

## Java Conditional Statements:

Here's the basic syntax of the `if...else` statement:

```
```java
if (condition) {
    // Code to execute if the condition is true
} else {
    // Code to execute if the condition is false
}
```
```

Here's how it works in more detail:

### 1. \*\*Basic `if` Statement\*\*:

The `if` statement evaluates a condition enclosed in parentheses. If the condition is `true`, the block of code within the curly braces following the `if` is executed. If the condition is `false`, the block is skipped.

```
```java
int age = 18;

if (age >= 18) {
    System.out.println("You are an adult.");
}
```
```

### 2. \*\*`if...else` Statement\*\*:

The `if...else` statement extends the `if` statement. If the condition is `true`, the code within the `if` block is executed. If the condition is `false`, the code within the `else` block is executed.

```
```java
int age = 16;

if (age >= 18) {
    System.out.println("You are an adult.");
} else {
    System.out.println("You are not an adult.");
}
```
```

### 3. \*\*`if...else if...else` Statement\*\*:

You can use the `else if` clause to handle multiple conditions sequentially. The code within the first `if` or `else if` block whose condition is `true` will be executed.

```

```java
int score = 85;

if (score >= 90) {
    System.out.println("Excellent!");
} else if (score >= 80) {
    System.out.println("Good!");
} else if (score >= 70) {
    System.out.println("Average.");
} else {
    System.out.println("Needs improvement.");
}
```

```

#### 4. **\*\*Nested `if` Statements\*\*:**

You can also nest `if` statements inside other `if` or `else` blocks to handle more complex conditions.

```

```java
int x = 10;
int y = 5;

if (x > 0) {
    if (y > 0) {
        System.out.println("Both x and y are positive.");
    } else {
        System.out.println("x is positive, but y is not.");
    }
} else {
    System.out.println("x is not positive.");
}
```

```

The `if...else` statement is crucial for making decisions in your programs based on various conditions. By using different combinations of `if`, `else if`, and `else` blocks, you can handle different scenarios and control the flow of your program accordingly.