

Conditional Statements in Python

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Agenda

- Introduction to Flow Control
- The if Statement
- The if-else Statement
- The if-elif-else Statement
- Nested If Statements

Introduction to Flow Control

- **Flow control** allows a program to make decisions based on conditions.
- Flow control allows you to change the order in which code is executed
- It guides the program on which code to execute based on certain criteria.
- **Conditional Statements:**
 - if
 - if-else
 - if-elif-else
- We'll explore how these help in decision-making.

The if Statement

- The **if statement** allows the program to execute a block of code if a condition is true.

```
if condition:  
    # code to execute if condition is True
```

The if-else Statement

- The **if-else statement** checks the condition:
- If the condition is true, execute one block of code.
- If the condition is false, execute a different block of code.

```
if condition:
```

```
    # code to execute if condition is True
```

```
else:
```

```
    # code to execute if condition is False|
```

The if-elif-else Statement

- The **if-elif-else statement** checks multiple conditions in sequence:
 - If the first condition is true, execute the first block.
 - If not, check the second condition, and so on.
 - If none of the conditions are true, execute the final else block.

The if-elif-else Statement

```
if condition1:  
    # code to execute if condition1 is True  
elif condition2:  
    # code to execute if condition2 is True  
else:  
    # code to execute if none of the above conditions are True|
```

Nested If Statements

- if statements can be nested within other if statements to create more complex decision-making logic.

Summary

- The **if** statement is used to make decisions in Python.
- **if-else** adds an alternative path for the program to follow.
- **if-elif-else** allows checking multiple conditions.

Hands on Problems

Simple Decision-Making Programs

- **Example 1:** Check if a number is even or odd.
- **Example 2:** Implement a basic calculator with addition, subtraction, multiplication, and division.
- **Example 3:** Determine if a person is eligible for a discount based on their age or membership status.