WRAV101: Practical 1

Objectives

- Getting to know the Visual Studio environment
- Using variables, basic expressions and operators
- Reading inputs from the user

NB: Check out the steps below regarding getting started, saving the program (after completing a program), starting a new program and submitting your work.

Process to complete your tasks

1. Open "Microsoft Visual Studio".
2. Follow the instruction in the slides (or video) to create a new console application.
3. Pay attention to where you save your project, so you can easily access it again for submission.

How to save your program for later use?

1. Use the **File/Save All** option. This saves it in the location you identified in the beginning.

How do I start a new program?

1. Save the current program (see above)
2. Choose **File/New/Project** in Visual Studio and repeat as with Task 1.

How do I submit my work?

1. Download the file P1 template.docx file from the Week 01 section in Moodle. Open MS-Word on your computer. If you do not have Word installed on your computer yet, you can go to the Student portal, and follow the link to install Office 365 *(use your NMU credentials when required to sign in)*.
2. For each task, copy your code from Visual Studio to the provided space under the relevant heading. *Start to copy from the namespace line – up to the last curly bracket.*
3. When you are ready to submit, return to the Moodle site and upload your word document using the Practical 1 link (located in the Week 02 section).

Task 1

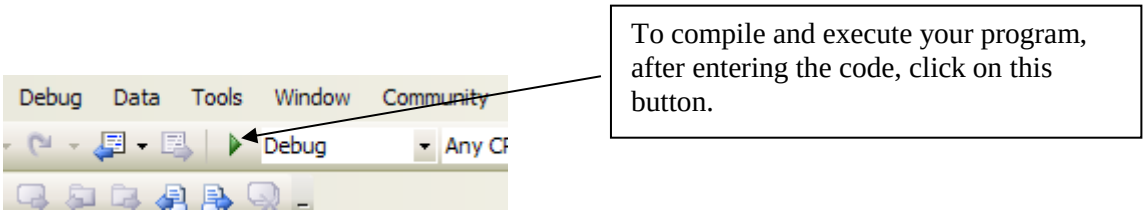
Name your project P1T1 (short for Prac1 Task1)

The following code will now be displayed:

```
using System;
using System.Collections.Generic;
using System.Text;

namespace P1T1
{
 class Program
 {
    static void Main(string[] args)
    {
    }
 }
}
```

Make the required changes to make this code write "`Hello World`" on your screen.



Be sure to save your file.

Task 2

Create an new project, and name it P1T2 (short for Prac1 Task2)
Make the required changes to make the code write the following on your screen:

```
Good afternoon.
How are you?
I hope you enjoy the course!
```

Be sure to save your file.

Task 3

Create an new project, and name it P1T3 (short for Prac1 Task3)
Make the required changes to make the code write the following on your screen:

```
    *
   ***
  *****
 *******
    *
    *
```

Be sure to save your file.

Task 4
Create a new project, and name it P1T4

Write a program that declares four integers. The user is requested to enter the values of the 4 variables and then the sum and average of these values must be calculated and displayed.

Task 5
Create a new project, and name it P1T5

Write a program that requests a number of minutes from the user and then displays the following (Assuming the user entered 130 minutes).
Hint – make use of the / and % operators

```
130 minutes is 2 hours and 10 minutes
```

Task 6
Create a new project, and name it P1T6

Write a program that requests the following information from a user:

- Name
- Wage per hour
- Number of hours worked

It should then display a message with this format:

```
Name       : David
Wage/hour  : R45.00
No Hours   : 6
Total Wage : R270.00
```

Task 7
Create a new project, and name it P1T7

Write a program that requests from a user the number of pies (at R18.50 per pie) and the number of hamburgers (at R35.00 per hamburger), and then calculates the total for the order.

Now extend this program to request the amount paid by the user, before calculating the change that needs to be paid out.

Challenge: Can you calculate and display the exact coins and notes that are needed to make up the change (least amount of notes and coins)?

For example, R13.50 change will need the following: 1xR10.00, 1xR2.00, 1xR1.00 and 1x50c

Task 8
Create a new project, and name it P1T8

Write a program that requests the following from the user:

- distance travelled (kilometres)
- fuel consumption for the trip (litres)
- cost of fuel per litre

The program must then give as output:

- The cost of fuel to travel the provided distance
- The fuel consumption of your car (given km/litre as well as litres/100km)

Have fun and do not panic!!