

**INTERNATIONAL UNIVERSITY VNUHCM**  
**PRINCIPLES OF PROGRAMMING LANGUAGES**

**LAB 2. PYTHON COLLECTIONS**

**PURPOSE:** After this lab, you are able to use Python strings<sup>1</sup> and functions<sup>2</sup>.

**EXERCISES:**

L2E1. In Lab 1, you have written the first simple version of a calculator. In this advanced version, write a calculator that receives a single user input – as a whole – with *only one* arithmetic operator (+, -, \*, /) and two integers; and finally, outputs the relevant calculation result; e.g., for the input: `2 * 3`, the calculator will output its result: `6`.

L2E2. Write a program to solve a quadratic equation ( $ax^2 + bx + c = 0$ , given user-inputs  $a$ ,  $b$ ,  $c$ ) by defining your own Python functions.

- a. Version 1:  $a$ ,  $b$ ,  $c$  are prompted to enter separately.
- b. Version 2:  $a$ ,  $b$ ,  $c$  are entered as a single input from a user; e.g., `5x2 + 2x + 1 = 0`

**SUBMISSION:** By the end of the lab, please compress all your Python source code into a zipped file (**YourFullname.zip**) and email it to the instructor ([iu.subjects@gmail.com](mailto:iu.subjects@gmail.com)).

**ABBREVIATIONS:** LxEy = Lab  $x$  Exercise  $y$

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<sup>1</sup> [https://www.w3schools.com/python/python\\_strings.asp](https://www.w3schools.com/python/python_strings.asp)

<sup>2</sup> [https://www.w3schools.com/python/python\\_functions.asp](https://www.w3schools.com/python/python_functions.asp)