

## Unit 2: Control Flow and Functions

### 1. What are conditional statements in Python?

👉 Statements used to make decisions based on conditions.

### 2. What is if statement?

👉 Executes block of code when condition is True.

👉 **Syntax:**

```
if condition:  
    statements
```

### 3. What is else statement?

👉 Executes when condition is False.

👉 **Syntax:**

```
if condition:  
    statements  
else:  
    statements
```

### 4. What is elif?

👉 Used to check multiple conditions.

👉 **Syntax:**

```
if condition1:  
    statements  
elif condition2:  
    statements  
else:  
    statements
```

### 5. Can we use multiple elif?

👉 Yes, we can use multiple elif blocks.

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### 6. What are loops in Python?

👉 Used to repeat a block of code multiple times.

### 7. What is for loop?

👉 Used for iterating over sequence (list, tuple, string).

👉 **Syntax:**

```
for variable in sequence:  
    statements
```

## 8. What is while loop?

👉 Executes as long as condition is True.

👉 **Syntax:**

```
while condition:  
    statements
```

## 9. Difference between for and while loop?

👉 for → used when number of iterations is known

👉 while → used when condition-based repetition

## 10. What is infinite loop?

👉 Loop that never ends due to always True condition.

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## 11. What is a function?

👉 Block of code that performs a specific task.

## 12. How to define a function?

👉 Using def keyword

👉 **Syntax:**

```
def function_name():  
    statements
```

## 13. How to call a function?

👉 function\_name()

## 14. What are function parameters?

👉 Inputs passed to function.

## 15. What is return value?

👉 Value returned by function using return keyword.

👉 **Syntax:**

```
def fun():  
    return value
```

## 16. Difference between parameter and argument?

👉 Parameter → defined in function

👉 Argument → passed during function call

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**17. What is scope of variable?**

👉 Area where variable is accessible.

**18. Types of scope?**

👉 Local scope and Global scope

**19. What is local variable?**

👉 Defined inside function and accessible only inside it.

**20. What is global variable?**

👉 Defined outside function and accessible everywhere.

**21. What is lifetime of variable?**

👉 Time duration for which variable exists in memory.

**22. When does local variable get destroyed?**

👉 After function execution ends.

**23. How to access global variable inside function?**

👉 Using global keyword.

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**24. What will happen if condition is always False in if?**

👉 Only else block will execute (if present).

**25. Can we use if inside loop?**

👉 Yes

**26. Can function return multiple values?**

👉 Yes

**27. What happens if no return statement?**

👉 Function returns None