Variables and Types

Exercises

Level - Easy

Exercise 1-1

1. Declare a variable name with the value of your name as a string.
2. Declare two variables, age and country with appropriate values.
3. Use the print() function to display age and country.

Exercise 1-2

1. Use the type() function to determine the type of the following values:
    a. 5,
    b. 5.0
    c. "5"
    d. True
2. What do you observe?

Exercise 1-3

1. Assign a number to a variable named x.
2. Print the variable x and its type.
3. Now, assign a string to the same variable x.
4. Print the variable x.
5. What do you notice?

Exercise 1-4

1. Given the string "123", convert it to an integer.
2. Given the integer 123, convert it to a string.
3. Given the string "123.45", convert it to a float.

Exercise 1-5

1. Declare two variables a = 5 and b = 3.
2. Print the result of a + b.
3. Print the result of a - b.
4. Print the result of a * b.
5. Print the result of a / b.
6. Print the result of a // b.
7. Print the result of a % b.

Exercise 1-6

1. Declare a variable radius with a value of 5.
2. Calculate the area of a circle using the formula : Area= π × radius² (use 3.14 for π).
3. Store the result in a variable named area.
4. Print the variable area.

Level - Moderate

Exercise 2-1

1. Use a single line to assign the value 7 to x, 4 to y, and 1 to z.
2. Increase the value of x by 5, decrease y by 10, and multiply z by 2.
3. Print the values of x, y, and z.

Exercise 2-2

1. Declare a variable firstName and lastName with your first name and last name respectively.
2. Concatenate them with a space in between to form a full name and store the result in a variable named fullName.
3. Print out the fullName in the format: "My name is [fullName]".

Exercise 2-3

1. Ask the user for its first name using the input() function.
2. Assign it to a variable named firstName .
3. Print the type of the firstName variable.
4. Ask the user for its lastName.
5. Print out the fullName in the format: "My name is [fullName]".

Exercise 2-4

6. Ask the user for two numbers using the input() function.
7. Print the type of these numbers.
8. Convert both to integers.
9. Print out the sum, difference, product, and division of these two numbers.
10. Print the type of the division of the two numbers.

Exercise 2-5

1. Assign a number to a variable named value.
2. Multiply value by 5 and reassign the result to value.
3. Convert value to a string and add the phrase " is a big number" to it.
4. Reassign the result back to the variable named value.
5. Print the variable value.

Level - Hard

Exercise 3-1

1. Ask the user for their age using the input() function.
2. Ask the user how many years into the future they want to look.
3. Add this number to their current age.
4. Print out: "In [number] years, you will be [newAge] years old."

Exercise 3-2

1. Ask the user for two numbers
2. Assign these numbers into the variables a and b.
3. Convert the numbers into integers.
4. The goal is to swap the values in such a way that:
    a. a gets the value of b.
    b. b gets the value of a.
5. Now, reset a and b to their original values. This time, swap the values of a and b using a different method.