Level 2 Create software components using COBOL

(7266/7267-203)

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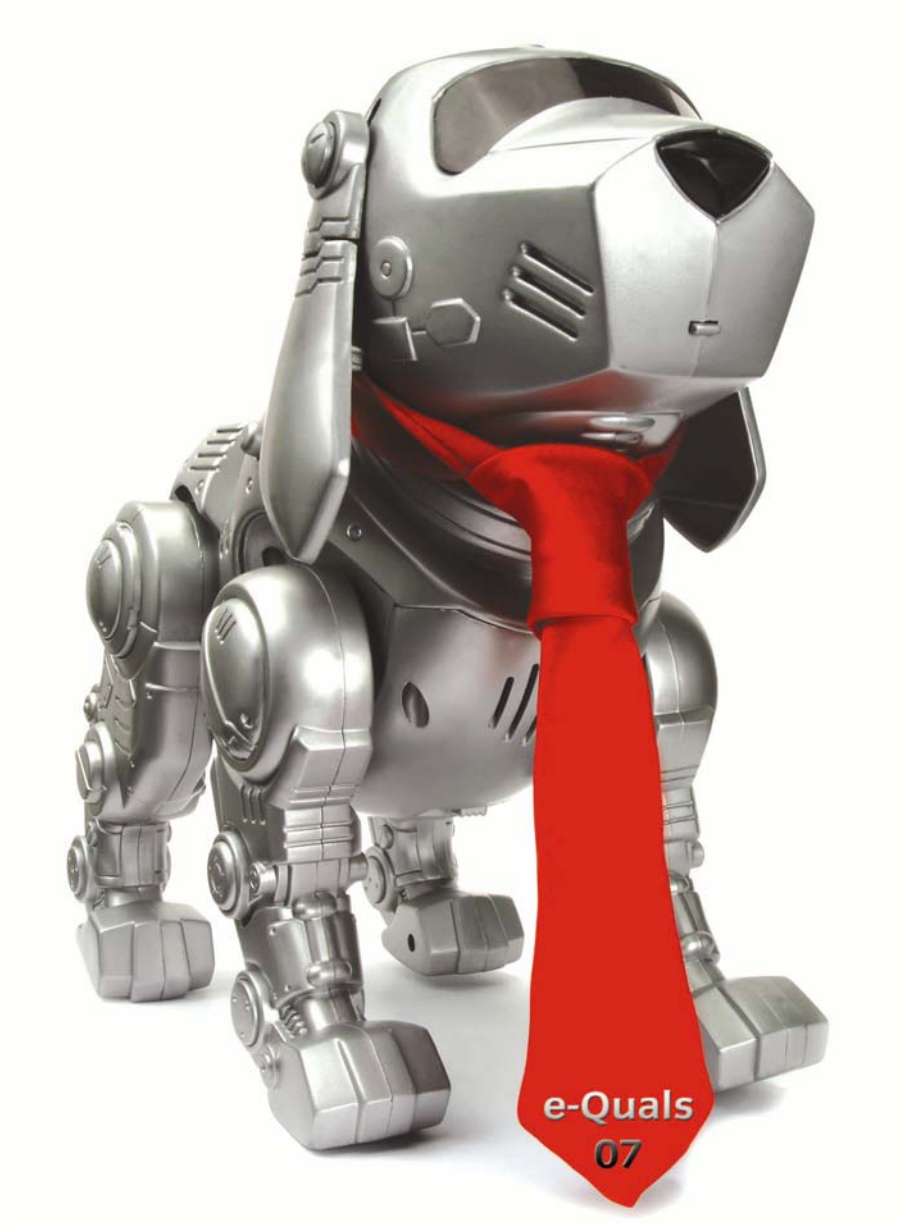
Assignment guide for Candidates
Assignment A



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Level 2 Create software components using COBOL (7266/7267-203) Assignment A

Introduction – Information for Candidates

About this document

This assignment comprises part of the assessment for Level 2 Create software components using COBOL (7266/7267-203).

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 **four** 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: four hours

Assignment set up: A scenario is provided for candidates in the form of a company specification for a new product.

This assignment is made up of two tasks

- **Task A** - provides a detailed design specification that should be followed by candidates when developing their program.
- **Task B** - provides presentation criteria that should be followed by candidates when producing their work.

Scenario

A software development company, Complete Design Solutions, develop software for clients. As a contracted employee of Complete Design Solutions, you have been asked to create and test a program to validate data that is entered via the keyboard.

Task A

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

In this task you will validate students records input via the keyboard, produce an error report and create a sequential file of valid records.
The table below shows the fields in the student records and the validation required.

Name	Type	Length	Validation
Enrolment number	Numeric	6	Modulus 10 check digit. Use 999999 to terminate the program
First Name	Alphanumeric	20	Not spaces
Surname	Alphanumeric	20	Not spaces
Course Type	Alphabetic	1	"F" or "P"
Course Code	Numeric	2	Numeric range 1 to 45 inclusive
Gender	Alphabetic	1	"M" or "F"
Birth Date	Alphanumeric	10 (DD/MM/YYYY)	Days and month should be fully checked

1 Create the DISPLAY screen to allow input of the student records. Use REDEFINES to create the ACCEPT screen.

2 Write the code to validate the input data as shown in the table above.
The modulus 10 check digit for the enrolment number must be checked by evaluating the following formula:

((A*6) + (B*5) + (C*4) + (D*3) + (E*2) + (F*1)) / 10

where A is the highest order digit, B the next and so on. The enrolment number is valid if the division by 10 gives no remainder.

3 Write the code to output valid records to a sequential file in the same format as shown in the table above except that the Birth Date field should be output as numeric in the format ddmmyyyy.

4 Design a layout for a validation report and then write the code to produce the report. The report is to show any input records which contain errors. The report must contain the following:

- A heading at the top of each page which includes a page number.
- The fields in error and why they are incorrect.
- 10 detail lines per page.

5 At the end of the validation report the following totals are to be provided:

- Total number of records in error.
- Total number of valid records.
- Total number of input records.

6 Provide evidence that the program complies with the specification by producing validation reports and file prints.

7 Print a listing of the code.

Task B

Candidates should follow the criteria below when producing their work:

1 The program conforms to the design specification.

2 The program uses the most appropriate data type(s).

3 Meaningful names are used when declaring variables.

4 The program syntax is consistently indented to aid readability.

5 The program is commented.

Note

- Candidates should produce the following for their assessor:
  - Printed program listing.
  - Validation report layout.
  - Evidence that the program works correctly.
- 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.

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