

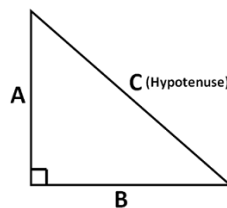
# MATH FUNCTIONS IN PYTHON

## INSTRUCTIONS FOR TASKS

### PROBLEM 1: HYPOTENUSE CALCULATOR FOR ALF

- Instruction: Develop a user-input program to calculate the hypotenuse of a right-angled triangle using the provided code template. The program should prompt the user to input the lengths of the two shorter sides, ensuring the input is read as floats. Utilize the Pythagorean theorem to calculate the hypotenuse and display the result with only two decimal places.

Pythagorean Theorem



$$A^2 + B^2 = C^2$$

For displaying the hypotenuse, utilize an appropriate string concatenation method, showcasing your personal preference.

- Note: Ensure the program gracefully handles user inputs, validating that the entered values are valid floats. Display the result clearly with only two decimal places for readability.
- Tip: To display the hypotenuse with only two decimal places in Python, you can use the `:.2f` format specifier when printing the hypotenuse value. This specifier tells Python to format the floating-point number with two decimal places.
- Example Output:

#### HYPOTENUSE CALCULATOR FOR ALF

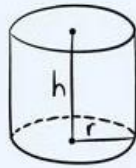
```
Please, enter the length of side A: 5.4
Please, enter the length of side B: 3.2
The hypotenuse of the right-angled triangle is: 6.28
```

### PROBLEM 2: CYLINDER VOLUME CALCULATOR FOR ALF

- Instruction: Develop a user-input program to calculate the volume of a cylinder using the provided code template. The program should prompt the user to input the radius and height of the cylinder, ensuring that both values are read as floats. Utilize the formula  $V = \pi r^2 h$  to compute the volume and display the result with only two decimal places.

# MATH FUNCTIONS IN PYTHON

## Cylinder volume



$$V = \pi r^2 h$$

Where:

$v$  = volume

$\pi$  (pi) = 3.14159

$r$  = Radius of the base

$h$  = Height of the cylinder

For displaying the volume of a cylinder, utilize an appropriate string concatenation method, showcasing your personal preference.

- Note: Ensure the program gracefully handles user inputs, validating that the entered values are valid floats. Display the result with a clear and readable format.
- Tip: To display the volume of a cylinder with only two decimal places in Python, you can use the `':.2f'` format specifier. This specifies tells Python to format the floating-point number with two decimal places.
- Example Output:

```
CYLINDER VOLUME CALCULATOR FOR ALF
```

```
Please, enter the radius of the cylinder: 3.5
```

```
Please, enter the height of the cylinder: 10.2
```

```
The volume of the cylinder is: 392.54
```

