TOI-OHOMAI
Institute of Technology

COMP.5202 Fundamentals of Programming & Problem Solving

Semester 2, 2017

Assessment	Type of Assessment	Due	Marks	Weighting
Test #1	Practical programming test	4 September 2017, 10:10am – 12:00pm	100 Marks	30%

Learning outcomes Assessed:

1. Apply programming concepts and tools to system management tasks

4. Demonstrate programming using core logic and mathematical concepts such as problem solving methods, critical thinking, abstract reasoning; and systems thinking.

Instructions

You have 105 minutes to complete this test.

This test is an individual practical test to be completed in class using Microsoft Visual Studio Code.

Please clarify any aspect of the test of which you are unsure of with your lecturer.

You are required to create 4 repositories on Github and submit the links to those 4 repositories on Moodle.

For each problem you are required to create a flow diagram and add the relevant pseudocode.

> The names for the repositories should be in the follow format:
> <student-id>-Task-Langauge
>
> **For example:**
> 9980349-problem01-csharp or 9980349-problem01-js

NOTE: This assessment contributes to 30% to your overall grade in COMP.5202

1.

Write a C# and Javascript program that compares 2 numbers by user input.

You will need to show the user if the number is bigger, equal to or smaller than each other

- Tell the user what the program is about
- Ask the user for 2 numbers
- Use a single if / else statement to workout what needs to be displayed to the user
- Print the answer of the comparison to the user

Example Answer

```
=================================================================
This program will check to numbers and see which one is greater.
=================================================================
Please type in number 1
23
Please type in number 2
34
Number 2 is greater than number 1

Press <Enter> to quit the program
█
```

Make sure to include:

Make sure you include the following:

- Clear pseudocode
- Watch your syntax (casing and indentation)
- If your program does not work, still push it up to GitHub

For Javascript specifically:

- Use ES6 syntax

2.

Write a C# and Javascript program that divides a number less than 100 by 12 and shows each division from 1 to 12
Use a loop to achieve this.

- Tell the user what the program is about
- Ask the user for 1 number
- Use a if statement to check if the number is less than 100
- Use a loop to print out the 12 equations
- Make sure the answer is displayed as a double so that the numbers can show decimal numbers.

Example Answer 01

```
==============================================================================
This program will display the division tables of 1 to 12 based on a number input
==============================================================================
Please type in a number less than 100
120
The number is greater than 100
```

Example Answer 02

```
==============================================================================
This program will display the division tables of 1 to 12 based on a number input
==============================================================================
Please type in a number less than 100
56
56 / 1 = 56
56 / 2 = 28
56 / 3 = 18.6666666666667
56 / 4 = 14
56 / 5 = 11.2
56 / 6 = 9.33333333333333
56 / 7 = 8
56 / 8 = 7
56 / 9 = 6.22222222222222
56 / 10 = 5.6
56 / 11 = 5.09090909090909
56 / 12 = 4.66666666666667
```

Make sure to include:

Make sure you include the following:

- Clear pseudocode
- Watch your syntax (casing and indentation)
- If your program does not work, still push it up to GitHub

For Javascript specifically:

- Use ES6 syntax
- Print the answer to the console (do not use alert())