

# Python - Strings, String Methods, Assignment Operators, Arithmetic Operators

## Section 1: Strings - Basic Concepts (10 Questions)

1. What is a string in Python?
2. How do you declare a string literal in Python?
3. Which operator is used to concatenate two strings?
4. How do you access the first character of a string `s`?
5. What will be the output of `len('Hello')`?
6. Which method is used to convert all characters of a string to uppercase?
7. How do you check if a string `s` starts with the letter `A`?
8. What does the `strip()` method do in Python?
9. What is the difference between `isalpha()` and `isdigit()` string methods?
10. How can you replace all occurrences of the letter `a` with `@` in a string `s`?

## Section 2: String Methods - Usage & Examples (10 Questions)

11. Write the syntax and usage of the `find()` method.
12. What is the difference between the `find()` and `index()` methods?
13. What is the return type of the `split()` method?
14. How do you join a list of strings into a single string?
15. Which method checks if all characters in a string are lowercase?
16. How do you convert a string to title case in Python?
17. What will be the output of `'Hello'.lower()`?
18. How can you count the number of occurrences of a substring in a string?
19. Write an example demonstrating the use of `startswith()` method.
20. What will be the output of `'| Hello |.lstrip()`?

## Section 3: Assignment Operators - Conceptual & Examples (5 Questions)

21. What is the difference between `=` and `==` operators in Python?
22. What is the meaning of `a += 5` in Python?
23. What happens when you write `a = b = 10` in Python?

- 24. Explain the working of `a *= 2` with an example.
- 25. Which operator is used for floor division assignment in Python?

#### Section 4: Arithmetic Operators - Concepts & Examples (10 Questions)

- 26. List all arithmetic operators used in Python.
- 27. What will be the output of `5 + 3 * 2` in Python?
- 28. What will be the result of `10 / 3` in Python?
- 29. What is the difference between `/` and `//` operators?
- 30. What will be the result of `2 ** 3` in Python?
- 31. What is the modulus operator used for?
- 32. What will be the output of `-5 % 3` in Python?
- 33. What is the precedence order of arithmetic operators in Python?
- 34. What will be the result of `4 + 3 - 2 * 2 / 1`?
- 35. Which arithmetic operator is used to calculate powers in Python?

#### Section 5: Mixed Code-based Questions (5 Questions)

- 36. Write a Python expression that concatenates `'Hello'` and `'World'` with a space in between.
- 37. Given `s = "Hello"`, write Python code to print the last character of `s`.
- 38. If `a = 5`, write an expression to multiply `a` by `2` using the assignment operator.
- 39. Given `s = "Python"`, write Python code to print the substring `'yth'`.
- 40. Write a Python expression to check if the word `'apple'` is present in the string `'I have an apple'`.

End of Questions Document