

C# Conditions and If Statements

C# supports the usual logical conditions from mathematics:

- Less than: $a < b$
- Less than or equal to: $a \leq b$
- Greater than: $a > b$
- Greater than or equal to: $a \geq b$
- Equal to $a == b$
- Not Equal to: $a != b$

You can use these conditions to perform different actions for different decisions.

C# has the following conditional statements:

- Use *if* to specify a block of code to be executed, if a specified condition is true
- Use *else* to specify a block of code to be executed, if the same condition is false
- Use *else if* to specify a new condition to test, if the first condition is false

- Use *switch* to specify many alternative blocks of code to be executed

The *if* Statement

Use the *if* statement to specify a block of C# code to be executed if a condition is True.

```
if (condition) {  
  
    execute  
  
}
```

In the example below, we test two values to find out if 20 is greater than 18. If the condition is True, print some text:

```
if (20 > 18) {  
  
    Console.WriteLine("20 is greater than 18!");  
  
}
```

The *else* Statement

Use the *else* statement to specify a block of code to be executed if the condition is False.

```
if (condition) {
```

```
    ...  
  
} else {  
  
    ...  
  
}
```

In the example below, we test two values to find out if 18 is greater than 20. The condition will be false, so it will execute the command inside the *else* block:

```
if (18 > 20) {  
  
    Console.WriteLine("18 is greater than 20!");  
  
} else {  
  
    Console.WriteLine("18 is NOT greater than 20!");  
  
}
```

The *else if* Statement

Use the *else if* statement to specify a new condition if the first condition is False.

```
if (condition1) {  
  
    ...  
  
} else if (condition2) {  
  
    ...  
  
}
```

```
} else {
```

```
    ...
```

```
}
```

In this example. The if will check the following condition: $18 > 20$. The condition is false and the program will move on to the else if condition. It will return true, so the code under the else if block will execute.

```
if (18 > 20) {
```

```
    Console.WriteLine("18 is greater than 20!");
```

```
} else if (20 > 18) {
```

```
    Console.WriteLine("20 is greater than 18!");
```

```
} else {
```

```
    Console.WriteLine("Every other condition returned false!");
```

```
}
```