

47/100

Question 1

- A. The reason why the function named *InputCostsProcessAndOutputResult* is a poor choice for a program name is because it does not clearly define what the program is about, as it does not clearly identify the whole concept of the program. This suggests that the programmer has not given sufficient attention to the code structure as they have not clearly thought about what the program does before writing the program. However, a better name for the program would be *ProductProfitsThroughoutTheYear* as this clearly states what the program is about and does not become irrelevant.

4

B.

1. Prompt the user to enter a valid username and password ✓
2. Enter validation if the username and password is incorrect ✓
3. If username and password is incorrect after 3 attempts, report user to security administrator ✓
4. Prompt user to enter cost of the product ✓
5. Prompt user to enter selling price ✓
6. Subtract the cost from the selling price ✓

7. Display ~~profit~~ profit

to give profit.

- C. To ensure that the program is running correctly, I would test the program by running it in Visual Studio to see whether the username and password has been inputted correctly. If not, I would expect to see validation which prompts the user to enter the code correctly and repeat the validation again if the username and password is still incorrect. I would then expect to see the user reported to the security administrator if inputted incorrectly for the third time. However, if the username and password has successfully been entered before 3 attempts, I would expect the user to have entered the cost of the product, followed by the selling price. Finally, I would expect to see a correct mathematical calculation of subtracting the cost from the selling price.

Concept fine but need specific tests.

6

Question 2

A.

1. I would begin by prompting the user for their name, weight and height. However, after asking for the user's name, I would use validation to ask the user to enter their weight in kg and their height in metres. I would then begin programming the BMI description which will be used to calculate the user's BMI value based on the data that they entered for their height and weight. This data would contain variables such as int, which is used for whole numbers and double, which is used for decimal values. I would begin this by declaring the variables first, as they will be required for the body of the program. However, I would do this by displaying a theory which would suggest whether the user is underweight, normal, overweight or obese, by using a series of if statements in the code to output this result. I would implement the code by saying that if the user is less than 18.5kg, they are underweight, if the user is greater than 18.5 and less than 25 they are normal, if the user is greater than 25 and less than 30 they are overweight, followed by if the user is 30 and above they are obese.

specific validation?

12

Question 3

- A. To begin solving the problems to implement the code, I would begin by creating a menu which prompts the user to select between calculating the area of a rectangle, calculating the area of a circle and exiting the program. I will then code these options for the user to select from and create a while loop which will prompt the user to select their options. Once the user has chosen their option, I will then prompt them to enter the width and height of the rectangle, by the use of the int variable in order for the program to run successfully. Moreover, when calculating the area of the circle the user must be prompted to enter the radius. However, if the user does not choose to exit the program, I will re-display the menu and prompt the user to select another option. I will then calculate the area of the rectangle by displaying a sum of "AreaOfRectangle = width x height" and will calculate the area of the circle by displaying the formula of "AreaOfCircle = π * radius squared." The output of the calculations will be displayed in the program to show the user whether they have successfully or unsuccessfully calculated the area of the rectangle or the area of a circle. Once completed, the program will close.

specific tests?




```
1  using System;
2
3  namespace TestQuestion2
4  {
5      class Program
6      {
7          static void Main(string[] args)
8          {
9              //CHU15828463 cam churchill
10             //HND Applied Computing
11             //Employability Skills Test
12
13             Console.WriteLine("Hello, please enter your name");
14             string name = Console.ReadLine();
15
16             Console.WriteLine("Please enter your weight in kg");
17             int 25; (Console.ReadLine);
18
19
20
21
22
23
24
25
26         }
27     }
28 }
29
30
```

2


```

1  using System;
2
3  namespace TestQ3
4  {
5      class Program
6      {
7          static void Main(string[] args)
8
9          {
10             //CHU15828463
11             //HND Applied Computing
12             //Employability Skills Test
13
14             Console.WriteLine("Area of rectangle and circle");
15
16             DisplayMenu();
17
18             string opt = ""; not reading option !!
19
20             while (opt != "1" && opt != "2" && opt != "3") ;
21             {
22                 Console.WriteLine("3. Exit"); // this is a while loop until
23                 // option 1, 2 or 3 is selected
24             }
25
26             if (opt == "1")
27             {
28                 Console.WriteLine("Calculate the area of rectangle"); // if
29                 // statement to show what happens if option 1 is selected
30             }
31             if (opt == "2")
32             {
33                 Console.WriteLine("Calculate the area of circle"); // if
34                 // statement to show what happens if option 2 is selected
35             }
36             if (opt == "3")
37             {
38                 Console.WriteLine("Exit"); // if statement to show what happens
39                 // if option 3 is selected
40             }
41
42             static void DisplayMenu()
43             {
44                 Console.WriteLine("1. Calculate area of rectangle");
45                 Console.WriteLine("2. Calculate area of circle");
46             }
47
48             Console.WriteLine("");
49
50             Console.WriteLine("Choose option:");
51
52             Console.WriteLine("Please enter width:");
53             int width = 10;
54
55             Console.WriteLine("Please enter height:");
56             int height = 20;
57
58         }
59     }
60 }

```

Handwritten notes:

- not reading option !!* (next to line 18)
- 2* (circled, next to line 32)
- 12* (written vertically, next to lines 52-56)

