# 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

| 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 values of two operands are not equal, then condition becomes true. | (a <> b) is true. This is similar to != operator. |
| > | 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 [3]:
```
2 == 2
```

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

In [4]:
```
1 == 0
```

Out[4]: False

### Not Equal

In [5]:
```
2 != 1
```

Out[5]: True

In [6]:
```
2 != 2
```

Out[6]: False

In [7]:
```
2 <> 1
```

Out[7]: True

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

Out[8]: False

### Greater Than

In [9]:
```
2 > 1
```

Out[9]: True

In [10]:
```
2 > 4
```

Out[10]: False

### Less Than

In [11]:
```
2 < 4
```

Out[11]: True

In [12]:
```
2 < 1
```

Out[12]: False

### Greater Than or Equal to

In [13]:
```
2 >= 2
```

Out[13]: True

In [14]:
```
2 >= 1
```

Out[14]: True

**Less than or Equal to**

In [15]:
```
2 <= 2
```

Out[15]: True

In [16]:
```
2 <= 4
```

Out[16]: True

**Great! Go over each comparison operator to make sure you understand what each one is saying. But hopefully this was straightforward for you**

Next we will cover chained comparison operators