# Level 3 Software testing (7540-043)

## Systems and Principles
## Assignment guide for Candidates
Assignment A

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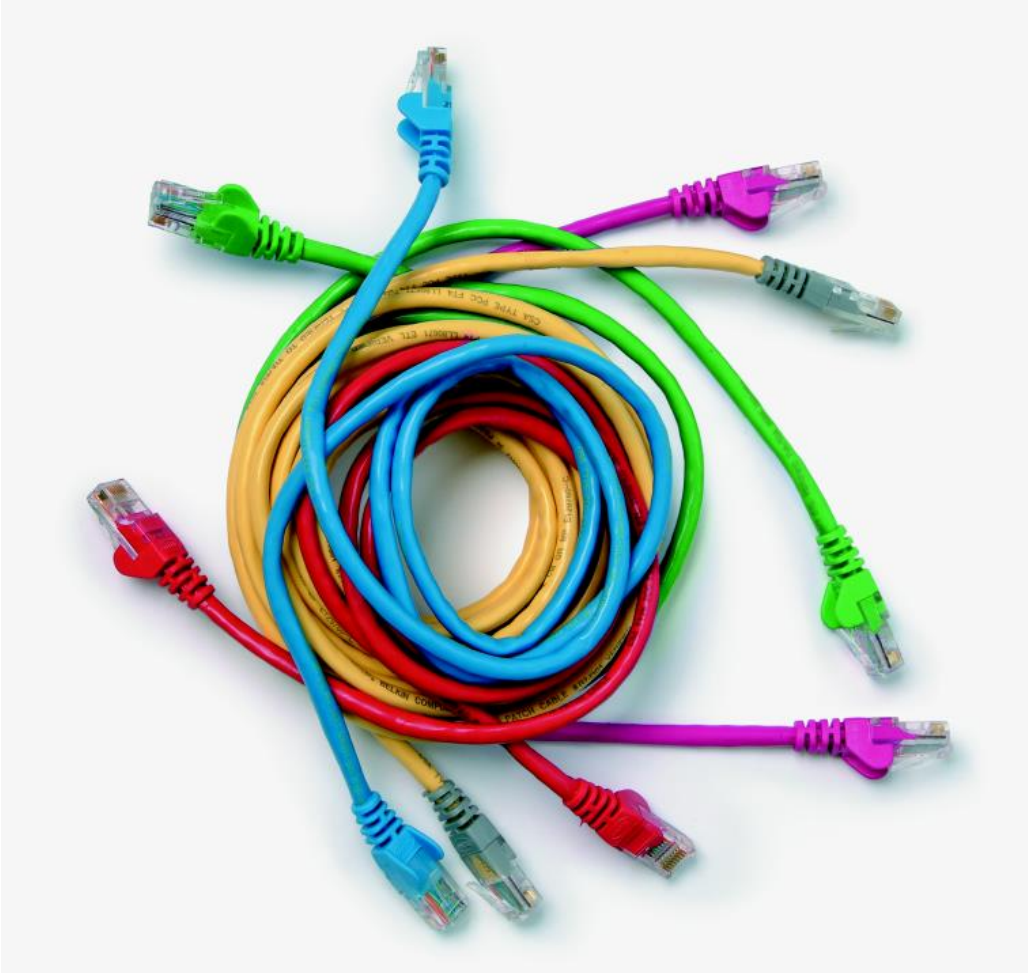

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# Level 3 Software testing (7540-043)
# Assignment A
Introduction – Information for Candidates

## About this document
This assignment comprises all of the assessment for Level 3 Software testing (7540-043).

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## 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 **3 hours**.

# Level 3 Software testing (7540-043)
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: 3 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 **one** task

- **Task A** – provides instructions to test the software.

## Scenario

You work as a software developer for Thackwell Designs who design software for clients. You have been asked to test completed software for motor insurance quotes for an Insurance company - DirectQuote. The specification for the software is supplied in Appendix A.

## Task A - provides instructions to test the software.

In this task you are required to carry out testing of the supplied **QUOTE** software.

1 Prepare a test plan including:
- test specification
- test cases
- test data with expected results
- resources and scheduling

(Testing should include importing the output file from the QUOTE software into a spreadsheet.)

2 Use the test plan and test data to carry out a series of tests and record the actual results in a test log. Add comments for any discrepancies found between the actual and expected results.

3 Provide evidence of testing eg printout of quotes, printout of output file and screen prints, which must be cross-referenced to the testing.

4 Use the test log to produce a report which specifies:
- the presence or absence of errors and
- makes proposals for rectifying errors and
- reports on the success of the test against the original software specification.

5 Please use the Answer Sheet provided to complete Tasks 5-9.

Explain the difference between functional and structural (white box) testing.

6 State which type of testing was used to test the QUOTE software.

7 Describe how automation can be used for software testing and state what type of testing would benefit from using automation.

8 Explain the purpose and scope of integration testing and explain the use of stubs.

9 Explain the purpose of acceptance testing.

## Note

- Candidates should produce the following for their assessor:
    - A test plan with test data and expected results.
    - A test log that records and compares results and comments on any discrepancies
    - A report on test results.
    - Cross-referenced evidence of testing: ie file print, printed output, screen prints as necessary to show test results

When you have finished working:

- Sign each document above your name and label all removable storage media with your name.
- Hand all paperwork and removable storage media to your assessor.

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

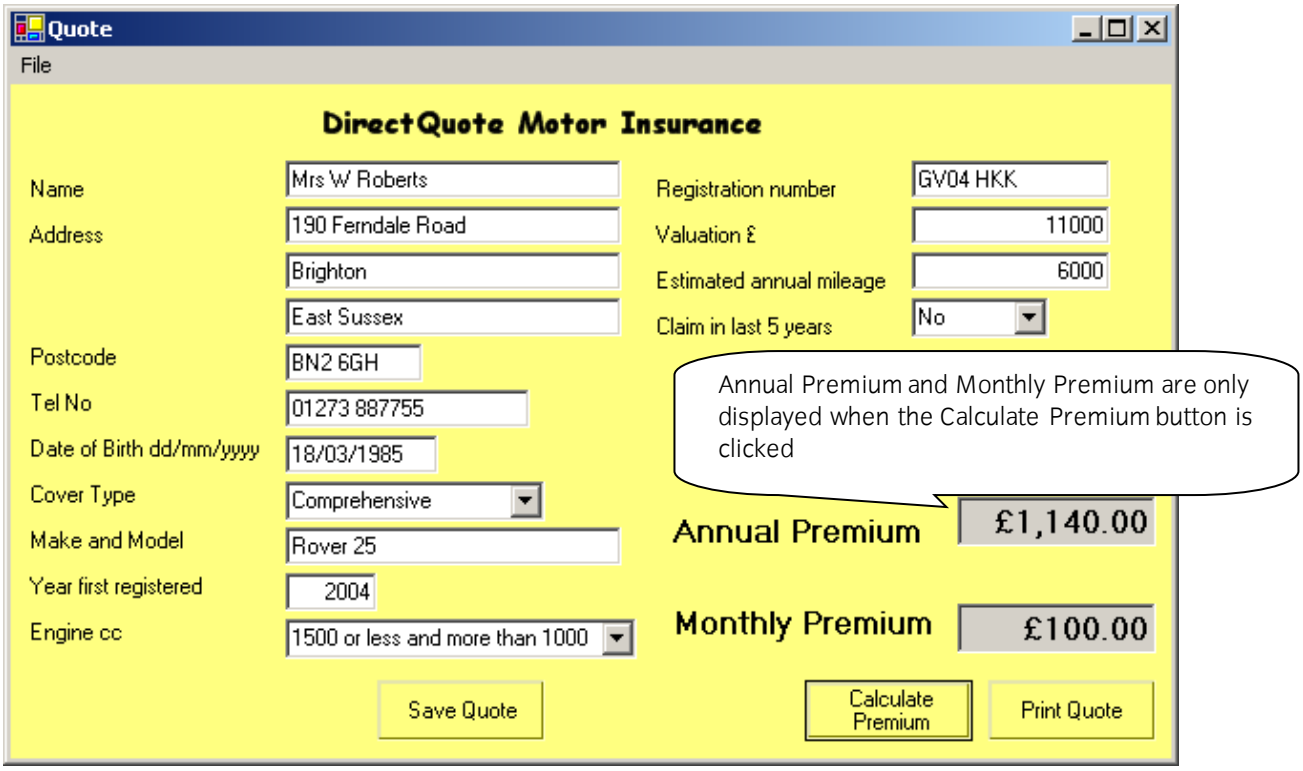
**End of assignment**

# Appendix A

## Specification

The software is to be developed to enable a call centre to be able to provide a quote for motor insurance over the telephone and then send a printed quote out to a customer if required.

The screen layout is shown below:




The input fields for Date of Birth, Year first registered, Valuation, Estimated annual mileage and Claim in last 5 years are validated. The Registration number field must not be blank.

The File menu has the menu options Open, Close, Print Quote and Exit.

The file is saved as a **.txt** file and is opened as Append so that if the file does not exist it will be created otherwise records will be added at the end of the existing file. All the fields for a record are separated by a comma and the last field in the record is saved with a newline character. The Engine cc field is saved with the class letter only ie A, B, C, D or E. The file is to be used as an import file to a spreadsheet application.

The Save Quote button prompts to ask the user if they want to print the quote. If the response is Yes the quote is printed and then the quote record is saved to the file otherwise the quote is not printed and the quote record is saved to the file. All the fields on the screen are cleared and the Annual Premium and Monthly Premium fields are removed from the screen.

The Print Quote button/menu option and Save Quote button print the quote in the following format:

## DirectQuote
## Statement of Insurance

| | |
|---|---|
| Name | Mrs W Roberts |
| Address | 190 Ferndale Road<br>Brighton<br>East Sussex<br>BN2 6GH |
| Telephone No | 01273 887755 |
| Registration number | GV04 HKK |
| Make and model | Rover 25 |
| Year first registered | 2004 |
| Engine cc | Class C |
| Valuation | £11,000 |
| Estimated annual mileage | 6,000 |

| | |
|---|---|
| Period of cover | QUOTATION ONLY |
| Permitted | Use for Social, Domestic and Pleasure purposes only including travelling to and from a permanent place of work |
| Cover Type | Comprehensive |
| Windscreen Cover Included? | Unlimited subject to £75 excess |
| Excess amount | £200 |
| Protected no claims discount | Yes |

| | |
|---|---|
| **Annual Premium** | **£1,140.00** |
| **Monthly Premium** | **£100.00** |

Insurer – DirectQuote Motor Insurance  Date of Issue 02/04/2011
59 Goswell Road
Horsham
RH10 5TY

**Important: If the information given in this assessment is incorrect or incomplete ring us now on 0870 642233**

The Calculate Premium button calculates and then displays the Annual Premium and the Monthly Premium fields according to the rules shown below:

Motor vehicles are classified as Class A – E for insurance purposes.

Customers aged less than 25 who own a Class A – C motor vehicle pay the full rate, but pay 80% of the full rate for a Class D or E motor vehicle.

Customers aged 25 or over pay 80% of the full rate for a Class A motor vehicle, 70% of the full rate for a Class B motor vehicle, 60% of the full rate for a Class C motor vehicle, 50% of the full rate for a Class D motor vehicle and 40% of the full rate for a Class E motor vehicle.

Customers who have made a claim for insurance within the last five years pay the full rate.

Class A – 2000cc or more

Class B – 2000cc or less and more than 1500cc

Class C –1500cc or less and more than 1000cc

Class D –1000cc or less and more than 800cc

Class E – 800cc or less

The full rate for annual Comprehensive cover is £2000.

The monthly premium is calculated as the full rate divided by 12 plus £5.

**Comprehensive insurance rates**
**Decision table**

| **Age less than 25** | **Y** | **Y** | **Y** | **Y** | **Y** | **Y** | **N** | **N** | **N** | **N** | **N** | **N** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Claim in last 5 years | Y | N | N | N | N | N | Y | N | N | N | N | N |
| Class A | | Y | | | | | | Y | | | | |
| Class B | | | Y | | | | | | Y | | | |
| Class C | | | | Y | | | | | | Y | | |
| Class D | | | | | Y | | | | | | Y | |
| Class E | | | | | | Y | | | | | | Y |
| 80% | | | | | X | X | | X | | | | |
| 70% | | | | | | | | | X | | | |
| 60% | | | | | | | | | | X | | |
| 50% | | | | | | | | | | | X | |
| 40% | | | | | | | | | | | | X |
| Full rate | X | X | X | X | | | X | | | | | |

If the estimated annual mileage is 6000 miles or less an extra discount of 5% is applied to the calculated comprehensive rate.

For third party insurance cover the rate is 50% of the calculated comprehensive cover rate.

For the printed output a customer has a protected no claims discount if they have not had a claim in the past five years.

## Error messages

| Error Code | Error message |
|---|---|
| 001: | Cannot open file filename |
| 002: | File already open filename |
| 003: | Cannot save Quote |
| 004: | Invalid Date entered |
| 005: | Invalid Mileage entered |
| 006: | File not open |
| 007: | Invalid age calculated because date of birth invalid |
| 008: | Invalid Registration Year entered |
| 009: | Invalid Valuation entered |
| 010: | Cannot print Quote |
| 011: | Quote not complete, cannot print |
| 012: | Invalid Claim in last 5 years entered |
| 013: | Registration number must be entered |

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