Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

LOCATION: LONDON

LEVEL 4 **LEFEL 4**

EXAMINATION PERIOD **CYFNOD ARHOLIADAU**
JUNE 2021

MODULE CODE: ACCB4017
SOFTWARE DEVELOPMENT

TIME: 2 HOURS

ANSWER ALL QUESTION/S IN PART ONE
ANSWER <u>ANY TWO</u> QUESTIONS IN <u>PART TWO</u>

Equipment or materials required – Computers with Python installed

PART ONE ANSWER ALL QUESTIONS

1. a) What variable type would Python infer for the following values”

24.32 …….....……..…

-2345 …….....……

Baggage …….……..……..…

-34.62 .....……..…

-56 ……..……..…

[1 mark each - 5 marks total]

1 b) What errors are present in the following program to calculate the odd or even number?

```
print("Enter a number)
n=int(input()
if (n %2 =0)
   print("The given number ", n, "is Even number")
else
   print("The given number ", n, "is Odd")
```

[5 marks]

1 c) How many iterations do the following loops have?

i)
```
for i in range(50):
    print(i)
```
……

ii)
```
for i in range(0,10,2):
    print(i)
```
……

[4 marks]

1. d) What is the value of the integer variable *total* after the following code is executed?

```
m=1
for x in range(9):
  sum=total+x
  if(x = = 5):
    sum=0
```

[4 marks]

1 e) Given the following program:

```
Height=[30,42,55,30,41]
```

i) Write the code you would use to print the value stored in the third element of the array on the screen

..... *[1 mark]*

ii) Write the code you would use to add the first and last elements of the array

.... *[1 mark]*

[20 marks total for Question 1]

Part TWO (Answer any two)

1. Calculating the area of a triangle

The area of a triangle is calculated using the formula

$$Area = \frac{1}{2} * b * h, where\ b\ is\ breadth\ and\ h\ is\ height\ of\ a\ triangle.$$

Task:
Write a program to calculate the area of triangle using the above formula.

Allow the user to enter the measurement for *b and h. Try to validate the user inputs..*

[20 marks]

2. Using List

Task:
Define a list called height and enter the following values.

height = [134,145,134,122,121,141,170,180].
Use the list functions available to do the following:

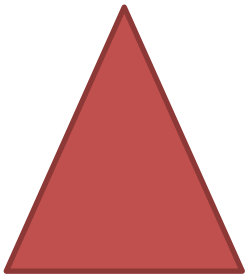
1. Display the created list
2. Insert 190 to the list at 2nd position.
3. Display how many elements in the list
4. Sort the list in ascending order and display the modified list
5. Display the list in reverse order.

[20 marks]

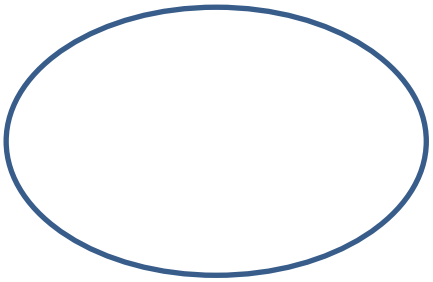
3. Using Turtle

Using Python with turtle, draw the following shape :

a. A triangle (filled with red colour) *[10 marks]*



b. A Circle outlined in blue.



[10 marks]

Diwedd/End