Assignment 3

1. **Question 1:**

   Create a variable `x` with the value `15`. Perform floored division by `4` and print the result. What is the difference between floored division and normal division?

2. **Question 2:**

   Write a program to calculate `8 ** 2` and `16 ** 0.5`. Print both results and describe what each represents.

3. **Question 3:**

   Use arithmetic operators to solve the following expression: `20 - 5 * 3 + 8 / 4`. Use parentheses to make sure the addition happens before multiplication. Print the output.

4. **Question 4:**

   Assign the value `7` to a variable `num`. Convert it to a float and print the result. What is the difference between `7` and `7.0`?

5. **Question 5:**

   Use a comparison operator to check if `100` is greater than `50`. Print the result and indicate what type of value this is.

6. **Question 6:**

   Assign `True` to a variable `is_sunny` and `False` to `is_weekend`. Use logical operators to check if it is sunny and the weekend (`is_sunny and is_weekend`). Print the result.

7. **Question 7:**

   Create a variable `password` and set it to `"my_password123"`. Ask the user to input a password and print `True` if the input matches the value of `password`, otherwise print `False`.

8. **Question 8:**

Assign the value `50` to a variable `marks`. Increment the value of `marks` by `5` using the `+=` operator, then print the new value.

9. **Question 9:**

   Write a program to check if the value of `a = 0` and `b = 10` satisfies `a or b`. Print the output and explain why it gives that result.

10. **Question 10:**

   Use `not` to negate the value of `False` and print the result. Explain what the `not` operator does in Python.