Comparison Operators

In this lecture we will be learning about Comparison Operators in Python. These operators will allow us to compare variables and output a Boolean value (True or False).

If you have any sort of background in Math, these operators should be very straight forward.

First we'll present a table of the comparison operators and then work through some examples:

Table of Comparison Operators

In the table below, a=3 and b=4.

Operator	Description	Example
==	If the values of two operands are equal, then the condition becomes true.	(a == b) is not true.
!=	If values of two operands are not equal, then condition becomes true.	(a != b) is true
>	If the value of left operand is greater than the value of right operand, then condition becomes true.	(a > b) is not true.
<	If the value of left operand is less than the value of right operand, then condition becomes true.	(a < b) is true.
>=	If the value of left operand is greater than or equal to the value of right operand, then condition becomes true.	(a >= b) is not true.
<=	If the value of left operand is less than or equal to the value of right operand, then condition becomes true.	(a <= b) is true.

Let's now work through quick examples of each of these.

Equal

In [1]:
```
2 == 2
```

Out[1]:
```
True
```

In [2]:
```
1 == 0
```

Out[2]:
```
False
```

Note that `==` is a *comparison* operator, while `=` is an *assignment* operator.

Not Equal

In [3]:
```
2 != 1
```

Out[3]:
```
True
```

In [4]:
```
2 != 2
```

Out[4]:
```
False
```

Greater Than

In [5]:
```
2 > 1
```

Out[5]:
```
True
```

In [6]:
```
2 > 4
```

Out[6]:
```
False
```

Less Than

In [7]:
```
2 < 4
```

Out[7]:
```
True
```

In [8]:
```
2 < 1
```

Out[8]:
```
False
```

Greater Than or Equal to

In [9]:
```
2 >= 2
```

Out[9]:
```
True
```

In [10]:
```
2 >= 1
```

Out[10]:
```
True
```

Less than or Equal to

In [11]:
```
2 <= 2
```

Out[11]:
```
True
```