SAMPLE ASSIGNMENT #4: COMPUTER SCIENCE REVISION PROGRAM

The aim of this task is to produce a computer program that will help GCSE students learn the definitions for Computer Science keywords.

The teacher wants to monitor the progress of each student, so the program must allow students to create a username and password to use each time they access the revision program so that their individual name and scores can be recorded.



The computer program must have the following features:

- 1. Students will be given the option to register or login to the system.
 - a. If the student has not registered they must:
 - i. Choose a username 4 to 8 characters in length
 - ii. Create a password of suitable length with at least one number and a mix of upper- and lower-case letters. The username, password and student name will be stored in an external file.
- 2. When the student has registered, each keyword will be displayed with four possible definitions, one of which is the correct answer.
- 3. The student will choose one answer from those displayed:
 - a. If the answer is correct, they score 3 points
 - b. If the answer is incorrect, a message is displayed and they have a second chance
 - c. If the answer is correct on the second attempt, the score is 1 point
 - d. If the answer is still incorrect, the correct answer is displayed
 - e. The student then has the option to try again, view previous scores or quit
- 4. The details of the student results are saved to an external file.

In the final solution, you should demonstrate the use of:

- Data validation
- Random choices for the incorrect answers displayed
- File input and output to store student registration details and scores
- Structured code
- Error handling routines

Source files are provided for this exercise; download them from http://zzed.uk/10583-PA4