🧮 Interview Questions : Assignment Operators in Python

🎯 Objective:

To evaluate a candidate's understanding of assignment operators in Python, their behavior, and practical use in variable manipulation and state updates.

🟢 Beginner-Level Questions

1. What is an assignment operator in Python?
2. What is the difference between = and == in Python?
3. List all the compound assignment operators available in Python.
4. What will be the output of the following code?

```
x = 10
x += 5
print(x)
```

5. Explain the use of `+=` and `-=` with a simple example.

🟡 Intermediate-Level Questions

6. What is the difference between `x = x + 3` and `x += 3`? Are they the same?
7. How does Python internally handle compound assignment like `x *= 2`?
8. What will be the result of this code and why?

```
x = 5
x **= 2
print(x)
```

9. Write a Python program to simulate a wallet balance using assignment operators.
10. What happens if you use `/=` with integers? Does the result remain an integer?

🔴 Advanced-Level Questions

11. Can assignment operators be overloaded in Python? If yes, how?
12. How are assignment operators used in loops to update values efficiently? Give an example.
13. Is there any performance benefit of using compound assignment operators like `+=` over `x = x + y`?

14. What is the output of the following code snippet? Explain why.

```
x = 10
y = x
y += 5
print(x, y)
```

15. How do assignment operators behave with mutable vs immutable types (like lists vs integers)? Give an example.