Task 2: software design and development (part B)

Program design

Main Steps: Pseudocode

1. Store the endings
2. Enter the number of students
3. Start fixed loop for each student
    4. Enter first three letters of student's name
    5. Generate random number
    6. Generate username
    7. Display the username
8. End Loop

REFINEMENTS

4.1 Start conditional loop

4.2 Get the first three letters of student's name

4.3 If the length of the name is not equal to 3 then

4.4 Display an error message

4.5 End If

4.6 Repeat until the name entered is 3 characters long

6.1 If the first random number was generated add the first stored ending to the end of the first three letters of the student's name

6.2 If the second random number was generated add the second stored ending to the end of the first three letters of the student's name

6.3 If the third random number was generated add the third stored ending to the end of the first three letters of the student's name

6.4 If the fourth random number was generated add the fourth stored ending to the end of the first three letters of the student's name

6.5 If the fifth random number was generated add the fifth stored ending to the end of the first three letters of the student's name

2b Using the program design and refinements, implement the program in a language of your choice. Ensure the program matches the pseudocode provided.

(15 marks)

Print evidence of your program code.

2c Your program should be tested to ensure it will only accept 3 characters.

Complete the test table below

(2 marks)

Type of test	User input	Expected result	Actual result
Normal		Input accepted	Printout of final output to show that input is accepted.
Exceptional		Error message displayed	Printout to show that an error message is generated.

2d Test your program using the following student names.

Chris
Christina
Christopher
Chrethe
Chrisoula
Christie

Provide evidence of the inputs and outputs to show that you have completed the test.

(1 mark)

Candidate name_____ Candidate number_____

2e With reference to your code and testing, evaluate your own program by commenting on the following:

Efficient use of programming constructs in your code. **(1 mark)**
Robustness of your completed program **(1 mark)**
The readability of your code **(1 mark)**

Evaluate the fitness for purpose of the solution

(1 mark)

Candidate name_____ Candidate number_____