**INTERNATIONAL UNIVERSITY VNUHCM**

PRINCIPLES OF PROGRAMMING LANGUAGES

**LAB 1. PYTHON BASICS**

**PURPOSE:** After this lab, you are able to write a simple program in Python by using built-in data types, control flows (if…else, for/while loops), input/output.

**STEPS:**

* If Python environment is not ready, please install it.
* Download and install an IDE for writing Python programs (e.g., PyCharm)

**REFERENCES:**

* Python @ W3Schools: <https://www.w3schools.com/python/>
* Python Tutorial: <https://docs.python.org/3/tutorial/>
* Other Python reference books on Google Drive.

EXERCISES:

1. Write a Calculator that can *add, substract, multiply* and *divide* two integers.

2. Write a program that allows a user to choose one of the shapes to display with stars (\*) on the screen. Whenever a shape is chosen, its sizes (height, width, etc.) should be inputted by the user: a square (size), rectangle (height, width), triangle (height), diamond (height).

Users are allowed to choose an advanced option to display the shape:

* solid or hollow (with the default thickness of the line is 1 star);
* the thickness of the lines (represented by the number of stars and entered by the user).

For example:

* Hollow shapes:

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* Solid shapes:

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HOW TO SUBMIT YOUR WORK: Please compress all your Python source code into a zipped file (GroupNumber.zip) and email it to the instructor (iu.subjects@gmail.com)