can be done using one of the three views below:

- Layout view – used to make changes to Layout
- Form view – used to make changes to Data
- Design view – used to make Design changes that cannot be done in layout View.

Practice

Practice activity *17*

- Retrieve the 'Pet Hotel' database file.
- Use the Layout View to edit the Form title to Pet Hotel (all in upper case) and Current Bookings on the next line.
- Add an appropriate logo to the form.
- Select an autoformat of your choice.

Practice

Practice activity *18*

- Retrieve the 'Qatar Company' database file.
- Use the Layout View to edit the Form title to Qatar Company (all in upper case) and Employee details on the next line. Change both titles to bold and italics.
- Add an appropriate logo to the form.
- Select an autoformat of your choice.
- Change the column headings to font colour black.
- Add a footer with your name.
- Print a copy of record number 3.

Complete the following activity to consolidate what you have learnt so far.

Practice

Practice activity *19:* Consolidation exercise

Create a new database called Qatar Electrical Appliances. The table is to be called Stock Details. Set a primary key on the Product Code field.

Product code	Brand	Product description	Price
CP2	*Compaq*	*Computer*	*QR 3,550*
WS1	*Kelvinator*	*Washing Machine*	*QR 2,350*
TV3	*Sanyo*	*Television*	*QR 1,985*
DV2	*Hitachi*	*DVD Player*	*QR 1,025*
FR4	*Kelvinator*	*Freezer*	*QR 2,750*
TV2	*Samsung*	*Television*	*QR 3,150*
TV4	*Samsung*	*Television*	*QR 2,055*
DW1	*Westinghouse*	*Dishwasher*	*QR 3,000*
CP1	*Toshiba*	*Computer*	*QR 4,210*
MC2	*Sharp*	*Microwave*	*QR 1,320*
MC3	*Toshiba*	*Microwave*	*QR 1,200*
DV4	*Sanyo*	*DVD Player*	*QR 1,150*

Edit the table above as follows:

1. Move the 'Brand' field to sit after 'Product Description'.
2. Add a numeric field called Warranty (months) at the end of the table.
3. Add the following to the new field.

Product Code	Warranty (months)
CP1	*12*
CP2	*12*
DV2	*12*
DV4	*12*
DW1	*24*
FR4	*24*
MC2	*12*
MC3	*12*
TV2	*24*
TV3	*12*
TV4	*12*
WS1	*24*

Create a form for the table and save the following as a two-line heading:

Qatar electrical appliances.
Data form

- Add an appropriate logo.
- Add your name as a footer.

Add the following records:

Product code	Product description	Brand	Price	Warranty
RF1	*Refrigerator*	*Westinghouse*	*QR 5,750*	*24*
RF2	*Refrigerator*	*Kelvinator*	*QR 4,200*	*12*

Print a copy of record number 6.

Creating a relationship between tables:

Because most databases are made of various tables, these tables work together to create a product as complete and efficient as possible. As there can be many tables and an enormous quantity of data, it is important to avoid duplication of data. The same piece of information should not be entered in two different tables.

Establishing a relationship between tables also enables us to ensure that data is not out of synch or not up to date. Referential integrity relationships ensure that information in one table matches information in another.

Relationships can be one-to-one, where each record in one table relates directly to a single record in another table.

Relationships can be one-to-many, where a record in one table relates to multiple records in a second table, but the records in the second table relate to only one record in the first table.

Relationships can be many-to-many where a record in one table relates to multiple records in a second table and a record in the second table relates to multiple records in the first table.

Practice

Practice activity *20*

Create a database called Qatar Tours. It contains the details of tours run by your company. You are required to create the following tables, setting appropriate data types. A primary key is to be set on Tour ID.

Table 1 – Tour details

Tour ID	Tour name	Price per person
DA	*Desert Adventure*	*450*
DC	*Desert Camp*	*500*
DR	*Dhow Ride*	*65*
TT	*Tourist Trail*	*150*
HS	*Heritage Sites*	*120*

Table 2 – Tour bookings

Booking ID	Customer name	Phone no	Tour ID	No of persons	Tour date
1	*Hamdi Nasser*	*3389 2514*	*DA*	*8*	*04/03/12*
2	*Aisha Al Haq*	*3374 1978*	*DC*	*2*	*06/03/12*
3	*Chris Mason*	*4452 9017*	*DR*	*8*	*24/03/12*
4	*Ahmed Farouq*	*7784 5197*	*TT*	*4*	*08/03/12*
5	*Belal Fayad*	*4460 1874*	*TT*	*4*	*24/03/12*
6	*Fahad Youseff*	*3390 6628*	*HS*	*5*	*15/03/12*
7	*Amal Al-Naimi*	*7788 1214*	*TT*	*8*	*15/03/12*
8	*Wendy Jones*	*7745 3005*	*DA*	*6*	*10/03/12*
9	*Ameen Muftah*	*3389 3481*	*DA*	*5*	*24/03/12*

Table 2 – Tour bookings, continued					
Booking ID	**Customer name**	**Phone no**	**Tour ID**	**No of persons**	**Tour date**
10	*Hamad Mustafa*	*4463 9366*	*HS*	*4*	*20/03/12*
11	*Roger Stone*	*5525 6814*	*DC*	*6*	*22/03/12*
12	*Ben Walker*	*6698 7183*	*DA*	*4*	*08/03/12*
13	*Azza Mansour*	*5580 3915*	*DA*	*3*	*08/03/12*
14	*David Wei Chang*	*6697 8520*	*DR*	*8*	*08/03/12*
15	*Hamoud Abdelaziz*	*7744 5623*	*HS*	*8*	*22/03/12*

You are required to:

1. Create relationships between the tables.
2. Create a form from the 'Bookings' table and edit the title to read Qatar Tours on the first line and Bookings on the second line. Both are to be in bold and italics.
3. Use the form to add the following records:

Customer name	Phone no	Tour ID	No of persons	Tour date
Peter White	*4458 7741*	*DC*	*4*	*15/03/12*
Tammy Harris	*5544 3716*	*DR*	*4*	*05/03/12*
Essa Hussein	*5554 4200*	*DA*	*2*	*24/03/12*
Jabir Darwish	*3358 2341*	*DC*	*4*	*04/03/12*

4. Save the form as 'Tour Bookings Form'.
5. Add your name as a footer.
6. Insert an appropriate logo to the form.
7. Select an autoformat of your choice.
8. Resave and print a copy of the record for Hamad Mustafa.
9. Close the form and database.

Practice

Practice activity *21*

- Create a database called Thrifty Car Rentals, which contains details of vehicles rented from your company. Create the following tables, ensuring you set appropriate data types. All bookings are for this year, so you do not need to enter the year as Access will automatically add this to your dates.
- Set date fields to Medium Date Format and Booking Number to autonumber.

Table 1 – Rental car details

Rego no	Make	Model	Category	Rent per day
25891	*Hyundai*	*Getz*	*Economy*	*160*
56891	*GMH*	*Calais*	*Premium*	*240*
23472	*Toyota*	*Echo*	*Economy*	*156*
12568	*GMH*	*Statesman*	*Luxury*	*280*
87653	*Toyota*	*Corona*	*Intermediate*	*200*
52964	*Hyundai*	*iMax*	*Van*	*216*

Table 2 – Rentals

Booking no	Name	Licence no	Rego no	Pickup date	Return date
1	*John Smith*	*8842RL*	*56891*	*08-Jan*	*10-Jan*
2	*Kumar Krishna*	*7415RL*	*12568*	*08-Jan*	*09-Jan*
3	*Emma Blair*	*2124RL*	*12568*	*10-Jan*	*14-Jan*
4	*Brian Orello*	*7995RL*	*23472*	*15-Jan*	*17-Jan*
5	*Mubarak Ali*	*8344RL*	*52964*	*28-Jan*	*29-Jan*
6	*Vera Chang*	*7645RL*	*87653*	*02-Feb*	*05-Feb*
7	*Nawal Aljabor*	*2951RL*	*25891*	*02-Feb*	*08-Feb*
8	*Luigi Lucetti*	*9345RL*	*52964*	*04-Feb*	*05-Feb*
9	*Nay Lin Huit*	*4421RL*	*12568*	*05-Feb*	*08-Feb*

You are required to:

1. Create relationships between the tables.
2. Create a form from the Rentals table – edit the title to Thrifty Car Rentals.
3. Add a logo and apply an autoformat of your choice.
4. Insert your name as a footer.
5. Use the form to add the following records:

Booking no	Name	Licence no	Rego no	Pickup date	Return date
10	*Arnold Simmonds*	*2779RL*	*23472*	*10 Feb*	*12 Feb*
11	*Pradeep Bhashka*	*7945RL*	*87653*	*5 Feb*	*8 Feb*

6. Save the form as Car Rentals Form.
7. Resave and print a copy of the record for Emma Blair.
8. Close the form and the database.

Using filters:

A database usually contains a large amount of data and often we need to locate some specific data quickly and easily. Access uses the filter tools to quickly link all records that have the same specific data.

A filter is used in an open table (in datasheet view) to quickly display specific records that match data you have selected. Positioning the cursor in a field that contains the specified data will do this.

For example if you were working in a real estate firm and a client wanted to know what apartments were for sale at The Pearl you would apply a filter and bring up on screen only those apartments at The Pearl.

Practice

Practice activity *22*

- Retrieve the Qatar Car Rentals database.
- Apply the filter to answer the following questions.

A. How many Toyotas are available to rent?

.....

.....

.....

B. How many Landcruisers are available for rent?

.....

.....

.....

C. What are the registrations numbers of the Mustangs?

.....

.....

.....

D. How many 2011 models are available for rent?

.....

.....

.....

E. How many vehicles have an odometer reading greater than 50 000 klms?

.....

.....

.....

Creating a query:

A query is a tool you use to get information from your database in response to specific questions. With a query you define conditions for the types of records you want Microsoft Access to include.

The most common query is a Select Query – it searches the table and retrieves the data that satisfies the query. It then displays the matching records in a sub-table (known as a Dynaset) that is linked to the underlying full table of records.

A query is created in Design View where the conditions are defined, then you run the query and the resulting data is displayed in the Dynaset. The query can then be sorted, named and saved.

The Design View window is made up of two parts – the upper part contains the list of fields for each table the query will search and the lower part of the window displays the design grid, where the specifications for the query areconstructed

The Design grid is made up of columns and rows. Each field in the query has its own column that contains multiple rows, and it is important to understand what each row is used for:

- ***Field*** row – shows the field names to be included in the query.
- ***Table*** row – shows what table the fields are held in.
- ***Sort*** row – allows you to sort, in either ascending or descending order.
- ***Show*** row – determines if the contents of a field will be displayed in the Dynaset. (This defaults to ***yes*** and is indicated by the ✓)
- ***Criteria*** row – specifies what match the query is to look for. The criteria row can also use Operators to help define matches.
- ***Or*** row – used if you want to use two matches in the query.

Inform

Handy hint:

Commas and dollar signs are not allowed when keying in the criteria.

What is an operator?

Queries use operators to compare values and the operator describes the type of comparison to be performed. Operators we will look at are:

= which means equal to.
<> which means not equal to.
< which means less than.
<= which means less than or equal to.
> which means more than.
>= which means more than or equal to.
***** which substitutes for text, eg D* means anything beginning with D.
and, which means also.
or which means either.

(It is easier to put both options on one line eg 'Advertising or Accounts')

between – which means between something and something else.

Practice

Practice activity *23*

- Retrieve the 'Pet Hotel' database.
- Design, run and save a query for 'Dog'. Write down the names of the dogs. Save the query as ' Dogs'.
- Design, run and save a query for 'Cat'. Write down the names of the cats. Save the query as 'Cats'.

Practice

Practice activity *24*

- Retrieve the 'Plant Nursery' database.
- Design, run and save a query for 'Perennials'. Sort in alphabetic order by 'Planting Season'.
- Design run and save a query to identify how many 'Annuals' have 'Spring' as their planting season.
- Design, run and save a query to identify which plants have a cost of $8.50 or greater.

Practice

Practice activity *25*

- Retrieve the 'Qatar Company' database.
- Design, run and save a query to find out how many employees 'On staff' earn QR 40,000 monthly or less.
- Design, run and save a query to find out how many employees in the 'Personnel' department started before1994.
- Design, run and save a query to find out how many employees in 'Sales' earn less than 35,000 monthly.

Practice

Practice activity *26*

- Retrieve the 'Qatar Tours' database.
- Design, run and save a query using the following fields from each of the tables:
  - Tour Bookings Table – Customer name, Phone number, Number of persons.
  - Tours table – Tour name.

Multi-table queries:

You have completed queries from a single table. We will now create queries from related tables.

Practice

Practice activity *27*

- Retrieve the Qatar Tours database.
- Create a query from each table as follows:
  - Tour Bookings Table – Customer Name, Phone number, Number of persons.
  - Tours Table – Tour Name.
- Save the query as 'Current Bookings Query'.
- Close the query and the database.

Creating a report:

A report allows you to display the results of queries in a more attractive range of formats, resulting in a more professional presentation of your data. It also allows you to attractively display the contents of a table.

The easiest way to create a report is using the Report Wizard.

Practice

Practice activity *28*

Retrieve the 'Pet Hotel' database.

Create the following reports and save using appropriate names.

1. Using the query 'Dogs', create a report using all of the fields. Sort in alphabetical order of 'Pet name'. Save the report as Bookings Report.
2. Using a table, create a report using all of the fields. Group by Pet types and sort by Pet name and use default layouts, styles and report title.

Practice

Practice activity *29*

- Retrieve the 'Qatar Company' database.
- Using the query 'Staff earning 40,000 monthly or less', create a report using the fields for Name, Department and Salary. Sort in descending order of salary. Name and save the report.
- Using the query 'Personnel employees starting before 1994', create a report using the fields Name, Start Date. Sort in descending order of start date. Name and save the report.
- Create a report on the table using all fields. Group by Department and sort into alphabetical order by surname. Use the table name as the title for the report. Save as 'Department Employees'.

Multi-table reports:

It is possible to create reports from multiple tables.

Practice

Practice activity *30*

- Retrieve the Qatar Tours database.
- Create a report on both tables containing the fields for Tour Name, Customer Name, Phone Number, Number of Persons.
- View the report by Tour Name.
- Name the report 'Tour Bookings'.

Modifying the report:

Although you can create a report using the Report Wizard you are able to modify any report after it is created. Modifications cannot be done in Print Preview.

There are a number of views you can use when working with reports – each view has its own purpose.

Print preview:

- The default view when a report is created.
- Displays the report as it will be printed.

Report view:

- Looks like traditional Print Preview, but allows browsing of the report, eg find or copy data, or filter data to print only the information you need.

Layout view:

- Lets you make design changes while you browse.
- You can make many common design changes quickly and easily.
- You can make most, but not all, changes to your report in this view.

Design view:

- You cannot see your data.
- You can perform more detailed work that cannot be done in layout view.
- Reports can also be created from the beginning in this view.

You have already used Print Preview when creating your reports. You are now going to modify your report using the other views.

Practice

Practice activity *31*

- Retrieve the 'Pet Hotel' database.
- Open the Bookings Report.
- Complete the following using the most appropriate View or Preview.

1. Move columns to ensure all data is visible.
2. Check that the space between columns is relatively even.
3. Change the font style and increase the font size of field names.
4. Increase the font size of records (no larger than the headings).
5. Use the filter to display only those animals that have been vaccinated.
6. Add your name in the centre of the Page Footer section.
7. Preview the report to ensure it fits on one page.
8. Print the report using the appropriate paper orientation.
9. Save the report as 'Vaccinated Animals'.

Practice

Practice activity *32*

- Retrieve the 'Qatar Company' database.
- Open the Department Employees Report.
- Complete the following using the most appropriate View or Preview.

1. Move columns to ensure all data is visible.
2. Check that the space between columns is relatively even.
3. Increase the font size of the title and centre it over the report.
4. Change the font style and increase the font size of field names.
5. Ensure all field names are left aligned.
6. Increase the font size of records (no larger than the headings).
7. Ensure all records are left aligned.
8. Use the filter to display only those employees who are 'On Staff'.
9. Add your name in the centre of the Page Footer section.
10. Preview the report to ensure it fits on one page.
11. Print the report using the appropriate paper orientation.
12. Save the report as 'On Staff Employees'.

Formulas in reports:

It is possible to insert a formula in a query, form or report. The Design view is the best method of doing this as there are no restrictions.

Practice

Practice activity *33*

- Retrieve the Qatar Company database and open the On Staff Employee report.
- In Design View, modify the report so that it only shows 'On Staff' earning more than25,000.
- Add another formula to show the average salary of those 'On Staff' earning more than 25,000.
- Format the figures for currency format.

Using the help function:

Because you have already used other Microsoft Office applications, you should be familiar with using the Help function.

You can ask for HELP by clicking on the Help icon or pressing F1 on the keyboard

Practice

Practice activity *34*

- Access the Help screen using the HELP icon.
- Key in the keywords 'data type property' into the search box.
- Select 'Format property – Yes/No Data Type'.

Practice

Practice activity *35*

- Access the Help screen using the F1 key on your keyboard.
- Key in your question 'navigation pane' and press enter.
- Choose your option 'view and manage objects by using navigation pane'.
- Choose the option again below the heading 'display and sort objects'.
- Print the information.

Quick reference guide:

Database:

To create a new database:

- Click on the Accessicon.
- Click on Create a New File in the Task Pane.
- Click on New/Blank Database in the Task Pane.
- Click on Relevant location (eg USB Drive D:) in the Save inbox.
- Click in the Filename box and type in your file name.
- Click Create.

If you are already using access:

- Click on File, New.
- Click on Database and OK.
- Click on Relevant location (eg USB Drive D:) in the Save in box.
- Click in the File name box and type in your filename.
- Click Create.

Tables:

To Create a New Table using the Wizard:

- Click on the Table tab marker at the side.
- Double click on Create Table using Wizard.
- Select relevant category eg Business or Personal.
- Select relevant Sample Table eg Customers.
- Select relevant Fields that will be required in your table from the Sample Fields box and then press > to move them to Fields in my new table box.
- Repeat this step for all required fields.
- Rename the fields if needed by clicking on the name and selecting Rename Field then typing in your chosen field name.
- Repeat this step for all required fields.
- Click on the Next button.
- Name your Table and select a primary key or let Access set the key for you.
- Click on the Next button.
- Select the option to Enter data directly into the table.
- Click on the Finish button.

To create a new table in design view

- Click on the Table tab marker at the side.
- Double click on Create Table in Design View.
- In the Field Name column – type your field name.
- Press TAB to go to Data Type.
- Click the down arrow and choose the appropriate data type.
  - Text – used for both text and numbers – most common data type.
  - Memo – used for lengthy descriptions.
  - Number – used only if you want to perform calculations (eg phone number is text not number)
  - Date/Time – used for date/time formats.
  - Currency – used for monetary data.
  - Auto number – only used by Access, usually as a Primary Key.

- Yes/No – used where values are Yes or No.
- OLE Object – element from another application.
- Hyperlink – used as reference into Internet pages.
- Lookup Wizard – creates a lookup column, allowing a choice from a list.

- If it is a Text field – use F6 to take you to Field Properties at the bottom and type in the desired field size eg 20.
- If you want uppercase text in this field – TAB to Format and type in>
- If you want to enter a default value for the field – TAB to Default Value and type in the default value.
- Other field properties can be entered in relevant fields where required.
- Press F6 to return to the top of the screen.
- Click in the next Field Name and continue until all Fields are entered for your table.
- Click on X in right hand corner or click on Data sheet View icon.
- Click Yes to save the table.
- Type in your Table name.
- Click OK.
- Set your Primary Key (if required) by clicking next to the appropriate field then clicking on the button.

To type records into the table:

- Type the records straight in if you have come through the Design Wizard.
- Double click on the Table name if you had closed your table – you can start typing in records.
- Proofread each and every record carefully.
- Click on X in right hand corner to close. (records are automatically saved)

To edit, sort, delete, add, search or filter records in the table:

- Double click on the Table name or click the Table name then Open.
- To Sort, click anywhere in the field to be sorted and click the relevant Sort button on the toolbar. (ie A to Z for ascending order, Z to A for descending order)

- To Delete a record, click the record to be deleted and press the Delete Record button on the toolbar. Confirm Yes to delete.
- To Edit a record, click in the field to be edited and retype the information.
- To Add another record to your table, click in the next blank row and type in your record.
- To Search for a specific record, click on the button and enter details for the record you wish to find
- To apply a Filter, click on your filter data eg Postcode 2000 then click on the button. Click the button to view all records again.
- To apply a Filter with criteria, click on then click on the button and type your criteria eg <1/1/2007. Click the button to apply the filter. Click the button again to view all records again.
- Click on X in right hand corner to close. Save Table if asked.

To add a new field to the table:

- Click on the Table name.
- Click on Design.
- Click in the next available Field Name and type in your information.
- Click on X in right hand corner to close.
- Click on Yes to save the Table.

Forms:

(Forms can be created to display and enter data in a different format to the Table)

To create a form using Autoform:

- Open your Table in Design View.
- Click on the New Object: Autoform button.
- Your form is automatically created.

To create a form using Wizard:

- Double click on Create Form using Wizard.
- Click the down arrow to select the Table you wish to create the form for.
- Select the fields to include in your Form (> for individual fields or >> to select all fields)
- Click on Next.
- Click on Columnar.
- Click on Next.
- Choose a style of your choice.
- Click on Next.
- Type in a title for your form.
- Click on Finish.

To modify the form:

- Go to Design View.
- Click on View/Form Header and Footer to see the header and footer.
- Use the button from your Toolbox to draw a rectangle for your Form name in the Header section or your name in the Footer Section.

Reports:

To create a report:

- Double click on Create Report using Wizard.
- Click the down arrow to select the table or query you wish to run the report on.
- Select the fields to include in your Report. (> for individual fields or >> to select all fields)
- Click on Next.
- Double click on the field you wish to Group by or click on Next again to ignore Groupings.
- Click the down arrow to select your sort field. (Note: this field will appear first on your report)
- Click on Summary Options on the Sort screen to do automatic calculations. (tick the calculations required and then press OK)
- Click on Next.
- Select appropriate page size. (Landscape is safest)
- Click on Next.
- Choose a style of your choice.
- Click on Next.
- Type in the proper heading for your report.
- Click on Finish.
- Add your name in design view if necessary by using the button from your Toolbox to draw a rectangle for your name.

To create a report (with manually added totals)

- Follow procedure as outlined above to produce your report.
- Go to Design View.
- Always put the total in the Report Footer section.
- Access the toolbox. (click on if not visible)
- Click on the button in the Toolbox.
- The first part is the description – the second part contains your formula.

- Use brackets as shown for formula.
  - To calculate a total =SUM([fieldname])
  - To calculate an average=AVG([fieldname])
  - To find the minimum =MIN([fieldname])
  - To find the maximum =MAX([fieldname])
- Click on Preview to see if your formula has worked.
- To format your answer to currency – Click on Properties and select Currency from the drop down list under Format.

Viewing/printing individual records:

- Return to your Preview screen.
- Use the arrow buttons at the bottom to scroll through your records.
- Go to File/Print/Selected Record to print only the record that is showing.

Relational databases:

- The Relational Model approach is used with more complex database structures.
- It uses two or more tables connected by relations between common fields.
- It allows us to eliminate duplicate data and wasted space.

Creating relationships:

- Click the Relationships button on the toolbar Click on the Table Name and Add to add it to the Relationships window.
- Repeat this step for all required Tables.
- Click and drag the Primary Key from each table to the Foreign Key field in the other table.
- Click on Enforce Referential Integrity.
- Click on Cascade Delete Related Records if required (this means when you delete a record from the parent table, that record will be deleted from other tables as well)

Queries:

To Create a Select Query (allow you to view and edit data items)

- Double click on Create Query in Design View.
- Click Add to add your Table or Tables to the Design Grid.
- Click Close.
- Double click on each field required so it appears in the bottom grid.

(If you want all fields – double click in the table name at top of grid so all fields turn blue, then drag from the blue fields down to the first field on your design grid)

- Click in the Sort line for the field you wish to sort by and select Ascending or Descending.
- Click in the Criteria line for any fields you want to search in and type in your criteria.
  - Examples >=10 <=10=10.
- Click on the Run icon on the toolbar. (purple exclamation mark button)
- Check your Query Results – do they seem correct?
- Save the query with a meaningful name if you will need it again using File/Save As from either Design or Datasheet View.
- Click on OK.

Queries involving calculated fields (ie producing fields that don't exist)

- Double click on Create Query in Design View.
- Click Add to add your Table or Tables to the Design Grid.
- Click Close.
- Double click on each field required so it appears in the bottom grid.

(If you want all fields – double click in the table name at top of grid so all fields turn blue, then drag from the blue fields down to the first field on your design grid)

- Click into an empty column on the design grid.
- Type a name for your new field followed by the ":" sign and then the field names being used surrounded in square brackets eg ReturnDate:[DateHired]+[DaysHired]
- Click on the Run icon on the toolbar. (purple exclamation mark button)
- Check your Query Results – do they seem correct?

- Save the query with a meaningful name if you will need it again using File/Save As from either Design or Datasheet View.
- Click onOK.

Parameter queries (ie requesting information from the user about criteria)

- Double click on Create Query in Design View.
- Click Add to add your Table or Tables to the Design Grid.
- Click Close.
- Double click on each field required so it appears in the bottom grid.

(If you want all fields – double click in the table name at top of grid so all fields turn blue, then drag from the blue fields down to the first field on your design grid)

- Click in the Criteria line for any fields you want to request user criteria for.
- Type your question in square brackets eg Under the Field CustSuburb – click in the Criteria line and type [Which suburb?]
- Click on the Run icon on the toolbar. (purple exclamation mark button)
- A Parameter Value box appears asking you 'Which suburb?'
- Type in your choice of suburb and click on OK.
- Records matching your criteria are displayed.

Totalling queries (ie queries which perform calculations on field information)

- Double click on Create Query in Design View.
- Click Add to add your Table or Tables to the Design Grid.
- Click Close.
- Double click on each field required so it appears in the bottom grid.

(If you want all fields – double click in the table name at top of grid so all fields turn blue, then drag from the blue fields down to the first field on your design grid)

- Click on the Autosum button and the Sort row changes to a Total row.
- Click in the Total row for the field you wish to perform a calculation on and click on the arrow next to Group By.
- Select the calculation you wish to perform.
- Click on the Run icon on the toolbar. (purple exclamation mark button)

Adding a calculated control to a report or a form:

In Design view of your report or Form.

Using the toolbox click on ab # note the mouse pointer changes to + ab.

Create the control boxes in the report footer (if not grouped) or the grouping footer by clicking & dragging once only. Two boxes will appear and they may need to be separated if created too close to the margins.

Example: Text21: Unbound

Type the Heading in the Text box & the Formula in the Unbound box Example

Heading **Formula**

Total Weight of Baggage = sum ([Baggage Weight])

Other examples of simple formula in a calculated control:

=Max([fieldname])

=Avg([fieldname])

=Min([fieldname])

=[UnitPrice]-([UnitPrice]/11) To calculate pre GST

=[Amount]*0.9 To calculate a discounted rate

=[Price]*[NumberOfItems] To calculate a total cost

Remember that extra fields with formula can also be used in the query creation process. This would be the preferred method if the information used is constantly changing in your table.

Semester 2

ICT STUDENT ACTIVITIES

Activity *1*

Create Database:

1 *Define the following terms:*

Tables:

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Queries:

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Forms:

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Reports:

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- Data can be entered into the database in many formats. Text is the default setting.

Memo –.

Number –.

Date/Time –.

Currency -.

AutoNumber –

Yes/No –.

OLE object –.

Hyperlink –.

Attachment –

Look up Wizard –

Activity 2

1. *Open 'Microsoft Access'.*
2. *Create a new blank database using the filename Qatar Car Sales.*
3. *Create a table named Car Sales using the following information* :

Field Name	Data Type	Description
Brand	*Text*	*Brand of vehicle*
Model	*TEXT*	*Model of vehicle*
Year	*Number*	*Year of manufacture*
Registration No	*Number*	
First registered	*Date/Time*	*Date first registered*
Odometer	*Number*	*Odometer reading at sale*
Sale price	*Currency*	
Date of sale	*Date/Time*	

Activity 3

1. *Retrieve the Qatar Car Sales database.*
2. *Locate the Car Sales table.*
3. *Go to the Datasheet View and enter the data below*

Brand	Model	Year	Reg No	First Reg	Odometer	Sale Price $	Date of sale
Hyundai	Tucson	2012	54284	08/12/09	25125	112050	01 01 2016
Toyota	Landcruiser	2007	85228	12/07/08	198355	86940	14 02 2017
Hyundai	Tucson	2011	35987	05/12/09	52785	122650	22 01 2015
Chevrolet	Trailblazer	2010	25974	10/10/07	45234	105855	12 01 2018
Mitsubishi	Pajero	2009	21058	11/03/09	115487	76395	08 02 2017
Toyota	Avalon	2012	32058	12/12/08	125885	95634	21 02 2017
Mitsubishi	Nativa	2010	15487	04/10/09	65239	68772	09 01 2014
Toyota	camry	2012	20605	01/08/09	1214545	186281	14 01 2014
Chevrolet	Cruze	2010	35840	02/11/08	86378	45780	15 02 2011
Nissan	Altima	2011	15970	09/11/07	78658	58610	12 02 2015
Mitsubishi	Pajero	2009	60580	10/09/06	128962	60800	08 01 2017
Hyundai	Santa Fe	2011	26804	04/11/09	37851	98350	25 02 2016
Honda	Accord	2009	15983	11/09/07	96304	54263	15 01 2018
Mazda	CX5	2009	25618	06/10/09	55843	79500	21 01 2017
Nissan	Xtrail	2010	22584	03/12/08	14986	114632	19 02 2016
Chevrolet	Trailblazer	2012	24811	07/12/07	1412771	148763	25 01 2018
Nissan	Altima	2012	15872	10/12/09	25441	88600	26 02 2017
Toyota	Prado	2009	51487	03/10/08	63902	74335	27 01 2011
Mitsubishi	Outlander	2010	80523	06/10/09	145313	32955	02 02 2017
Toyota	Corolla	2008	25841	09/08/07	138947	25000	13 01 2016

Activity 4

1. *Retrieve the Qatar Car Sales database.*
2. *Create a new table called 'Sales Staff' using the Design View.*
3. *Use the following field names and data type.*

Location	Last Name	Employee Code	Commenced Employment
Doha	*Al Quaradawi*	*3012*	*12/05/2016*
Al Khor	*Abdulrahman*	*3001*	*01/06/2018*
Al Wakhra	*Romano*	*3005*	*01/06/2006*
Ras-Lafan	*Sulaiman*	*3025*	*18/09/2012*
Al Wakhra	*Abdulaziz*	*3011*	*20/11/2007*
Al Gharafa	*Lahari*	*3009*	*07/01/2007*
Doha	*Johnson*	*3022*	*21/11/2011*
Al Rewis	*Al Thani*	*3014*	*15/10/2010*
Al Khor	*Mendez*	*3007*	*01/06/2006*
Doha	*Rodriguez*	*3002*	*01/06/2016*
Al-Shamal	*Al-Jassim*	*3021*	*18/05/2012*
Al Wekir	*Abdulrahman*	*3010*	*20/08/2009*
Doha	*Alfonso*	*3007*	*07/03/2007*

Activity 5

1. *Retrieve the Qatar Car Sales database.*
2. *Create a new table called 'Admin Staff' using the Design View.*

Department	Employee Last Name	Start Date	Monthly Salary ($)	Location
Accounts	*Mahmoud*	*12/09/10*	*22,500*	*Doha*
Purchases	*Preston*	*29/11/11*	*20,800*	*Doha*
Marketing	*Miguel*	*21/06/10*	*32,900*	*Al Gharafa*
Accounts	*Ahmad*	*06/02/12*	*24,000*	*Doha*
Purchases	*Montez*	*25/10/09*	*18,500*	*Al Wakhra*
Accounts	*Khalid*	*14/01/11*	*26,000*	*Al Khor*
Administration	*Rasheed*	*19/08/10*	*17,000*	*Al Wekir*
Marketing	*Alshareef*	*01/03/09*	*35,100*	*Doha*
Administration	*Hassan*	*30/06/10*	*15,000*	*Al Khor*
Purchases	*Ahmed*	*15/09/12*	*21,850*	*Al Duhail*
Purchases	*Omran*	*18/02/13*	*23,780*	*Doha*
Accounts	*Kumar*	*24/11/11*	*21,800*	*Al Wakhra*
Administration	*Saeed*	*05/05/10*	*15,000*	*Al Gharafa*
Marketing	*Ali*	*20/06/10*	*30,900*	*Doha*
Accounts	*Jassim*	*09/02/12*	*28,000*	*Al Duhail*
Purchases	*saoud*	*26/10/09*	*17,500*	*Al Wakhra*

Activity 6

1 *Create a table called 'Suppliers' and enter the following details.*

Supplier No	Business Name	Telephone	PO Box	Location	Supplier
4025	Gulf Car Parts	6625 1287	9845	Doha	Spare Parts
4026	Car Contracting	3358 8452	2158	Al Duhail	Detailing
4027	Al Jazeera Repairs	4401 2658	3692	Al Khor	Repairs
4028	Q Spare Parts	3325 8411	2105	Al Khor	Spare Parts
4029	Al Khaliji Repairs	3369 1071	5362	Doha	Repairs
4030	Doha Spares	6690 2684	2048	Al Wakarah	Spare Parts
4031	B & D Detailing	4456 2389	1885	Doha	Detailing
4032	Al Jazeera Repairs	4401 2658	3692	Al Gharafa	Repairs
4033	Aljassim Spare Parts	3325 8411	2105	Al Khor	Spare Parts
4034	Alzubarh spares	4456 2389	2015	Al Gharafa	Detailing
4035	Al Jazeera Repairs	4401 2658	69587	Al Duhail	Repairs
4036	Car Contracting	3358 8452	2158	Doha	Detailing
4037	Al -Manai Repairs	4401 2658	3692	Al Khor	Repairs
4038	Q Spare Parts	3325 8411	2105	Al Wakarah	Spare Parts

Add the following details to the table.

Business Name	Email
Gulf Car Parts	jasim@gcp.qa
Car Contracting	abdul@carcon..com.qa
Al Jazeera Repairs	aljaz@qatcomp.qa.com
Q Spare Parts	admin@qspares.com.qa
Al Khaliji Repairs	ali@khaliji.com.qa

Activity 7

2. *Establish a relationship between the table "car sale " and "suppliers"*
3. *Establish a relationship between the table "admin staff " and "sales staff"*
4. *Create Primary Key to table called 'Suppliers'*

Supplier No	Business Name	Telephone	PO Box	Location	Supplier

5. *Create Primary Key to table called 'car sale'*

Brand	Model	Year	Reg No	First Reg	Odometer	Sale Price QR	Date of sale

6. *Create Primary Key to table called Sales Staff'*

Location	Last Name	Employee Code	Commenced Employment

7. *Create Primary Key to table called 'Admin Staff'*

Department	Employee Last Name	Start Date	Monthly Salary ($)	Location

8. *Ascending data in table called 'Admin Staff (Employee Last Name) A - Z*

Activity 8

1. *Retrieve database Qatar car sale .*
   - ➥ Create 7 queries wizard to the following fields in database
   - ➥ (brand – model – year – first registration – odometer – sale price)
   - ➥ Then answer the following questions.

2. *How many Toyotas were sold?*

.....

.....

3. *How many Landcruisers were sold?*

.....

.....

4. *How many 2012 models were sold?*

.....

.....

5. *How many vehicles were sold those were manufactured before 2010?*

.....

.....

6. *How many vehicles were sold for more than QR100,000?*

.....

.....

7. *How many vehicles were sold after 2012?*

.....

.....

Activity 9

1 ***Retrieve database Qatar car sale .***

➥ Apply the filter function to your database to answer the following questions.

2 ***How many Mazda were sold?***

.....

.....

.....

3 ***How many Prado were sold?***

.....

.....

.....

4 ***How many 2011 models were sold?***

.....

.....

.....

5 ***How many vehicles were sold those were manufactured before 2011?***

.....

.....

.....

6 ***How many vehicles were sold for less than QR105,000?***

.....

.....

.....

Activity *10*

- Create a database called 'Qatar Company'. Use the Design view to enter the following data into a table called 'Employees'. Use the appropriate data type.

Table 1 Employees

Employee ID	Employee name	Department	Start date	Monthly salary	On staff
12	*Yasser Alshareef*	*Accounts*	*17/03/2000*	*25,000*	*No*
13	*Ali Mahmoud*	*Sales*	*23/04/2006*	*35,000*	*No*
14	*Jassim Ahmad*	*Personnel*	*02/05/2001*	*40,000*	*Yes*
15	*Virenda Kumar*	*Advertising*	*24/09/2009*	*42,000*	*Yes*
16	*Khaleel Rasheed*	*Advertising*	*19/06/2002*	*28,000*	*No*
17	*Khalid Abdulla*	*Sales*	*25/04/2007*	*30,000*	*No*
18	*Ahmad Yousef*	*Accounts*	*23/11/2004*	*36,500*	*Yes*
19	*kamal Masoud*	*Personnel*	*04/08/2005*	*45,000*	*Yes*
20	*Gamal Fathy*	*Accounts*	*30/11/2010*	*16,500*	*No*
21	*Hassan Jassim*	*Personnel*	*14/06/2006*	*26,000*	*Yes*

- Create a primary key to field (Employee name).
- Create query wizard to show:
  - (how many Employees in sales department have salary less than 40,000 $).
- Create query wizard to show:
  - (how many Employees have salary greater than 35,000 $).
- Create form wizard name it "Emp_22" for fields (Employee name - Department – salary).
- Add option button on field (On staff) to select (Yes or No).

Activity 11

Open database called 'Qatar Company'. Use the Design view to enter the following data into a table called 'Contacts'. Then set Relationship between tables in database.

Table 2 Contacts

Customer no	Business Name	Contact name	Telephone	Email	Salary	Area
1	Qatar Car Parts	Abdulrahman Khalifa	4452 8915	abdul@qatcarparts.qa	851436	Al Rayaan
2	Doha Cars	John Anderson	3352 8516	john@dohacars.com.qa	7415658	Old Airport
3	Markhyra Autos	Barker Al Mansouri	6691 0358	baker.mansouri@markhyramotors.qa	5784658	Al Khor
4	UK Car Sales	Miles Wilson	3385 4128	miles@ukcars.qa	2245698	The Pearl
5	4WD Accessories	Waleed Al Dosari	3574 8925	waleed@4wheels.qa	198536	Al Wakhra

1. Convert salary to ($) and add 2 decimal places.
2. Filter – ascending (Contact name) A-Z.
3. Create primary key to table (Customer no).
4. Create query wizard (all fields) showing average customer salary.
5. Create form wizard name it "contact_ me" for fields (Business Name - Contact name – Email).
6. Add header with name (best sale) add logo in the header.
7. Add combo box to field (Area) to choose location.

Activity 12

1. Retrieve the 'Car Sales' table and add the following records.

Brand	Model	Year	Reg No	First Reg	Odometer	Sale Price QR	Date of sale	Employee code
Honda	*Accord*	*2011*	*52871*	*10/11*	*36851*	*83244*	*04/03/13*	*3014*
Mazda	*CX5*	*2010*	*45823*	*08/10*	*47856*	*92500*	*08/03/13*	*3026*
Mitsubishi	*Nativa*	*2009*	*28541*	*11/09*	*108564*	*43850*	*15/03/13*	*3002*
Toyota	*Landcruiser*	*2011*	*32580*	*02/11*	*54896*	*142650*	*21/03/13*	*3007*
Nissan	*Altima*	*2012*	*79524*	*05/12*	*12420*	*69500*	*14/03/13*	*3028*
Chevrolet	*Cruze*	*2010*	*24564*	*06/10*	*47936*	*51400*	*17/03/13*	*3027*

2. Sort the table alphabetically in order of date of sale (ascending order).
3. Create primary key to table (model).
4. Create form with name (Q.s) for fields (Brand – Year- First Reg- Odometer- Sale Price.
5. Add header (best car in Qatar) and add logo.
6. Add footer (your name / class).
7. Add combo box to field (Model) to choose specific model .

Activity 13

Create a new database called Qatar Electrical Appliances then.

- Create table, call it " Stock info".
- Set a primary key on the Product Code field.

Product code	Brand	Product description	Price
CP2	*Compaq*	*Computer*	*QR 3,550*
WS1	*Kelvinator*	*Washing Machine*	*QR 2,350*
TV3	*Sanyo*	*Television*	*QR 1,985*
DV2	*Hitachi*	*DVD Player*	*QR 1,025*
FR4	*Kelvinator*	*Freezer*	*QR 2,750*
TV2	*Samsung*	*Television*	*QR 3,150*
TV4	*Samsung*	*Television*	*QR 2,055*
DW1	*Westinghouse*	*Dishwasher*	*QR 3,000*
CP1	*Toshiba*	*Computer*	*QR 4,210*
MC2	*Sharp*	*Microwave*	*QR 1,320*
MC3	*Toshiba*	*Microwave*	*QR 1,200*
DV4	*Sanyo*	*DVD Player*	*QR 1,150*
RF1	*Refrigerator*	*Westinghouse*	*QR 5,750*
RF2	*Refrigerator*	*Kelvinator*	*QR 4,200*

1. Move the 'Brand' field to sit after 'Product Description'.
2. Add filter (brand) A- Z - Add euro sign $ to price field
3. Add a numeric field called Warranty (months) at the end of the table

Warranty (months)
12
12
12
12
24
24
12
12
24
12
12
24
24
12

4 Create query to show :

A. How many computers are in Product description .....

B.Price of brands less than 2000 QAR .....

5 Create a form for the table and save as APPLIANCES for fields

➥ (Product code -Brand -Product description)

Add a logo in the header then add text Qatar electrical appliances

- Add your name as a footer.
- Add option button on field (Warranty) to select (12 or 24)

Activity 14

1. Retrieve Qatar car sale file then open table 'staff admin' and ascending fields for A-Z
2. Create a form called st-admin for fields (Department-Employee Name-Start Date

Department	Employee Last Name	Start Date	Monthly Salary (QR)	Location
Accounts	*Mahmoud*	*12/09/10*	*22,500*	*Doha*
Purchases	*Preston*	*29/11/11*	*20,800*	*Doha*
Marketing	*Miguel*	*21/06/10*	*32,900*	*Doha*
Accounts	*Ahmad*	*06/02/12*	*24,000*	*Doha*
Purchases	*Mona*	*25/10/09*	*18,500*	*Al Wakhra*
Accounts	*Al Khalid*	*14/01/11*	*26,000*	*Al Khor*
Administration	*Rasheed*	*19/08/10*	*17,000*	*Doha*
Marketing	*Alshareef*	*01/03/09*	*35,100*	*Doha*
Administration	*Hussan*	*30/06/10*	*15,000*	*Al Khor*
Purchases	*Ahmed*	*15/09/12*	*21,850*	*Al Khor*
Purchases	*Coman*	*18/02/13*	*23,780*	*Doha*

3. Modify all fields and change font type Arial , font size 14.
4. Change colour of all fields.
5. Add header (best sale) , add logo.
6. Add footer (your name / class).
7. Add combo box to field (Location) to choose specific location.

Activity *15*

Create a database called ***Qatar Tours***. It contains details of tours run by your company. You are required to create the following tables. A primary key is to be set on ***Tour ID***.

Table 1 – Tour details

Tour ID	Tour name	Price per person
DA	*Desert Adventure*	*450*
DC	*Desert Camp*	*500*
DR	*Dhow Ride*	*65*
TT	*Tourist Trail*	*150*
HS	*Heritage Sites*	*120*

Table 2 – Tour bookings 1

Booking ID	Customer name	Phone no	Tour ID	No of persons	Tour date
1	*Hamdi Nasser*	*3389 2514*	*DA*	*8*	*04/03/12*
2	*Aisha Al Haq*	*3374 1978*	*DC*	*2*	*06/03/12*
3	*Chris Mason*	*4452 9017*	*DR*	*8*	*24/03/11*
4	*Ahmed Farouq*	*7784 5197*	*TT*	*4*	*08/03/11*
5	*Belal Fayad*	*4460 1874*	*TT*	*4*	*24/03/12*
6	*Fahad Youseff*	*3390 6628*	*HS*	*5*	*15/03/12*
7	*Amal Al-Naimi*	*7788 1214*	*TT*	*8*	*15/03/12*
8	*Wendy Jones*	*7745 3005*	*DA*	*6*	*10/03/11*
9	*Ameen Muftah*	*3389 3481*	*DA*	*5*	*24/03/12*
10	*Salem Mustafa*	*4463 9366*	*HS*	*4*	*20/03/12*
11	*Roger Stone*	*5525 6814*	*DC*	*6*	*22/03/12*
12	*Ben Walker*	*6698 7183*	*DA*	*4*	*08/03/11*
13	*Azza Mansour*	*5580 3915*	*DA*	*3*	*08/03/12*
14	*David Wei Chang*	*6697 8520*	*DR*	*8*	*08/03/12*
15	*Hamoud Abdelaziz*	*7744 5623*	*HS*	*8*	*22/03/12*

You are required to:

1. Create relationships between the tables.
2. Create a form name it 'Book_21' to table Bookings and edit the Title heading Qatar Tours .
3. Add your name as a footer.
4. Add combo box to field (Tour ID) to choose specific ID.
5. Change font size to 16 New times.
6. Change font colour for first field.
7. Create a query wizard to show (how may Customer have ID (DA)).
8. Create a query wizard to show (tours before 2012).

Activity *16*

BACK TO database Qatar Tours then create new table Tour bookings 2:

Table 3– Tour bookings 2, continued

Booking ID	Customer name	Phone no	Tour ID	No of persons	Tour date
22	*Jassim Ahmed*	*4463 9366*	*HS*	*4*	*20/03/17*
47	*Rashid Mohamed*	*5525 6814*	*DC*	*6*	*22/03/15*
43	*Aisha Alkawari*	*6698 7183*	*DA*	*4*	*08/03/16*
14	*Ali Mansour*	*5580 3915*	*DA*	*3*	*08/03/12*
18	*Salim Al Jassim*	*6697 8520*	*DR*	*8*	*08/03/18*
65	*Mohamed Alyafi*	*7744 5623*	*HS*	*8*	*22/03/16*
75	*Peter White*	*4458 7741*	*DC*	*4*	*15/03/17*
13	*Tammy Harris*	*5544 3716*	*DR*	*4*	*05/03/15*
79	*Essa Hussein*	*5554 4200*	*DA*	*2*	*24/03/18*
64	*Jabir Darwish*	*3358 2341*	*DC*	*4*	*04/03/17*

1. Create relationships between the tables.
2. Create a form from the 'Bookings' table and edit the title to read Qatar Tours on the first line and Bookings on the second line. Both are to be in bold and italics.
3. Save the form as 'Tour Bookings Form'.
4. Add your name as a footer.
5. How many customer are in database. .....
6. How many tours check in were in 2015,2016. .....

Activity 17

Create a database called vehicles Rentals, which contains details of vehicles rented from your company. Create the following tables, ensuring you set appropriate data types. Set date fields to Medium Date Format and Booking Number to auto number.

Table 1 – vehicles details				
Rego no	**Brand car**	**Model**	**Category**	**Rent per month**
25891	*Hyundai*	*Getz*	*Economy*	*160*
56891	*GMH*	*Calais*	*Premium*	*240*
23472	*Toyota*	*Echo*	*Economy*	*156*
12568	*GMH*	*Statesman*	*Luxury*	*280*
87653	*Toyota*	*Corona*	*Intermediate*	*200*
52964	*Hyundai*	*iMax*	*Van*	*216*

Table 2 – Rentals					
Booking no	**Name**	**Licence no**	**Rego no**	**Pickup date**	**Return date**
1	*John Smith*	*8842RL*	*56891*	*2012*	*2013*
3	*Emma Blair*	*2124RL*	*12568*	*2013*	*2015*
4	*Brian Orello*	*7995RL*	*23472*	*2012*	*2014*
5	*Mubarak Ali*	*8344RL*	*52964*	*2011*	*2012*
6	*Vera Chang*	*7645RL*	*87653*	*2014*	*2015*
7	*Nawal Aljabor*	*2951RL*	*25891*	*2012*	*2015*
8	*Luigi Lucetti*	*9345RL*	*52964*	*2013*	*2015*

You are required to:

1. Create relationships between the tables.
2. Create a form name it Car_det inserted the vehicles details table – without Brand car.
3. Add a logo and apply an autoformat of your choice, Insert your name as a footer.
4. Add combo box to field (Brand car) to choose specific Brand.
5. Create Query (How many cars (pickup in 2012) and (return in 2015).

- Back to open (vehicles rental) database.
- Create new table (3)

Brand	Model	Year	Odometer	Sale Price $	Supplier	Date of sale
Mitsubishi	*Nativa*	*2017*	*65239*	*68772*	*Carfax*	*09 01 18*
Toyota	*camry*	*2012*	*45*	*186281*	*Tec Japan*	*14 01 15*
Chevrolet	*Cruze*	*2016*	*86378*	*45780*	*Catchier*	*15 02 17*
Nissan	*Altima*	*2012*	*78658*	*58610*	*Car Nissan*	*12 02 13*
Hyundai	*Santa Fe*	*2011*	*37851*	*98350*	*Hu-car*	*28 02 13*
Honda	*Accord*	*2013*	*96304*	*54263*	*Car Nissan*	*15 01 14*
Mazda	*CX5*	*2015*	*55843*	*79500*	*Hoda- car*	*21 01 16*
Nissan	*Xtrail*	*2012*	*14986*	*114632*	*Car Nissan*	*19 02 13*
Chevrolet	*Trailblazer*	*2018*	*12771*	*148763*	*Carfax*	*25 01 18*
Nissan	*Altima*	*2017*	*441*	*88600*	*Car Nissan*	*26 02 17*
Toyota	*Prado*	*2014*	*63902*	*74335*	*Tec Japan*	*27 01 15*
Mitsubishi	*Outlander*	*2015*	*145313*	*32955*	*Carfax*	*02 02 16*
Toyota	*Corolla*	*2012*	*138947*	*25000*	*Tec Japan*	*13 01 13*

By using filter function (Ascending –Selection –Total) Find:

1. How many cars have odometer less than 86000 KM?

.....

2. How many cars are between 75000 QR – 130000 QR?

.....

3. How many Honda were sold?

.....

4. How many cars have odometer greater than 100000 KM?

.....

Activity *18*

- Create (Emp.company) database.
- Create new table (employers).

Employers					
Department	**Emp Street**	**Emp City**	**Emp State**	**Emp Name**	**Emp Phone**
Commerce	*400 Locust St*	*Jeff City*	*WD*	*JASSIM*	*515-555-0044*
Transportation	*500 Elm St*	*Ames*	*WL*	*HASSAN*	*515-555-3356*
Education	*600 Crocker St*	*Des Moines*	*IA*	*WALID*	*515-555-2222*
Commerce	*700 Beetle St*	*Madison*	*WL*	*AHMED*	*616-555-1155*
Transportation	*800 Ladybug St*	*Madison*	*WI*	*HAMAD*	*616-555-3333*
Health & Safety	*201 Washington St*	*Madison*	*WD*	*KHALF*	*616-555-1425*
Administration	*111 Maple*	*Jeff City*	*MF*	*YOUSIF*	*333-222-1365*
Administration	*3344*	*Jeff City*	*MK*	*MOHAND*	*616-555-8711*

1. Set a primary key on Emp State.
2. Create a form for Employers table without (Emp City) with name Emp_form1.
3. Add your name/class as a footer.
4. Add combo box to field (Emp City) to choose specific city.
5. Add logo of Commerce in the header.
6. **Create query:**

   A. (How many Employees work in Transportation department).

   B. (How many Employees live in Jeff City).

Activity 19

- Back to open (Emp.company) database
- Create new table (positions)

Positions				
Position ID	**Title**	**Career Area**	**Annual Salary**	**Employer ID**
1	*Accounting Technician*	*Business*	*$55,000.00*	*1*
3	*Psychologist*	*Human Services*	*$80,000.00*	*8*
6	*Transportation Engineer*	*Transportation*	*$60,000.00*	*2*
7	*Land Surveyor*	*Transportation*	*$75,000.00*	*6*
8	*Mechanic*	*Transportation*	*$45,000.00*	*8*
9	*Occupational Therapist*	*Health*	*$65,000.00*	*4*
10	*Registered Nurse I*	*Health*	*$66,000.00*	*5*
11	*Information Technology Specialist*	*Information Technology*	*$40,000.00*	*7*
12	*Public Health*	*Health*	*$45,000.00*	*6*
13	*Clinical Dietician*	*Health*	*$42,000.00*	*7*
14	*Health Physicist*	*Health*	*$89,000.00*	*6*
15	*Garage Operations Assistant*	*Transportation*	*$35,000.00*	*5*
16	*Drivers Licence Clerk*	*Administration*	*$36,000.00*	*9*
17	*Resident Treatment Worker*	*Health*	*$41,000.00*	*6*
18	*HVAC Technicial*	*Operations*	*$39,000.00*	*7*
19	*Equipment Operator*	*Construction*	*$39,000.00*	*4*
20	*Construction Technical Specialist*	*Construction*	*$49,000.00*	*8*
21	*Youth Counselor*	*Health*	*$35,000.00*	*2*
22	*Speech Pathologist*	*Health*	*$47,000.00*	*6*
23	*Child Care Counselor*	*Education*	*$32,000.00*	*7*
24	*Custodian*	*Administration*	*$29,000.00*	*3*

1. Create a form for the table and save Set a primary key on position ID: ***positions***
2. Add your name/class as a footer.
3. Change font size to 13 Arial and color it blue.
4. Create query:
   - To show (Annual Salary less than 50 ,000 in Health career Area).

Activity *20*

- Back to open (Emp.company) database.
- Create table (Conventions).

Conventions					
Convention Name	**Convention Type**	**Country Name**	**Emp code**	**Date of Convention**	**Convention Price**
Smart Grid Cyber Security	*Business*	*USA*	*1500*	*04/01/2017*	*$1,200.00*
Airport Leaders Forum	*Business*	*Canada*	*650*	*02/01/2017*	*$650.00*
Mobile & e-Marketing Conference	*Business*	*Mexico*	*1800*	*03/01/2017*	*$1,000.00*
Business Analysis and Planning	*Business*	*Australia*	*1020*	*01/02/2017*	*$750.00*
The Future of Microchip Technology	*Business*	*Japan*	*1000*	*03/02/2017*	*$1,000.00*
FCC Regulations Commission	*Business*	*USA*	*1100*	*01/03/2017*	*$200.00*
Global Change Management Seminar	*Business*	*USA*	*1120*	*02/03/2017*	*$400.00*
Green Jobs and the Economy	*Business*	*USA*	*1200*	*03/03/2017*	*$250.00*
Government Stimulus Applications	*Business*	*USA*	*800*	*01/04/2017*	*$200.00*
Japanese Culture Institute	*Personal*	*Japan*	*2500*	*02/05/2017*	*$700.00*
Mobile Education	*Educational*	*Mexico*	*750*	*03/08/2017*	*$400.00*
Succession Planning	*Business*	*Japan*	*1200*	*01/09/2017*	*$280.00*
Heritage Tour	*Personal*	*USA*	*800*	*02/09/2017*	*$1,000.00*
Talent Management and Retention	*Business*	*USA*	*4000*	*03/09/2017*	*$250.00*

1. Create a form for the table without (Country Name) then Set a primary key on Emp code. ***Conventions***
2. Add your name/class as a footer.
3. Change font size to 15 Arial and -color all fields.
4. Add combo box to field (Country Name) to choose specific country.
5. Create query wizard to show Convention Type (Business) to (USA)and have salary more than $300.

Activity 21

Create a database called 'Plant Nursery'. Use the Datasheet view to enter the following data into a table called 'Planting Season'. Use the appropriate data type. No Primary Key is required.

Item	Category	Price	Planting season
Geranium	*Perennial*	*$8.95*	*Spring*
Lavendar	*Perennial*	*$ 3.95*	*Winter*
Jasmine	*Annual*	*$12.95*	*Spring*
Petunia	*Annual*	*$2.50*	*Spring*
Pansy	*Annual*	*$2.50*	*Spring*
Impatiens	*Perennial*	*$4.50*	*Winter*
Gerbra	*Perennial*	*$8.50*	*Summer*
Calendula	*Annual*	*$5.95*	*Autumn*

1. Create a form called Plant Nursery 2022 for fields (Item-Category-Price).
2. Add an appropriate logo in the header.
3. Add combo box to field (Planting season) to choose specific season.
4. Create new query to show the price greater than $ 8.6- create new query to show the price less than $ 5 in Winter season.

Activity 22

Back to database 'Plant Nursery'. Use the Datasheet view to enter the following data into a table called 'department. then set Primary Key (Rego No).

Department	Name	Monthly salary	Rego No	Pickup date
Accounts	*Jassim Hamad*	*25,000*	*56891*	*08-Jan 2018*
Sales	*Ahmed Badr*	*35,000*	*12568*	*08-Jan2016*
Personnel	*Jaber Said*	*40,000*	*12568*	*10-Jan2018*
Advertising	*Bassem Ali*	*42,000*	*23472*	*15-Jan2015*
Advertising	*Mubarak Ali*	*28,000*	*52964*	*28-Jan2017*
Sales	*Aissa Al Niemi*	*30,000*	*87653*	*02-Feb2018*
Accounts	*Naif Al Jabor*	*36,500*	*25891*	*02-Feb2016*
Personnel	*Hamad Taher*	*45,000*	*52964*	*04-Feb2018*
Accounts	*Ghanem Saoud*	*16,500*	*12568*	*05-Feb2017*
Personnel	*Ahmed Ali*	*40,000*	*12568*	*10-Jan2018*
Advertising	*Omar Mohamed*	*42,000*	*23472*	*15-Jan2015*

1. Create a form called department Plant Nursery 2021:
2. Add an appropriate logo.
3. Design and run a query to show the salary less than 24,000.

Activity 23

1. Create database file called 'chai _com_ 2022'. Then create new table (product):

Products							
Product Code	Product Name	Supplier ID	Category Code	Unit Price	Units in stock	Availability	Cost per unit
01	Chai	1	1	90.00 $	39	No	47.27 $
02	Chang	1	1	95.00 $	17	No	42.02 $
03	Aniseed Syrup	1	2	50.00 $	13	No	31.51 $
04	Chef Anton's Cajun	2	2	110.00 $	53	No	57.78 $
05	Chef Anton Gumbo	2	2	106.75 $	0	Yes	63.03 $
06	Uncle Bob's Organic	3	7	150.00 $	15	No	84.05 $
07	Mishi Kobe Niku	4	6	485.00 $	29	Yes	294.17 $
08	Ikura	4	8	155.00 $	31	No	81.94 $
09	Queso Cabrales	5	4	105.00 $	22	No	57.78 $
10	Queso Manchego	5	4	190.00 $	86	YES	94.55 $
11	Konbu	6	8	30.00 $	24	No	15.75 $
12	Tofu	6	7	116.25 $	35	No	70.39 $
13	Genen Shouyu	6	2	77.50 $	39	YES	45.17 $
14	Pavlova	7	3	87.25 $	29	No	42.02 $
15	Alice Mutton	7	6	195.00 $	0	Yes	157.59 $
16	Carnarvon Tigers	7	8	312.50 $	42	No	273.16 $
17	Gustaf's Knckebrd	9	5	105.00 $	104	No	63.03 $
18	Tunnbrd	9	5	45.00 $	61	No	24.16 $
19	Guaran Fantastica	10	1	22.50 $	20	Yes	10.50 $

2. Set a primary key on Supplier ID:
3. Create relationship between tables in (chai _com) database.
4. Create a form for the table and save as Products 21.
5. Add option button on field (Availability) to select (yes or No).
6. Create report for current table (products) in orientation (landscape) with size A4.

Then convert report (products) to PDF file , use conditional formatting to show Unit Price greater than 100,000 with blue color, compare between values in bar color.

Activity 24

Back to open database file called 'Chai _com_ 2022' Then complete table (product):

Products							
Product Code	**Product Name**	**Supplier ID**	**Category Code**	**Unit Price**	**Units in stock**	**Availability**	**Cost per unit**
21	*Gumr Gummib*	*11*	*3*	*156.15 $*	*15*	*No*	*80.89 $*
22	*Schoggi Schokolad*	*11*	*3*	*219.50 $*	*49*	*No*	*115.56 $*
23	*Rssle Sauerkraut*	*12*	*7*	*228.00 $*	*26*	*Yes*	*189.11 $*
24	*Thringer Rostbrat*	*12*	*6*	*618.95 $*	*0*	*Yes*	*546.32 $*
25	*Nord-Ost Matjesh*	*13*	*8*	*129.45 $*	*10*	*No*	*70.39 $*
26	*Gorgonzola Telino*	*14*	*4*	*62.50 $*	*0*	*No*	*31.51 $*
27	*MascarponeFabio*	*14*	*4*	*160.00 $*	*9*	*No*	*86.15 $*
28	*Geitost sill*	*15*	*4*	*12.50 $*	*112*	*No*	*6.30 $*
29	*Sasquatch Ale*	*16*	*1*	*70.00 $*	*111*	*No*	*47.27 $*
30	*Steeleye Stout*	*16*	*1*	*90.00 $*	*20*	*No*	*47.27 $*
31	*Inlagd Sill*	*17*	*8*	*95.00 $*	*112*	*No*	*47.27 $*
32	*Gravad lax*	*17*	*8*	*130.00 $*	*11*	*No*	*70.39 $*
33	*Côte de Blaye*	*18*	*1*	*1,350 $*	*17*	*No*	*1,305.92 $*
35	*Chartreuse verte*	*18*	*1*	*90.00 $*	*69*	*No*	*47.27 $*
36	*Boston Crab Meat*	*19*	*8*	*92.00 $*	*123*	*No*	*42.02 $*
37	*Jack's New Englan*	*19*	*8*	*48.25 $*	*85*	*No*	*34.67 $*
38	*Manjimup Dried*	*24*	*7*	*265.00 $*	*20*	*No*	*241.64 $*
39	*Filo Mix*	*24*	*5*	*35.00 $*	*38*	*No*	*15.75 $*
40	*Perth Pasties*	*24*	*6*	*164.00 $*	*0*	*Yes*	*91.40 $*

1. Set a primary key on Category Code:
2. Create relationship between tables in (Pet Hotel) database.
3. Create new form for the table and save as (Chai _ Products).
4. Create query to show: How many products Cost per unit less than 40 $.
5. Create report for table , name it (products 22) in landscape orientation with Size A4 use conditional formatting to show Cost per unit less than 50,000 with yellow color, compare between values in bar color.
6. Change font size to 14 and color header report in green color.

Activity 25

1. Create a new database file called 'Pet Hotel'.

   ➥ ***Enter the following data***

Table 1 Pet details					
Pet type	**Pet name**	**Pet owner**	**Vaccinated**	**Arrival date**	**Departure date**
Dog	*Shaggy*	*Bill & Jane*	*Yes*	*16/03/2013*	*22/04/2012*
Dog	*Delilah*	*Mr Hughes*	*No*	*02/02/2012*	*16/02/2012*
Cat	*Fluffy*	*Ahmad Mansouri*	*Yes*	*23/05/2012*	*25/05/2013*
Bird	*Pebbles*	*Faisal Saed*	*Yes*	*09/09/2012*	*20/09/2012*
Mouse	*Squeak*	*Fahad Al Saad*	*No*	*22/08/2012*	*23/08/2012*
Bird	*Peep*	*Ellen Casey*	*Yes*	*20/08/2013*	*27/08/2012*
Cat	*Samson*	*Trace Smith*	*No*	*15/05/2012*	*30/05/2012*
Cat	*Spud*	*Sherif*	*No*	*07/09/2012*	*12/09/2012*
Dog	*Max*	*Hosam Soliman*	*Yes*	*04/06/2012*	*08/06/2013*
Dog	*Spot*	*Jabir Hamad*	*Yes*	*08/04/2013*	*25/04/2012*
Bird	*Nina*	*Pradip Singh*	*No*	*23/07/2012*	*30/07/2012*

2. Create a form called pet1 for fields (Pet type-Pet name-Pet owner) without Vaccinated.
3. Add an appropriate logo in the header. "Pet Hotel 2021".
4. Add option button on field (Vaccinated) to select YES or NO.
5. Create and run a query (pet – Q) to show the how many pets are vaccinated.
6. Create report and display (pet type – pet name – Pet owner)

7 Add the following records.

Table 2 Pet info					
Pet type	**Pet name**	**Pet owner**	**Vaccinated**	**Arrival date**	**Departure date**
Dog	*Max*	*Hosam Soliman*	*Yes*	*04/06/12*	*08/06/12*
Dog	*Spot*	*Jabir Hamad*	*Yes*	*08/04/12*	*25/04/12*
Bird	*Nina*	*Pradip Singh*	*No*	*23/07/12*	*30/07/12*
Bird	*Pebbles*	*Faisal Saed*	*Yes*	*09/09/2012*	*20/09/2012*
Mouse	*Squeak*	*Fahad Al Saad*	*No*	*22/08/2012*	*23/08/2012*
cat	*Peep*	*Ellen Casey*	*Yes*	*20/08/2012*	*27/08/2012*
Cat	*Samson*	*Trace Smith*	*No*	*15/05/2012*	*30/05/2012*

- Design, run and save a query for 'Dog'. Write down the names of the dogs. Save the query as 'Dogs'.
- Design, run and save a query for ‹Cat'. Write down the names of the cats. Save the query as 'Cats'.

Activity *26*

Create a database called ' Gulf_20 '. Use the Design view to enter the following data into a table called 'Employees_qa'. Use the appropriate data type.

No Primary Key is required.

Employees_qa				
Employee name	**Department**	**Start date**	**Monthly salary**	**On staff**
Ahmed Alshahwani	*sales*	*17/03/2009*	*30,000*	*No*
Saif Mahmoud	*Accounts*	*23/04/1996*	*32,000*	*No*
Jassim Ahmad	*Personnel*	*02/05/2003*	*40,000*	*Yes*
Virenda Kumar	*Advertising*	*24/09/2009*	*41,000*	*Yes*
Rasheed Al Matawa	*Advertising*	*19/06/2008*	*23,000*	*No*
Naif Al Mohanadi	*Sales*	*25/04/2007*	*30,000*	*No*
Ahmad Yousef	*Personnel*	*23/11/2001*	*37,500*	*Yes*
Ali Masoud	*Advertising*	*04/08/2005*	*41,000*	*Yes*
Tariq Fathy	*Accounts*	*30/11/2015*	*16,500*	*No*
Hassan Jaber	*Personnel*	*14/06/2006*	*29,000*	*Yes*

- Create a Form (emp) from the table. (all records).
- Create query .emp-Q. Calculate SALARY less than 40.000.
- Create report called Employee Details (Employee name – Department – salary).
- Change orientation (landscape) with size A4.
- Convert report (Employee Details) to PDF file.
- Use conditional formatting to show Monthly salary greater than 30,000 $.
- Compare between values in bar color.

Activity 27

Create a database called Q_MOTOR, Set date fields to Medium Date Format.

Table 1 Motor details

Rego no	Make	Model	Category	Rent per day
25891	*Hyundai*	*Getz*	*Economy*	*160*
56891	*GMH*	*Calais*	*Premium*	*240*
23472	*Toyota*	*Echo*	*Economy*	*156*
12568	*GMH*	*Statesman*	*Luxury*	*280*
87653	*Toyota*	*Corona*	*Intermediate*	*200*
52964	*Hyundai*	*iMax*	*Van*	*216*

Table 2 Department

Department	Name	Monthly salary	Rego no	Pickup date
Accounts	*Jassim hamad*	*25,000*	*56891*	*08-Jan*
Sales	*Ahmed badr*	*35,000*	*12568*	*08-Jan*
Personnel	*Jaber said*	*40,000*	*12568*	*10-Jan*
Advertising	*Mubarak Ali*	*28,000*	*52964*	*28-Jan*
Accounts	*Naif Aljabor*	*36,500*	*25891*	*02-Feb*
Personnel	*Hamad taher*	*45,000*	*52964*	*04-Feb*
Accounts	*Ghanem saoud*	*16,500*	*12568*	*05-Feb*

1. Create relationships between the tables.
2. Create a form from called Q_mot for fields (Name -Monthly salary-Rego no).
3. Add combo box to field (Department) to choose specific Department.
4. Create query (emp -Q) and calculate average Monthly salary.
5. Create report (name – department – salary) only ,name it (depart 22) in landscape orientation with Size A4 use conditional formatting to show Monthly salary less than 25,000 with blue color and compare between values in bar color.

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