

LOCATION: SWANSEA

LLEOLIAD: ABERTAWE

LEVEL 4

LEFEL 4

EXAMINATION PERIOD
MAY 2019

CYFNOD ARHOLIADAU
MAI 2019

MODULE CODE: ACCA4017
SOFTWARE DEVELOPMENT

TIME: 2 HOURS

ANSWER ALL QUESTIONS

NOTE: IN-CLASS TEST, TIME/DATE TO BE ARRANGED BY LECTURER

Equipment or materials required – Computers with Visual Studio installed

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<i>Candidate Name</i>	
<i>Student ID</i>	
<i>Signed</i>	
<i>Date</i>	

ANSWER ALL QUESTIONS

1. a) Which variable type would be most suitable to store each of the following values?

3.142

123

Jim

79.6

a

-34.52

[1 mark each - 6 marks total]

1 b) What errors are present in the following program to calculate the area of a triangle?

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace ExamQ1b
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Area of Triangle");
            Console.Read("Enter base length");

            double b = double.Parse(Console.ReadLine);
            Console.Write("Enter base height");
            double h = double.Parse(Console.ReadLine())

            area = b * h * 0.5;

            Console.WriteLine("Area of triangle is {}.", area.ToString("0.00"));

            Console.ReadLine();    //pause
        }
    }
}
```

[5 marks]

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

i) for (int index=0; index<12; index++)
 {
 Console.WriteLine(index);
 }

ii) int index=1;
 while(index<6)
 {
 Console.WriteLine(index);
 index = index + 1;
 }

[4 marks]

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

```
int total=1;  
for (x=0; x<7; x++)  
{  
    total=total+x;  
    if(x == 4)                   .....  
    {  
        total=0;  
    }  
}
```

[3 marks]

1 e) Given the following program:

```
void main()  
{  
    int x = 3;  
    if( x .... )  
    {  
        Console.WriteLine("x does not exceed 3");  
    }  
    .....(x.....)  
    {  
        Console.WriteLine("x exceeds 5" );  
    }  
    else  
    {  
        Console.WriteLine ("x is " + x );  
    }  
}
```

i) Write the code you would use to test x in the first condition:

..... [1 mark]

ii) Write the code you would use to test x in the second condition x:

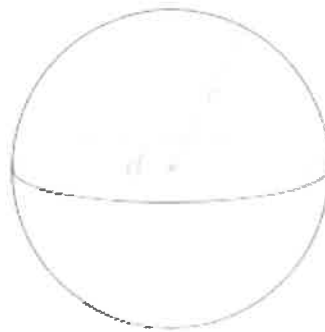
..... [1 mark]

[20 marks total for Question 1]

2. Calculating the surface area of a sphere

The surface area of a sphere is calculated using the formula:

$$A = 4\pi r^2$$



Task:

Write a program to calculate the volume using the above formula displaying the answer in a suitable message and showing value to 2 decimal places.

Allow the user to enter the measurement for r . You may set PI as 3.142

[10 marks total for Question 2]

3. Using arrays

Task:

Prompt the user to enter 5 temperatures into an array (in Celsius).

After the temperatures have been entered, print each of the values on the screen using a loop.

After this, convert the five temperatures to Fahrenheit and print them on the screen to two decimal places.

*Formula: Fahrenheit = (Celsius * 9/5) + 32*

[15 marks total for Question 3]

4. Using Array Search Pattern

Ask the user to enter 8 names.

Ask the user to enter a search name.

Search the previously entered names for the search name.

Either display a message “Found It” or a message “Failed to find it”.

[15 marks total for Question 4]

Diwedd/End

