Assignment 2

1. **Question 1:**

   Create a variable `age` and assign it the value `25`. Then print the value of `age` along with its data type using the `type()` function.

2. **Question 2:**

   Assign the number `12.5` to a variable `price`. Print both the variable and its data type. Then assign the value `12` to the same variable and print its data type again. What do you observe?

3. **Question 3:**

   Create a variable `is_raining` and set it to `True`. Print the value of the variable along with its type. Then set `is_raining` to `False` and print the new value and type.

4. **Question 4:**

   Create a variable `my_name` and store your full name in it as a string. Then print the value of `my_name` using single quotes `'`.

5. **Question 5:**

   Write a Python program that asks the user for their name and age using the `input()` function. Store the inputs in variables and print a sentence like "Hello, [Name]! You are [Age] years old." Ensure you cast the age to an integer.

6. **Question 6:**

   Create two variables `x` and `y` and assign them the values `10` and `3.5`, respectively. Print their values and types. Then, create a new variable `sum_xy` and store the sum of `x` and `y`. Print the result and its type.

7. **Question 7:**

   Using the `type()` function, check and print the data type of the following:

   - `45.0`
   - `"hello"`
   - `None`

- `False`

8. **Question 8:**

   Write a Python program to print three strings `"apple"`, `"banana"`, and `"cherry"` on the same line, separated by a space. Then modify the program to separate the strings using a comma `,` instead of a space.

9. **Question 9:**

   Create a variable `big_number` and assign it a very large integer value (e.g., `9876543219876543210`). Print the value and its type. What do you notice about the size of the number?

10. **Question 10:**

    Write a Python program that prints the result of multiplying two floats (e.g., `2.5` and `3.7`). Then check and print the data type of the result.