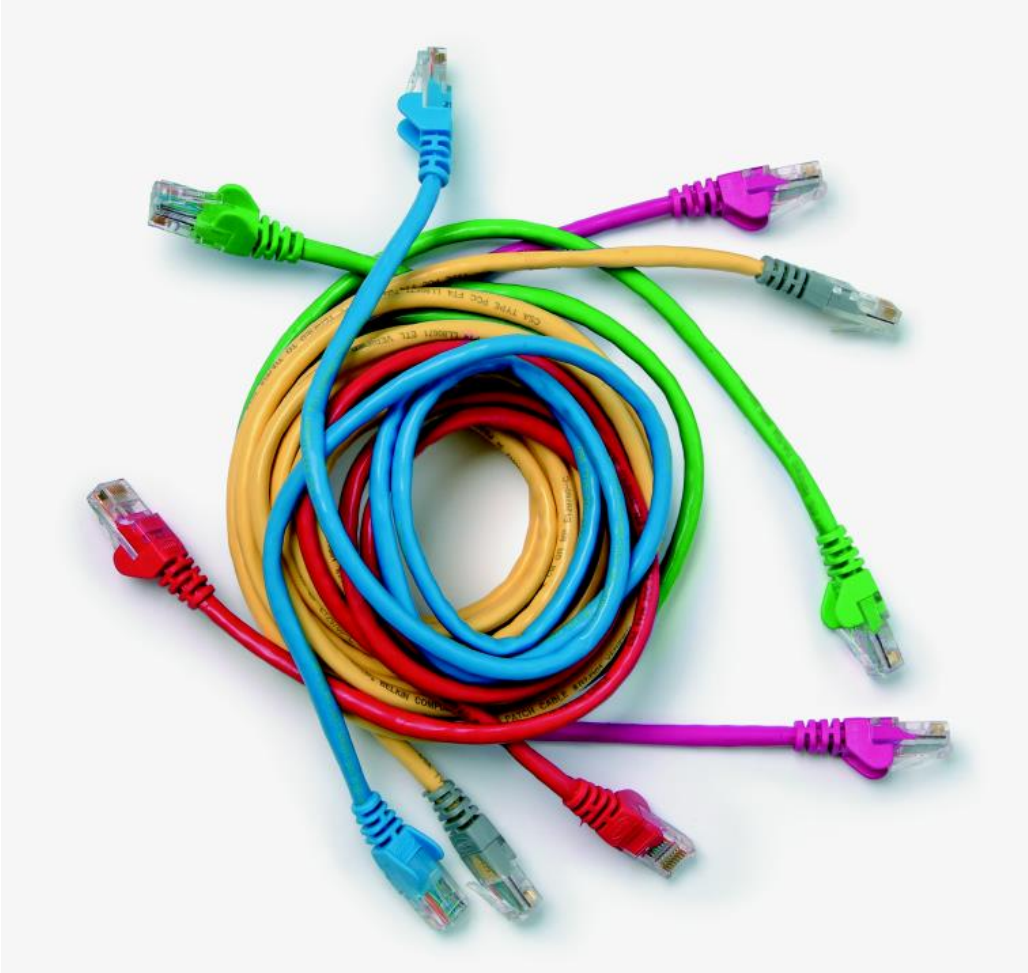
Level 2 Software testing (7540-012)

Systems and Principles
Assignment guide for Candidates
Assignment A

www.cityandguilds.com
October 2017
Version 1.0



About City & Guilds

City & Guilds is the UK's leading provider of vocational qualifications, offering over 500 awards across a wide range of industries, and progressing from entry level to the highest levels of professional achievement. With over 8500 centres in 100 countries, City & Guilds is recognised by employers worldwide for providing qualifications that offer proof of the skills they need to get the job done.

City & Guilds Group

The City & Guilds Group includes City & Guilds, ILM (the Institute of Leadership & Management) which provides management qualifications, learning materials and membership services, NPTC which offers land-based qualifications and membership services, and HAB (the Hospitality Awarding Body). City & Guilds also manages the Engineering Council Examinations on behalf of the Engineering Council.

Equal opportunities

City & Guilds fully supports the principle of equal opportunities and we are committed to satisfying this principle in all our activities and published material. A copy of our equal opportunities policy statement is available on the City & Guilds website.

Copyright

The content of this document is, unless otherwise indicated, © City & Guilds Limited and may not be copied, reproduced or distributed without prior written consent.

However, approved City & Guilds centres and learners studying for City & Guilds qualifications may photocopy this document free of charge and/or include a locked PDF version of it on centre intranets on the following conditions:

- centre staff may copy the material only for the purpose of teaching learners working towards a City & Guilds qualification, or for internal administration purposes
- learners may copy the material only for their own use when working towards a City & Guilds qualification

The *Standard Copying Conditions* on the City & Guilds website also apply.

Please note: National Occupational Standards are not © City & Guilds Limited. Please check the conditions upon which they may be copied with the relevant Sector Skills Council.

Publications

City & Guilds publications are available on the City & Guilds website or from our Publications Sales department at the address below or by telephoning +44 (0)20 7294 2850 or faxing +44 (0)20 7294 3387.

Every effort has been made to ensure that the information contained in this publication is true and correct at time of publication. However, City & Guilds products and services are subject to continuous development and improvement, and the right is reserved to change products and services from time to time. City & Guilds cannot accept responsibility for any loss or damage arising from the use of information in this publication.

City & Guilds
1 Giltspur Street
London EC1A 9DD
T +44 (0)844 543 0000 (Centres)
T +44 (0)844 543 0033 (Learners)
F +44 (0)20 7294 2413

www.cityandguilds.com
learnersupport@cityandguilds.com

Contents

Introduction – Information for Candidates	2
Candidate instructions	3
Appendix	7

Level 2 Software testing (7540-012)
Assignment A
Introduction – Information for Candidates

About this document
This assignment comprises all of the assessment for Level 2 Software testing (7540-012).

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 2 Software testing (7540-012)
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

This assignment is made up of **one** task

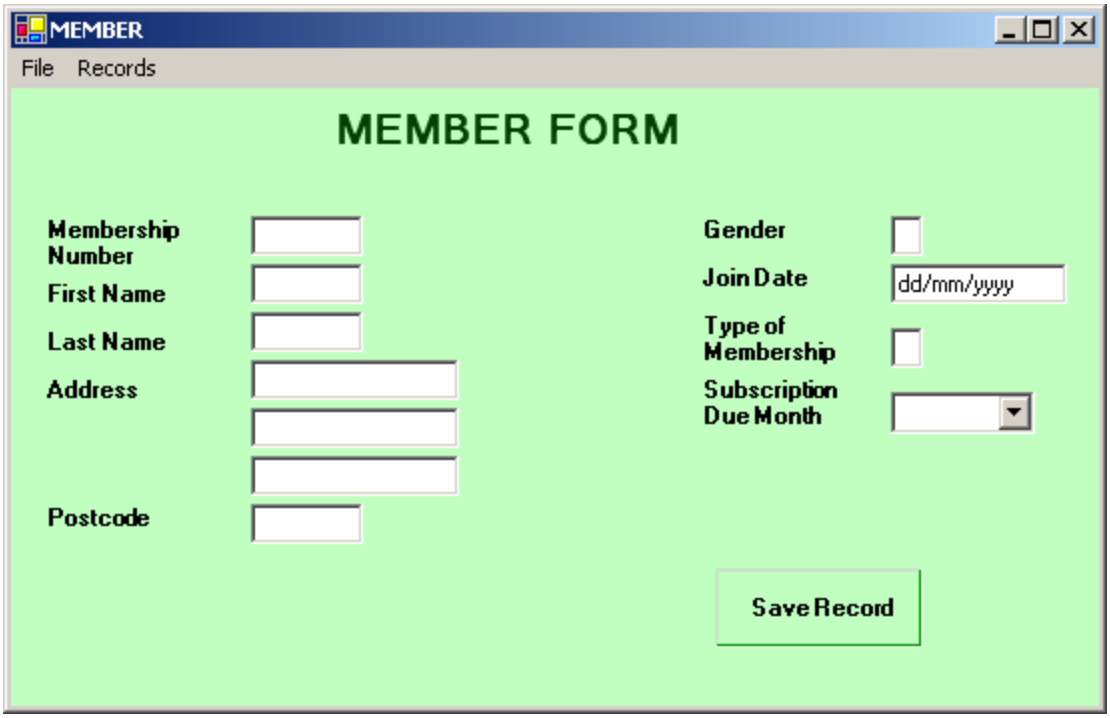
- **Task A** - provides a specification for the software which requires testing.

Scenario

You are employed as a consultant for Global Systems. As an employee of Global Systems, you have been asked to assist in the testing of Member software used to create and maintain membership details for a sports club.

Task A - provides a specification for the software which requires testing.

In this task you are required to carry out testing of the supplied **MEMBERSHIP** software.
The screen input form appears as shown below.



The output file is created as an append file and must be opened as *filename*.txt. The file must be opened before data can be entered, validated or saved. The records are written to the file in text format with each individual field as string data terminated with a carriage return. The file can be opened, read and printed using a text editor eg Notepad.

The software specification requires validation to be performed on the input as shown in the table below.

Field	**Validation**
Membership Number	Not spaces Modulus 11 Must be 6 digits Numeric
First Name	None
Last Name	None
Address	None
Postcode	None
Gender	M or F (Upper or lower case allowed)
Join Date	dd/mm/yyyy Full date check
Type of Membership	F, S, T or B (Upper or lower case allowed)
Subscription Due Month	MMM e.g. Jan

See Appendix A for an explanation of Modulus 11 numbers

The error messages are specified as shown in the table below.

Error Number	**Error Message**
1	1: Membership Number is not numeric
2	2: Membership Number is not 6 digits
3	3: Membership Number is not a valid modulus 11 number
4	4: Gender must be F or M
5	5: Membership type must be F, S, T or B
6	6: Invalid Join Date
7	7: File not open
8	8: File not opened
9	9: Subscription month invalid

The file must be opened before the **Print Records** menu option is selected on the menu. The print layout for the printed records is shown below.

Member Records Page Z9
99/99/9999

Number	First Name	Last Name	Address	Gender	Join Date	Type	Subs Month
999999	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXX XXXXXXXXXX	X	99/99/99	X	XXX
999999	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXX XXXXXXXXXX	X	99/99/99	X	XXX

The digit 9 stands for numeric data, the character X stands for alphanumeric data and the character Z stands for zero suppression eg Z9 would represent the data 01 as 1.
Ten member records must be printed per page and then a new page thrown with a heading.

1 Complete the test plan provided for the test cases by adding the test data and expected results.

2 Use the test plan to carry out the 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 file output and printed output and screen prints where appropriate which must be cross-referenced to the testing.

4 Please use the Answer Sheet provided to complete tasks A4-A6.

Which type of testing would involve linking several software components together, some of which may be skeleton components?

5 What is the final stage of testing?

6 Which type of testing needs to use the actual code of the software to decide which tests are to be performed?

Note

Candidates should produce the following for their assessor:

- A completed test plan with test data and expected results
- A test log that records and compares results and comments on any discrepancies.
- Cross-referenced evidence of testing: ie file print, printed output, screen prints as necessary to show test results
- Completed Answer sheet

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

Modulus 11 check

A modulus 11 check is carried out as follows:

Multiply each digit in the membership number, staring at the right, by the number 1, then 2, then 3 etc.

Multiply by	**6**	**5**	**4**	**3**	**2**	**1**
Membership number	1	3	5	2	7	5
Result	6	15	20	6	14	5

The result of each multiplication is added together.

6 + 15 + 20 + 6 + 14 + 5 = 66

The result of the addition is then divided by the modulus (11).

66 divided by 11 = 6 remainder 0

If the remainder from the division is 0 the membership number is a valid modulus 11 number otherwise the membership number is not a valid modulus 11 number.
The remainder is 0 so the membership number 135275 is a valid modulus 11 number

Published by City & Guilds
1 Giltspur Street
London
EC1A 9DD
T +44 (0)844 543 0000 (Centres)
T +44 (0)844 543 0033 (Learners)
F +44 (0)20 7294 2413
www.cityandguilds.com

City & Guilds is a company registered in England and Wales (company number 16513878)