



Level 1/2/3 Unit title (0000-[00])

e-Quals

Mock Assignment guide for Candidates

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Level 1/2/3 Unit title (0000-[00])

Mock Assignment

Introduction – Information for Candidates

About this document

This is a mock assignment and does not comprises of any part of the assessment for Level 1/2/3 Unit title (0000-[00]).

Health and safety

You are asked to consider the importance of safe working practices at all times.

You are responsible for maintaining the safety of others as well as your own. Anyone behaving in an unsafe fashion will be stopped and a suitable warning given. You will **not** be allowed to continue with an assignment if you compromise any of the Health and Safety requirements. This may seem rather strict but, apart from the potentially unpleasant consequences, you must acquire the habits required for the workplace.

Time allowance

The recommended time allowance for this assignment is **4 hours**.

Level 1/2/3 Unit title (0000-[00])

Candidate instructions

Time allowance: 4 hours

Mock assignment set up:

This assignment is made up of **four** parts

- A scenario is provided for candidates in the form of a company specification for a new project
- Task A provides a detailed design specification that should be followed by candidates when developing their program
- Task B requires the candidate to test the program and provide documentation
- Task C provides presentation criteria that should be followed by candidates when producing their work

Scenario

You work as a trainee programmer for a local software company. A local motor cycle dealer (Thruxton Motorcycles) is considering adopting a database to store and monitor information about their stock. They have asked your employer to create a simple desktop interface to link to their database.

The interface must show the number of records currently in the database, allow the end user to view the database in a table format and do the following actions:

- display All records
- add, update, delete or cancel changes to a record
- query the database to find those motorbikes that have been sold, are for sale, have engines equal to or less than 500cc and have engines of 500cc or greater
- navigate between the records

A pre-prepared access database (**Bikes.mdb**) containing details of motorcycles both sold and in stock is to be used to develop the program.

The database contains a single table named **mcycles** with the following fields:

Field Name	Data Type	Field Length
StockID	Number – Primary Key	Long Integer
Year	Text	4
Make	Text	20
Engine	Number	Integer
Colour	Text	15
Sold	Yes/No	
Price	Currency	2 decimal places

The screen layout shown below has been agreed with the client and is to be used as a guide when designing the program.

THRUXTON MOTORCYCLES - CURRENT STOCK

Stock ID	Year	Make	Engine size	Colour	Date Sold	Sold	Selling Price
1	2001	Honda	500	Red/White	20/01/2006	<input checked="" type="checkbox"/>	2100
2	2000	Yamaha	900	Pink		<input type="checkbox"/>	2500
3	2007	BMW	1100	Blue	20/01/2006	<input checked="" type="checkbox"/>	2999
4	2003	Kawasaki	900	Yellow		<input type="checkbox"/>	14999
5	2002	Suzuki	250	Yellow		<input type="checkbox"/>	3499
6	2003	Honda	250	Black		<input type="checkbox"/>	8999
7	2001	BMW	800	Black	02/02/2006	<input checked="" type="checkbox"/>	3999
8	2000	BMW	750	Silver	14/01/2007	<input checked="" type="checkbox"/>	6500
9	2006	Honda	1000	Blue		<input type="checkbox"/>	15999
10	2005	Yamaha	500	Silver		<input type="checkbox"/>	3699
11	2004	Moto Guzzi	900	Blue	05/02/2007	<input checked="" type="checkbox"/>	4799
12	2007	BMW	750	Red		<input type="checkbox"/>	3599

Fig. 1

Your employer has given you the task of creating the program in C# which must conform to an agreed specification and to test the program prior to its final implementation.

Task A

In this task you are required to design and create an application to access the external database **Bikes.mdb** with a table named **mcycles** via a data control.

- 1 You are advised to save your work at regular intervals. Save the project as **Thruxton** and the form as **frmBikes**.
- 2 Set the text property for frmBikes to **Thruxton** followed by your name and today's date.
- 3 Using Fig. 1 as a guide, create the form layout with the following controls to display the data:
 - o one label for the heading
 - o one data grid and associated database connectors and adapters
 - o five buttons to be used for queries, with the captions Show All, All For Sale, 500cc or Under, 500cc or Over and Sold with black text
 - o two buttons to be used for managing changes with the captions Update and Cancel with black text
 - o five buttons to be used for navigation with the captions Move First, Previous, Next, Move Last and Exit all with blue text
- 4 When naming controls ensure that naming conventions are maintained.
- 5 Create a form heading **THRUXTON MOTORCYCLES – CURRENT STOCK** using a suitable font size and with a blue fore colour similar to that shown in Fig. 1
- 6 Set the properties of the data controls to connect to the Bikes database and access the table **mcycles**.
- 7 Write code that when **frmBikes** loads the DataGrid is populated with the entire contents of the table **mcycles**.
- 8 Write code for the Update and Cancel buttons that will update or cancel any changes made to a record.
- 9 Write code for the navigation buttons Move First, Previous, Next and Move Last.
- 10 Write code for the Exit that when clicked closes the application.
- 11 Execute the program and check that the DataGrid correctly accesses the database and that the navigation buttons work, correcting any errors.
- 12 Create SQL queries that find:
 - o All current stock (database contents)
 - o All bikes unsold
 - o All bikes sold
 - o All bikes with an engine size of 500cc or less
 - o All bikes with an engine size of 500cc or more
- 13 Create code to assign the queries created above to their respective buttons.
- 14 Execute the program and check that the queries resulted in the correct data being displayed in the DataGrid and correct any errors.
- 15 Adjust the layout of **frmBikes** so that it is similar to that shown in Fig. 1
- 16 Create or locate the EXE file and name it as **Thruxton** and test its operation.

Task B

In this task you are required to test the program prior to its final implementation. All tasks are to be documented.

- 1 Prepare a test plan, create the test data to test the program and document the expected results.
- 2 Using the test plan, test the software; compare the actual results to the expected results and document the outcome for each test on the test log, identifying any discrepancies between actual and expected results and record any amendments made to resolve any logical or run-time errors found.
- 3 Create a short test report that supports the testing and make any recommendations on how the program could be improved.
- 4 Provide screen prints of the program in operation to support any testing.
- 5 Print a listing of the form code for the program (e.g. frmBikes.cs)

Task C

In this task you are required to follow the following criteria when producing your work.

- 1 The program conforms to the design specification.
- 2 The code is structured so that it is easily maintained.

Note

Candidates should produce the following for their assessor:

- Design documentation.
- A printed program listing.
- The test data, test plan, test log and the test report.

At the conclusion of this mock assignment, hand all paperwork and removable media to the test supervisor.

Ensure that your name is on the removable media and all documentation.

If the assignment is taken over more than one period, all removable media and paperwork must be returned to the test supervisor at the end of each sitting.

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