🧮 Interview Questions : IfEleifElse in Python

🎯 **Objective**:

To evaluate the candidate's ability to implement decision-making logic using `if`, `elif`, and `else` statements in Python effectively.

🟢 Beginner-Level Questions

1. What is the purpose of `if`, `elif`, and `else` in Python?
2. What is the basic syntax of an `if` statement in Python?
3. How does `elif` differ from `if` and `else`?
4. Can you use multiple `elif` statements in a single condition block?
5. Write a simple `if-else` program that checks whether a number is positive or negative.
6. Is indentation important in `if-else` blocks in Python? Why?
7. What is the output of the following code?

```
x = 10
if x > 5:
        print("Greater")
else:
        print("Smaller")
```

🟡 Intermediate-Level Questions

8. How can you write a condition that checks if a number is divisible by both 2 and 3?
9. What will happen if you use an `if` without an `else` or `elif`?
10. Can you nest `if` statements inside another `if`? What is that called?
11. How do you write a multiple condition check (e.g., grade assignment) using `if-elif-else`?
12. What is short-circuit evaluation in Python's conditional logic?
13. What is the difference between `if a == b:` and `if a is b:` in Python?
14. Write a program that checks whether a given year is a leap year.

🔴 Advanced-Level Questions

15. How would you rewrite multiple `if-elif-else` conditions using a dictionary mapping (if applicable)?

16. Explain how Python evaluates complex logical expressions like `if a > 0 and (b < 5 or c == 3)`

17. Can you use a conditional statement without a body in Python? How?

18. How would you handle `if` logic when multiple conditions must be prioritized over others?

19. What are some best practices to write clean and readable `if-elif-else` code?

20. Write a program that takes three numbers and prints the largest using only conditional statements.

🧪 Scenario-Based Questions

21. Write a Python function that takes age as input and returns the ticket price based on age group:

- Under 5: Free
- 5–18: ₹10
- 19–60: ₹20
- Above 60: ₹5

22. Create a menu-driven program using `if-elif-else` that performs addition, subtraction, multiplication, or division based on user choice.

23. Given a user login system, implement a check for correct username and password.

24. Create a Python program to classify temperatures as Cold, Moderate, or Hot.

25. You have a variable `marks`. Write logic to print `Fail`, `Pass`, `Merit`, or `Distinction` based on its value.