🧮 Interview Questions : Arithmetic Operators in Python

🎯 Objective:

To assess a candidate's understanding of Python's arithmetic operators, including their syntax, behaviour, and application in real-world problem-solving. This includes evaluating knowledge of operator precedence, differences between similar operators (e.g., / vs //), and the ability to write clean, logical code using these operators in practical scenarios.

🟢 Beginner-Level Questions

1. What are the different arithmetic operators available in Python?

2. What is the difference between "/" and "//" in Python?

3. What does the "%" operator do? Give an example.

4. How does Python handle division when dividing two integers?

5. What is the result of "2 ** 3 ** 2"? Why?

🟡 Intermediate-Level Questions

6. Write a program to check if a number is even or odd using arithmetic operators.

7. How would you extract the digits of a number using "//" and "%" ?

8. Write a function to calculate the sum and product of the digits of a given number.

9. Explain how you would convert total minutes into hours and minutes using arithmetic operators.

10. What is the output of "7 // 3", "7 / 3", and "7 % 3" ? Explain.

🔴 Advanced-Level Questions

11. Can arithmetic operators be overloaded in Python? If yes, how?

12. Write a function to compute the result of a custom arithmetic expression:

    (a^2 + b^2) / (c + 1) \]

13. Design a function that computes the compound interest using exponentiation.

14. Create a function to convert a total number of seconds into a readable HH\:MM\:SS format.

15. How would you handle division by zero in Python when using "/", "//", and "%" ?