Level 3 Develop software using C# (7266/7267-308)

e-Quals
Assignment guide for Candidates
Assignment B

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Assignment B

Introduction – Information for Candidates

About this document

This assignment comprises part of the assessment for Level 3 Develop software using C# (7266/7267-308).

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**.

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Candidate instructions

Candidates are advised to read **all instructions** carefully before starting work and to check with your assessor, if necessary, to ensure that you have fully understood what is required.

Time allowance: 4 hours

Assignment set up: A scenario is provided for candidates in the form of a company specification for a service they require.

This assignment is made up of **two** tasks

- **Task A** - Design and create software from a given design specification
- **Task B** - Test and document the software

Scenario

You work as a programmer for Hammond Design who develop software for clients. You have been asked to design, create and test the software to access an external database. The interface to the database must enable the user to do the following:

- display individual records
- add a new record
- delete a record
- edit a record
- update a record
- print all records
- cancel amendments for a record.

A database already exists named Travel containing a table tblHoliday which contains holiday details. The table tblHoliday contains the following fields:

Field Name	Data Type	Field Length
HolidayNo (Primary Key)	Numeric	
Destination	Text	20
Cost	Currency, 2 decimal places	
DepartureDate	Date	dd/mm/yyyy
NoOfDays	Numeric	
Available	Logical (Yes/No)	1

The HolidayNo field is a primary key and there cannot be duplicate entries in this field and a zero-length entry is not allowed.

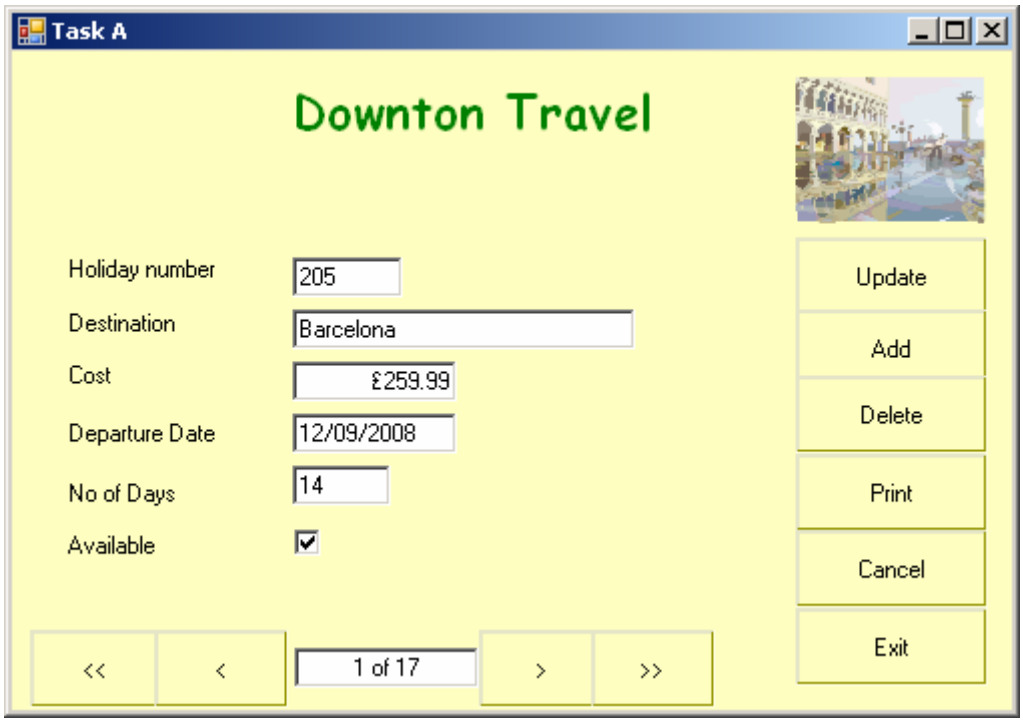
Task A

In this task you are required to design and create software to access an external database (Travel) with a single table via a database connection and a data form.

Copy the database file(s) that you have been given into the same directory as your project. Make a backup copy of the file(s) in another directory.

1 Save the project at regular intervals as you work through the task. Save the form file as frmHoliday and the Project as HolidayDatabase.

2



frmHoliday

Create a data form that shows a single record to appear similar to the form shown above and includes:

- a label for the heading 'Downton Travel' in bold with a different font, a larger font size and in a dark green colour
- six controls and associated labels to display the data for the record
- controls to move to the first, previous, next and last record
- a control to hold a record count in the form n of nn
- six buttons for Update, Add, Delete, Print, Cancel and Exit
- setting the background to a suitable colour
- a control with a suitable image inserted
- the data input controls receiving focus in an appropriate order.

3 Set the Text property of the form frmHoliday to:
Task A *your name* and today's date

4 Make a connection to the database Travel using suitable parameters.

5 Make sure that the formats of the displayed fields are as shown in frmHoliday.

6 Set up the program so that when the form frmHoliday is loaded the dataset is loaded automatically and the data for the first record is displayed in the controls.

7 Write code for the Update, Add, Delete and Cancel buttons.

8 Write code for the controls to move to the first, previous, next and last records.

9 Write code in a function to display the total record count and current record number each time one of the navigation buttons Is used. This will be displayed in the text box associated with the navigation buttons as shown on the form frmHoliday.

10 Insert the code required to handle errors for database access which prevents run-time errors.

11 Write code for the Exit button to terminate the program.

12 Write code to validate the HolidayNo field. This should be in the range 200 to 1000 (inclusive). Output the following error message if the value is not within the range 200 to 1000.

1: Holiday number must be in range 200 to 1000.

13 Write code for the Print button to print out all the records in the database with the fields HolidayNo, Destination, Departure Date, Cost, Available with a layout similar to that shown below where 9 indicates a digit and X indicates an alphanumeric character.
Note the field Available should be printed as either Yes or No.

Downton Travel **Page 99**

Date 99/99/9999

Holiday No	Destination	Departure Date	Cost	Available
9999	XXXXXXXXXXXXXXXXXXX	99/99/99	£999.99	XXX
9999	XXXXXXXXXXXXXXXXXXX	99/99/99	£999.99	XXX
9999	XXXXXXXXXXXXXXXXXXX	99/99/99	£999.99	XXX
9999	XXXXXXXXXXXXXXXXXXX	99/99/99	£999.99	XXX

Task B

In this task you are required to test and document the software created.

1 Create test data to test the Update, Add, Delete, Print and Cancel buttons on the frmHoliday form.

2 Prepare a test plan, test the software, compare the actual results to the expected results keeping a log for each test which identifies any discrepancies between actual and expected results and records any amendments to correct errors.

3 Locate the EXE file and run the executable file to demonstrate the software.

4 Produce end user documentation to show how to use the software.

5 Print a program listing and a screen print of the form frmHoliday.

Candidates should check that the program produced meets the following requirements:

6 The program must conform to the design specification.

7 The program uses the most appropriate controls and events.

8 Meaningful names are used for constants, variables, objects, forms and controls using consistent naming convention.

Note

- Candidates should produce the following for their Assessor.
  - A printed program listing.
  - Screen print of the form frmHoliday.
  - Test data, test plan, expected results, actual results (including printed output), test output and log of testing.
  - End user documentation.
- Ensure that your name is on all documentation.
- If the assignment is taken over more than one period, all paperwork must be returned to the test supervisor at the end of each sitting.

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