

if and else

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Python

If Statements Review

If statements help us **choose** what sections of code to run!

```
if( condition ) {  
    // This code runs if the condition is true  
}  
else{  
    // Otherwise the else statement runs  
}
```

Boolean Expressions Reminder

`==` is-equal-to-operator

`!=` is-not-equal-to-operator

`<` less-than-operator

`>` greater-than-operator

`<=` less-than-or-equal-to-operator

`>=` greater-than-or-equal-to-operator

These are the same for Python

Indentation in Python

Indentation is **intentional** in Python. There is reason for indentation.

```
1 print("potatoes")  
2 print("potatoes")  
3 print("potatoes")
```

Code must **start** at the left most position. **If statements require indentation.**

If statements in Java and C++

Below is the implementation of how to create an if statement in both Java and C++

```
if(1 == 2){  
    System.out.println("They equal")  
}  
else{  
    System.out.println("They not equal")  
}
```

If statements in Python

Below is the implementation of how to create if statements in Python

```
if 1 == 2:  
    print("One is equal to two")  
else:  
    print("One is not equal to two")
```

Let's compare!

Brackets have been replaced with a colon
This starts our if statement

```
if(1 == 2){  
    System.out.println("They equal")  
}  
else{  
    System.out.println("They not equal")  
}
```

```
if 1 == 2:  
    print("One is equal to two")  
else:  
    print("One is not equal to two")
```

Indentation is **REQUIRED**

Whatever is indented, is within the if statement
Indentation acts as our brackets in Java/C++

When the indentation is reset, that's the end of the if statement.

Another if statement for reference

```
if 1 == 1:  
    print("This runs")  
    print("This also runs")  
    print("This runs too!")  
else:  
    print("This doesn't because")  
    print("the condition above is true")  
  
print("This always runs because it's out of the indent")
```

Observe the code above and what sections run

String Comparison

You can compare Strings!!! Shown below :)

```
if "potato" == "potato":  
    print("This is potato")  
    print("I love potatoes")  
    print("Potatoes are life")  
print("This happens after if statement ALWAYS")
```



Lab: If else

Write a history app that asks the user what year the war of 1812 was fought. Based on their input, give a friendly evaluation of their response.

Example output:

What year was the war of 1812 fought? **1813**

Sorry, that is the wrong answer.