<u>Objectives</u>
- Define variables in Python
- Perform simple calculations using basic arithmetic operators
- Define and manipulate the given string in Python

<u>Technical contents</u>
- Use of arithmetic expressions
- String manipulation

<u>To solve during the lab</u>

1. Write a program that prompts the user for two integers and then prints
   • The sum
   • The difference
   • The product
   • The average
   • The distance (absolute value of the difference)
   • The maximum (the larger of the two)
   • The minimum (the smaller of the two)
   Hint: Python defines $\max$ and $\min$ functions that accept a sequence of values, each separated with a comma. E.g., max(10,5) return 10.

2. Write a program that reads a five-digit positive integer and breaks it into a sequence of individual digits. For example, the input 16384 is displayed as
   1 6 3 8 4

3. Write a program that initializes a string variable and prints the first three characters, followed by three periods, and then the last three characters. For example, if the string is initialized to "Mississippi", then print Mis...ppi.

4. The following pseudocode describes how a bookstore computes the price of an order from the total price and the number of the books that were ordered.
   a. *Read the total book price and the number of books.*
   b. *Compute the tax (7.5 percent of the total book price).*
   c. *Compute the shipping charge ($2 per book).*
   d. *The price of the order is the sum of the total book price, the tax, and the shipping charge.*
   e. *Print the price of the order.*
   Translate this pseudocode into a Python program. The total price of the books and the number of books should be saved in two constant variables.

<u>To solve at home</u>

5. Find at least three *compile-time* errors in the following program.
   ```
   int x = 2
   ```

```
print(x, squared is, x * x)
xcubed = x *** 3
```

6. The following pseudocode describes how to turn a string containing a ten-digit phone number (such as "4155551212") into a more readable string with parentheses and dashes, like this: "(415) 555-1212".

   a. *Take the string consisting of the first three characters and surround it with "(" and ") ". This is the area code.*

   b. *Concatenate the area code, the string consisting of the next three characters, a hyphen, and the string consisting of the last four characters. This is the formatted number.*

   Translate this pseudocode into a Python program that reads a telephone number into a string variable, computes the formatted number, and prints it.