ENGG1330 Computer Programming

Tutorial 2

Objectives:

- Use variables to manipulate data in programs
- Perform simple processing with various operators
- Generate specific program output using formatted string

Tutorial participation (1%):

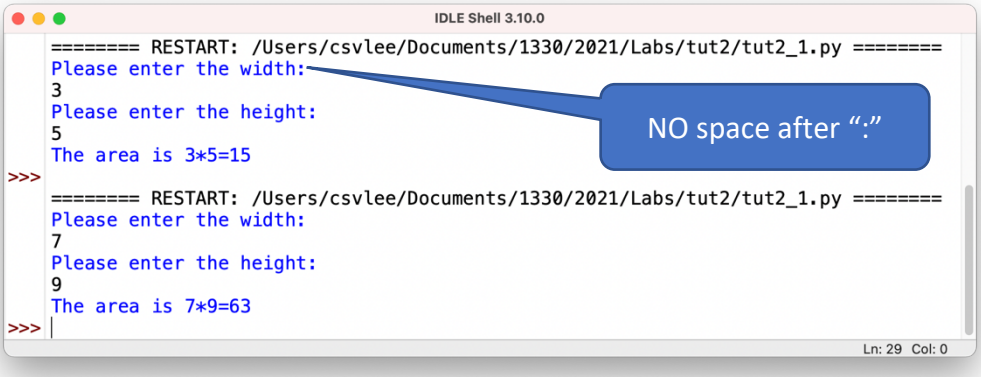
- t2_vpl_1
- Submission period: **within your OWN tutorial period**

Tutorial/take-home exercises (2%):

- Remaining problems in the worksheet
- Submission deadline: **noon, 15-FEB-2023 (Wednesday)**

t2_vpl_1. Write a program to calculate the area of a rectangle. User inputs are two **non-negative integers**, which are the width and height of a rectangle. The program computes and outputs the area of the rectangle with the following format.

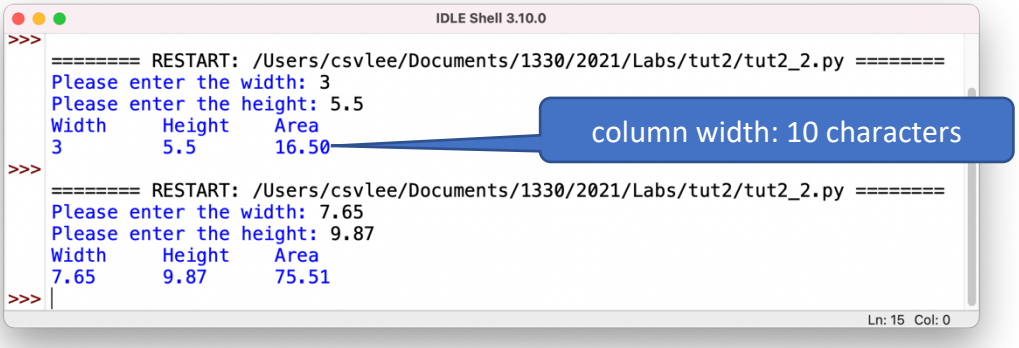
Samples



(Note: characters in **blue** are displayed by the program and characters in **black** are inputted by user)

t2_vpl_2. Extend the program in t2_vpl_1 such that the user inputs are two **non-negative numbers**. The program computes and outputs the area of the rectangle with **2 decimal places in table format**. Note that the format of the two input numbers shown in the table remains no change.

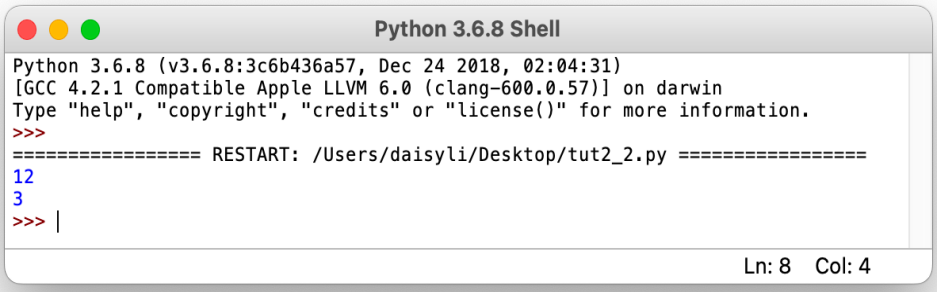
Samples



Hint: Use the following to print a string without new line. By default, there is a new line after a string output by a print statement.

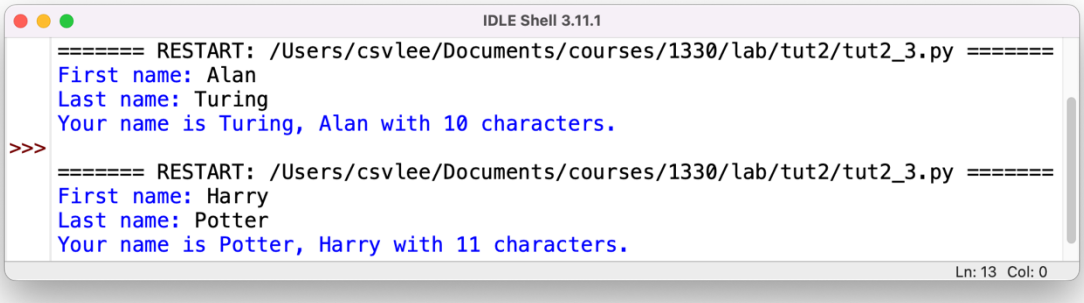
```
print(string_to_print,end='')
```

Example:



t2_vpl_3. Write a program to ask for the user's first name and last name and output the name in the following format (last name followed by a comma and the first name), with the number of characters in the name.

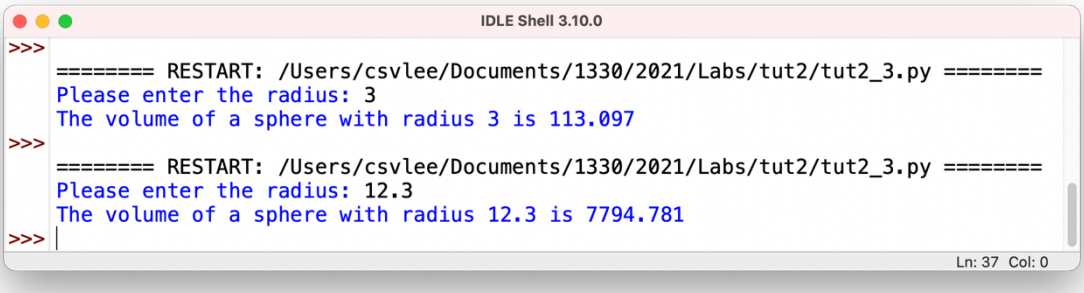
Samples



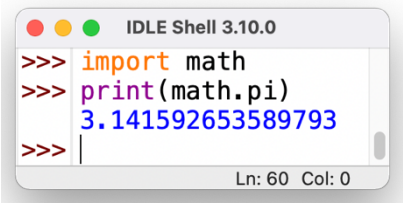
t2_vpl_4. Write a program to find the volume of a sphere with radius *r* using the following formula and output the volume with **3 decimal places**. Note that the format of the input radius remains no change.

$$V = \frac{4}{3}\pi r^3$$

Samples

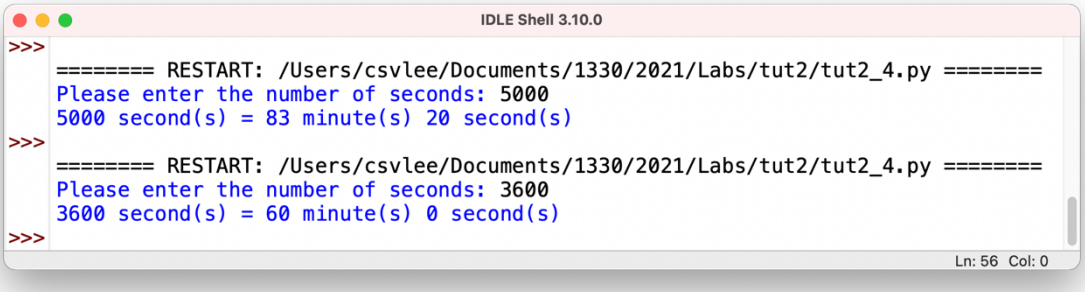


Hint: To access the value of `pi`, you may import the `math` module provided by Python as follows.



t2_vpl_5. Write a program to read in the number of seconds (unit: seconds) and convert the input to minutes and seconds.

Samples



t2_vpl_6. Extend the program in t2_vpl_5 such that the program converts the input to hours, minutes, and seconds.

Samples