Level 3 Develop software using Visual Basic.NET (7266-307)

e-Quals
Assignment guide for Candidates
Assignment A

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City & Guilds
1 Giltspur Street
London EC1A 9DD
T +44 (0)20 7294 2800
F +44 (0)20 7294 2400
www.cityandguilds.com
learnersupport@cityandguilds.com

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Level 3 Develop software using Visual Basic.NET (7266-307)
Assignment A

Introduction – Information for Candidates

About this document

This assignment comprises part of the assessment for Level 3 Develop software using Visual Basic.NET (7266-307).

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 **6 hours**.

Level 3 Develop software using Visual Basic.NET (7266-307) 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: 6 hours

Assignment set up: A scenario is provided below for this assignment.

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

- **Task A** - provides a detailed design specification for software to access a database using a graphical interface.
- **Task B** - provides presentation criteria that should be followed by candidates when producing their work.

Scenario

A software development company, Gamma Designs, is developing a program with a Graphical User Interface (GUI) for use with a client's database. As a contracted employee of Gamma Designs, you have been asked to design, create and test the software to access an external database (EstateAgent) table (Property). The interface to the database table must enable the user to do the following:

- display individual records
- add a new record
- delete a record
- edit a record
- update a record
- cancel amendments for a record
- cancel all amendments made to the table.

A pre-prepared database (EstateAgent) containing property details is to be used. The database contains a single table named Property with the following fields:

Field Name	Data Type	Field Length
Reference number (Primary Key)	Text	5
Property Type	Text	12
No Bedrooms	Numeric	(Integer)
Central Heating	Text	10
Double Glazing	Logical (Yes/No)	1
Garage	Logical (Yes/No)	1
Address	Text	30
Price	Currency, 0 decimal places	

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

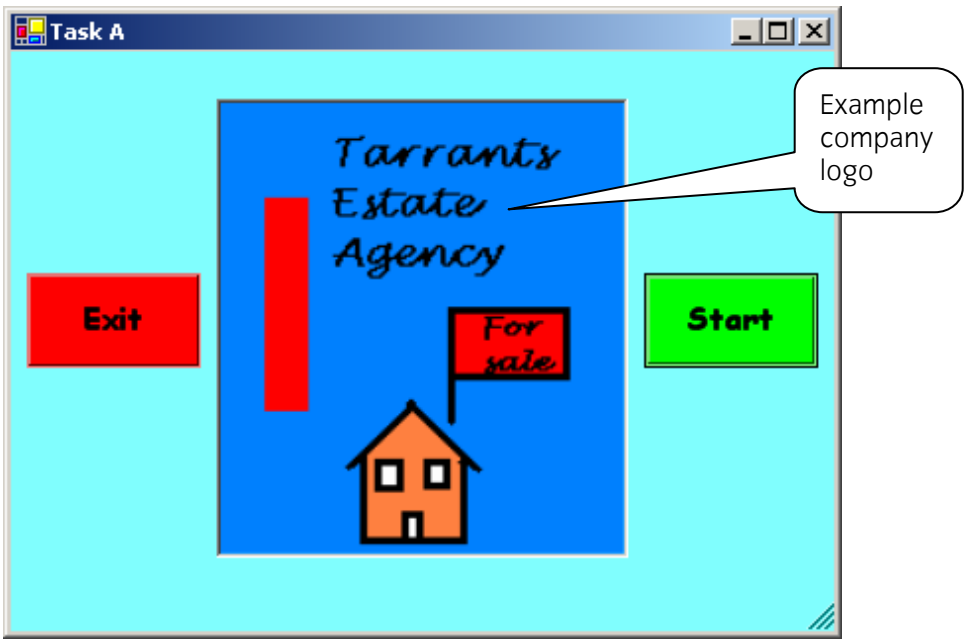
Task A

Candidates should use the following detailed specification to fulfil the company's requirements.

In this task you are required to design, create and test an application to access an external database (EstateAgent) with a table (Property), 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 files in another directory.

The first form displayed should appear similar to the screen image shown below.



frmLogo

1 Save the project at regular intervals as you work through the task. Save the form files as frmLogo and frmProperties and the project as Assignment1.

2 Set the title of the form frmLogo to: Task A Logo your name and the date.

3 Create two button controls for Start and Exit and a picture box control on the form frmLogo.

4 Insert a suitable image for the company logo in the picture box control.

5 For the Start button use a different font, make the font size larger and set the background colour to green.

6 For the Exit button use a different font, make the font size larger and set the background colour to red.

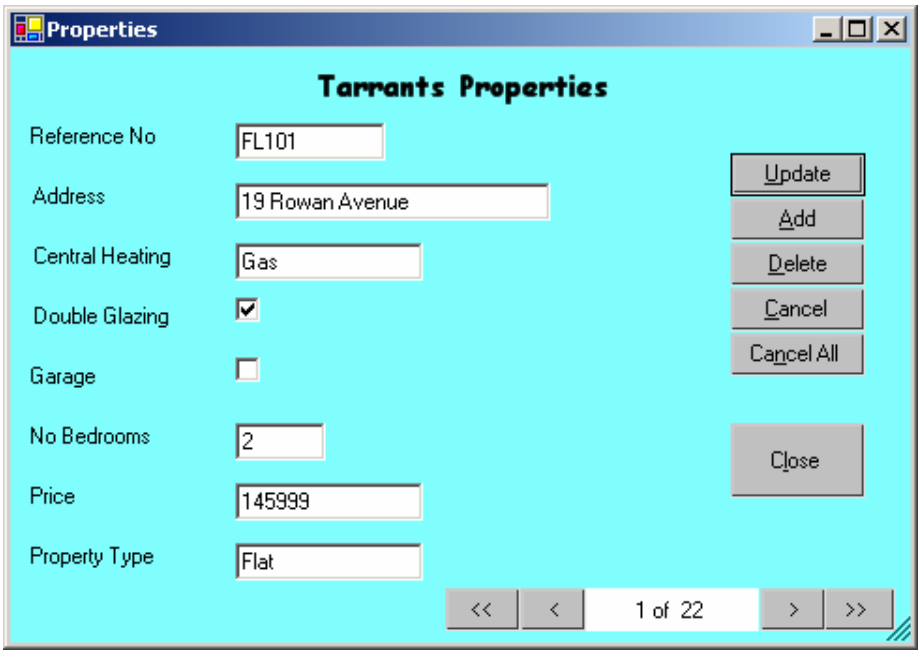
7 Set the background colour of the form to blend with the Start and Exit controls and the company logo image.

8 Write code so that when the user clicks on the Exit button the program terminates.

9 Write code so that when the user clicks on the Start button the form frmLogo is hidden and the form frmProperties is displayed.

10 Make a connection to the database EstateAgent using suitable parameters.

11



frmProperties

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

- a label for the heading Tarrants Properties with a different font and a larger font size
- eight controls and associated labels to display the data for the record
- controls to move to the first, previous, next and last record and a record count
- six buttons for Update, Add, Delete, Cancel, Cancel All and Close adding the shortcuts as shown
- set the background to the same colour as the form frmLogo
- the data input controls receiving focus in an appropriate order.

12 Set the title of the data form frmProperties to: Properties *your name* and the date.

13 Insert code so that when the data form is loaded the dataset is loaded automatically and the data for the first record is displayed in the controls.

14 Insert code for the Update, Add, Delete, Cancel and Cancel All buttons.

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

16 Write code to display the current record number and record total in the form n of nn as shown on the form frmProperties.

17 Insert the code required to handle errors for database access which prevent run-time errors.

18 Write code for the Close button to hide the data form frmProperties and display the form

frmLogo.

19 Use a suitable method to document the code (eg pseudocode, flowchart or structured English) for a new module with a procedure called CentreForm to centre a form on the screen.

20 Create and write the code for the new procedure CentreForm.

21 Insert code to use the CentreForm procedure to centre the forms frmLogo and frmProperties on the screen.

22 Create test data to test the Update, Add, Delete, Cancel and Cancel All buttons on the data form frmProperties and determine the expected results.

23 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 made to correct errors.

24 Locate the EXE file or create if not automatically generated.

25 Run the executable file to demonstrate the software.

26 Print a program listing and screen prints of the forms frmLogo and frmProperties.

Task B

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

1 The program must conform to the design specification.

2 The code must be structured.

3 The program uses the most appropriate controls and events.

4 Meaningful names are used for controls and procedures using consistent naming conventions.

Note

- Candidates should produce the following for their assessor:
  - A printed program listing.
  - Printout of the frmLogo form.
  - Printout of the frmProperties data form.
  - Test data, test plan, expected results, actual results, log of testing and test output.
- At the conclusion of this 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.

Published by City & Guilds
1 Giltspur Street
London
EC1A 9DD
T +44 (0)20 7294 2468
F +44 (0)20 7294 2400
www.cityandguilds.com

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