Document Details			
Version Number	**Last Updated**	**Developed/Edited By**	**Validation Date**
1.0	**30/01/2018**	**Godwin**	**December 2017**

Training Package	ICT Information and Communications Technology Training Package
Qualification Title	ICA40515 AWF2 Certificate IV in Programming
Course Title	Programming I
Assessment Title	AT1 - Portfolio

Brief Description of Assessment Task

A Portfolio of 4 questions which should be completed by the end of the session as referred in the Delivery and Assessment Plan.

Q.1 – Multiple IF/ELSE statement,
Q.2 – SWITCH/CASE statement,
Q.3 – WHILE/FOR loop
Q.4 – Logic Problem

Units of competency, elements to be assessed

National Code	SIN	Competency Title	Elements of Competency
ICTPRG414	AUV79	Apply introductory programming skills in another language	1.Apply basic language syntax and layout 2.Code using data structures 3.Code using standard algorithms 4.Debug code 5.Document activities 6.Test code
ICTPRG405	AUV52	Automate processes	1.Develop algorithms to represent solution to a given problem 2.Describe structures of algorithms 3.Design and write script or code 4.Verify and review script or code 5.Document script or code

Date of Assessment	Session 2	**Completed by**	Session 4
Instructions to Students	The analysis, design, coding, testing and simple documentation of a C#.NET application as described on the following page.		
Resources Required	Reference books / Internet / Blackboard / Visual Studio 2017		
Instructions to Lecturer/Assessor	Collect and assess all portfolio activities at the end of the session.		

Lecturer's Details (Add your Lecturers details below)

Name	
Email	
Campus	

Students to sign this document when submitting an assessment

Date Submitted:	

STUDENT DECLARATION

- I have read and understand the details of the assessment.
- I have been informed of the conditions of the assessment and the appeals process.
- I agree to participate in this assessment.
- I certify that the attached is my own work.

Student ID	Student Name	Student Signature

Assessment Feedback (Lecturer and Student Copy)			
Assessment Title	AT1 Portfolio		
Candidate name		**Attempt No**	
Assessor name			
Performance demonstrated by this assessment is	Satisfactory ❑	Not Yet Satisfactory ❑	
	Assessment outcome and feedback received on	Date	
Assessor Comments:			
Candidate signature: *(once feedback has been received)*		**Date**	
Assessor signature: *(once feedback has been provided)*		**Date**	

Portfolio Assessment AT1

Q.1 Write a Console Application that reads from the console a series of three integers and displays the smallest and largest of them. Use the following pseudo code;

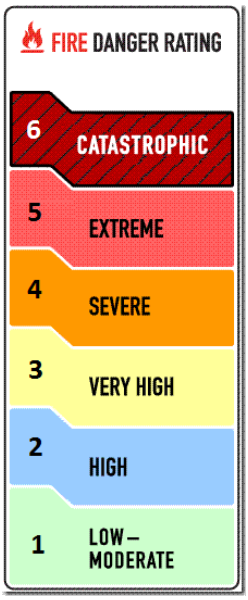
```
Integer num1, num2, num3
Read num1 from keyboard
Read num2 from keyboard
Read num3 from keyboard
If (num1 > num2) && (num1 > num3)
      Display num1 is largest
      If (num2 > num3)
            Display num3 is smallest
      Else
            Display num2 is smallest

If (num2 > num1) && (num2 > num3)
      Display num2 is largest
      If (num1 > num3)
            Display num3 is smallest
      Else
            Display num1 is smallest

If (num3 > num1) && (num3 > num2)
      Display num3 is largest
      If (num1 > num2)
            Display num2 is smallest
      Else
            Display num1 is smallest
```

Use the following test table to test your program

Test Case	Data	Expected Result	Actual Result / Comment
Case 1	num1 = 2 num2 = 5 num3 = 7		
Case 2	num1 = 5 num2 = 3 num3 = 7		
Case 3	num1 = 7 num2 = 5 num3 = 1		
Case 4	num1 = 7 num2 = 5 num3 = 5		
Case 5	num1 = 7 num2 = 7 num3 = 1		
Case 6	num1 = 6 num2 = 6 num3 = 6		

Q.2 Write a Console Application that reads the Fire Danger Rating (integer input) and then displays the Fire Danger Category as a message with background colour and text which is calculated from a CASE statement. Use the following pseudo code and colour chart;

```
Integer fireLevel
Read fireLevel from keyboard
Switch(fireLevel)
      Case : 1
            Display (Green : Low-Moderate)
      Case : 2
            Display (Blue : High)
            .
            .
            .
      Case : 2
            Display (Red-Black : Catastrophic)
      Default :
            Display (error)
End of Switch
```



Create a flow diagram of your program using the following symbols;

Symbol	Name	Function
	Start/end	An oval represents a start or end point
	Arrows	A line is a connector that shows relationships between the representative shapes
	Input/Output	A parallelogram represents input or output
	Process	A rectangle represents a process
	Decision	A diamond indicates a decision

Q.3 Write a Console Application that will display all the numbers from 19 down to 7 inclusively. After each iteration (loop) the program will display the number. Use the following pseudo code.

```
Boolean sentinel  //initialised?
Integer counter
Integer minValue

While (sentinel)
      If (counter > minValue)
            Display (counter)
      Else
            sentinel = false
      counter--
End While
```

Use the following test table to test your program

Test Case	Data	Expected Result	Actual Result
Case 1	sentinel = true counter = 19 minValue = 7		
Case 2	sentinel = true counter = 7 minValue = 19		
Case 3	sentinel = false counter = 19 minValue = 7		
Case 4	sentinel = true counter = 7 minValue = 7		

Q.4 Create a Console Application that will loop through a series of numbers and divide each one with a Divisor. If the division has no remainder then display the value. Use the modulus operator to determine the remainder.

```
Integer divisor
Read divisor from keyboard

Integer numLoops
Read numLoops from keyboard

Integer result

If (numLoops >= divisor)
      For (x = 1 to numLoops)
            result = x % divisor
            If (result == 0)
                  Display (x)
            End IF
      End FOR
End IF
```

Create a flow diagram of your program using the following symbols;

Symbol	Name	Function
	Start/end	An oval represents a start or end point
	Arrows	A line is a connector that shows relationships between the representative shapes
	Input/Output	A parallelogram represents input or output
	Process	A rectangle represents a process
	Decision	A diamond indicates a decision

End of Assessment Task 1

For each of these four questions submit the respective Program.cs file and associated word documents as a single zip file (You can rename the Program.cs file to Question1, 2, 3 and 4).