# SCIT, University of Wollongong
# CSIT110/CSIT810
# Autumn Session 2018

## **Assignment 3 (5%)** due on **Sunday 8 April 2018 23:59PM**

**Objectives**

- Able to write clear code with comments and follow coding convention
- Able to use escape sequences
- Able to use string format
- Able to use output alignment
- Able to get user input
- Able to use arithmetic operations and functions

**Instructions**

Put all your python code into a single file and submit it via the eLearning site (Assignment 3 Submission on Moodle).

You may be asked questions about your code in the lab. Your **marks will be deducted** if you could not answer the questions presented by the tutors.

Late submissions will be marked with a 20% marks deduction for one day late, including weekend. Submissions more than 3 days late will not be marked.

If you need an extension, please apply for an Academic Consideration through SOLS on or before the assignment due date.

Plagiarism is treated seriously. If we suspect any work is copied, all students involved are likely to receive zero for the entire assignment.

**Assignment questions.**

Write clear code with **comments** and follow **coding convention**. Comments should include your name, student number and subject code on top of your code.

**Question 1.** Write a program to ask the user to enter 3 subject details and then display this information in **two parts**. Below is how your program should work. The text in **bold** indicates user input.

```
Enter the 1st subject code: MATH 101
Enter the 1st subject title: Linear Algebra
Enter the 1st subject credit point: 9

Enter the 2nd subject code: CS 203
Enter the 2nd subject title: Data Structure with Java
Enter the 2nd subject credit point: 10

Enter the 3rd subject code: STAT 001
Enter the 3rd subject title: Introduction to Logic
Enter the 3rd subject credit point: 8

PART A: Display subject details using string addition.

Chosen subjects:
MATH 101 - "Linear Algebra"
CS 203 - "Data Structure with Java"
STAT 001 - "Introduction to Logic"
Total credit points: 27.

PART B: Display subject details using string format.

Code                            Title                    Credit Point
MATH 101                    Linear Algebra                          9
CS 203                Data Structure with Java                     10
STAT 001               Introduction to Logic                        8
Total                                                              27
```

Note that:

- Credit point is an **integer** value and you do **not** have to check user input.
- PART A: You must use **string addition** and **escape sequence**.
- PART B: You must use **string format**. The **length of each column** is up to your decision, however, the program has to produce the **exact alignment** as above.
- You should use the **same variables** for PART A and PART B.

**Question 2.** Write a program to ask the user to enter an amount of money to borrow from a bank and an interest rate. Then display a statement for 5 years as in the following example:

```
Enter an amount to be borrowed:  100000
Enter the interest rate (in percentage):  2.6

                Start of year    Interest at 2.6%         End of year
Year 1                $100000              $2600             $102600
Year 2                $102600              $2668             $105268
Year 3                $105268              $2737             $108005
Year 4                $108005              $2808             $110813
Year 5                $110813              $2881             $113694
```

Here is another example:

```
Enter an amount to be borrowed:  1000
Enter the interest rate (in percentage):  1.05

                Start of year   Interest at 1.05%         End of year
Year 1                 $1000                $10               $1010
Year 2                 $1010                $11               $1021
Year 3                 $1021                $11               $1032
Year 4                 $1032                $11               $1043
Year 5                 $1043                $11               $1054
```

Note that:

- The borrowed amount is an integer number and you do not need to check the user input.
- The interest rate is decimal number.
- In the yearly calculation, all the money amounts and interests are round off to integer values using the function **`round`** as described in the lecture.
- The **length of each column** is up to your decision, however, the program has to produce the **exact alignment** as above.
- The program should use **suitable variables**.

**END OF THE ASSIGNMENT**