Review:

Today's lesson:

CONDITIONALS.

Conditional statements allow us change the behavior of a program depending on whether certain conditions are met.

Like this ....

Today's lesson:

```
x = 400
if x>0:
    print "Yep, it's positive."
```

The simplest conditional is the **if** statement.
If the expression after the **if** is true, then the indented statement is executed.
Otherwise, nothing happens.

```
Yep, it's positive.
```

Today's lesson:

```
x = 11
if x%2 == 0:
    print "x is even!"
else:
    print "x is odd!"
```

A second type of conditional offers two possibilities using an **else** statement.

If the first condition is not true, then the second statement is executed.

```
x is odd!
```

Today's lesson:

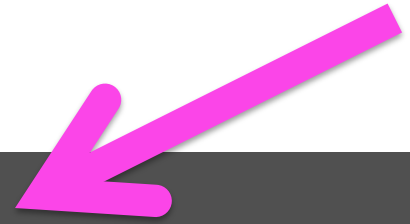
```
x = 6
y = 2
if x<y:
    print "x is less than y!"
elif y<x:
    print "x is greater than y!"
else:
    print "x and y are equal."
```

A third type of conditional is used when we need more than 2 possibilities. That's **elif**, which is short for "else if."

```
x is greater than y!
```

Today's lesson:

You can link different conditions together using **and**, **or**, & **not**.



```
x = 10
if x%2 == 0 and x%3 == 0:
    print "This number is evenly divisible by both 2 and 3."
elif x%2 == 0:
    print "This number is divisible by 2."
elif x%3 == 0:
    print "This number is divisible by 3."
else:
    print "This isn't divisible by 2 or 3."
```

```
This number is divisible by 2.
```

Today's lesson:

```
x = 10
if x%2 == 0 and x%3 == 0:
    print "This number is evenly divisible by both 2 and 3."
elif x%2 == 0:
    print "This number is divisible by 2."
elif x%3 == 0:
    print "This number is divisible by 3."
else:
    print "This isn't divisible by 2 or 3."
```

```
This number is divisible by 2.
```

The first statement should be the most specific, because the program will evaluate each statement from top to bottom.

Today's lesson:

In other words, we want to identify **all of the numbers that are divisible by 2 and 3 first**,

then identify the numbers that are divisible by 2,

then identify the numbers that are divisible by 3,

then identify the numbers that aren't divisible by either.

(The **group of numbers** that is **divisible by 2 and 3** is **smaller** than the group of numbers that is divisible by 2 **only**.)

Today's lesson:

```
x = 10
if x%2 == 0 and x%3 == 0:
    print "This number is evenly divisible by both 2 and 3."
elif x%2 == 0:
    p   "This number is divisible by 2."
elif x%3 == 0:
    int  This number is divisible by 3."
else:
    print "It isn't divisible by 2 or 3."
```

```
This number is divisible by 2.
```

We can use as many elif statements as we want.

Today's lesson:

```
CSstudents = ['Manik', 'James', 'Alex,' 'Jahntu', 'Malek']

if len(CSstudents) >=30:
    print "Wow, you have a huge class."
elif len(CSstudents) >=4:
    print "That's a good sized class!"
elif len(CSstudents) >=0:
    print "Well, at least someone wants to take the class."
else:
    print "Ms. Jenkins is so lonely in CS by herself."
```

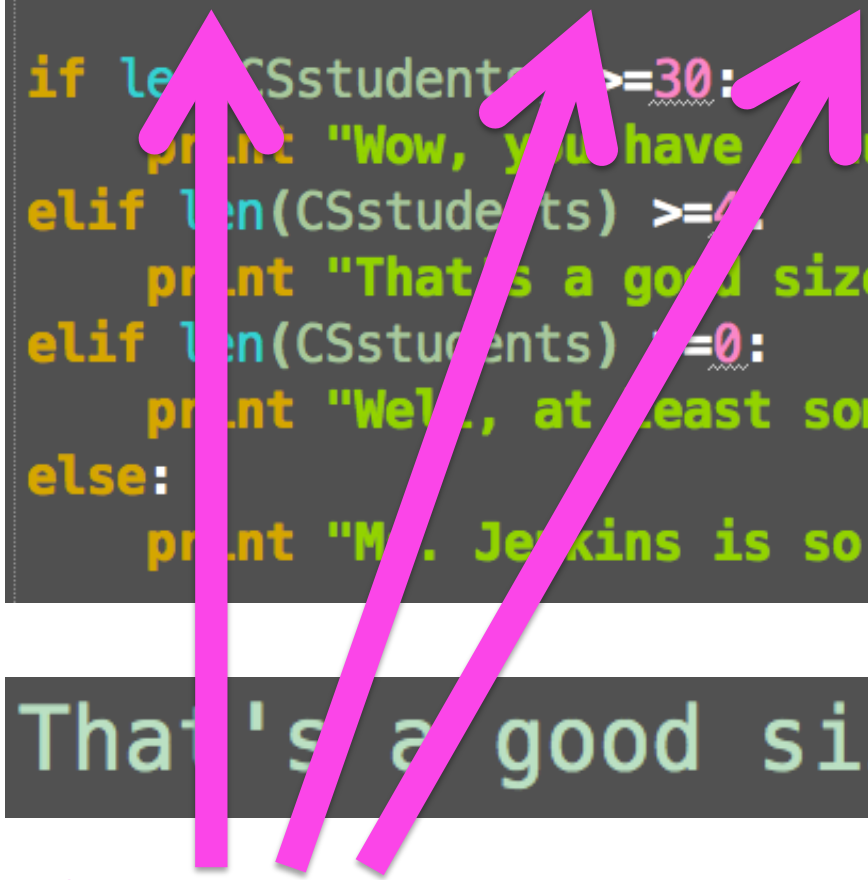
```
That's a good sized class!
```

Today's lesson:

```
CSstudents = ['Manik', 'James', 'Alex,' 'Jahntu', 'Malek']

if le CSstudents >=30:
    pr nt "Wow, y u have  uge class."
elif l n(CSstude ts) >=
    pr nt "That s a go d sized class!"
elif l n(CSstu ents) =0:
    pr nt "Wel , at least someone wants to take the class."
else:
    pr nt "M . Je kins is so lonely in CS by herself."
```

```
That's a good sized class!
```



WAIT A MINUTE: What is this??

Today's lesson:

That's a great question. Let's ask Python:

```
CSstudents = ['Manik', 'James', 'Alex,' 'Jahntu', 'Malek']
print type(CSstudents)
```

```
<type 'list'>
```

A list! What fun!

Today's lesson:

For now, let's remember that a **list** is a collection of items stored in a variable. It's in the same family as **integers**, **strings**, and **floats**.

These are all different types of values.

Now, back to that example ...

Today's lesson:

```
CSstudents = ['Manik', 'James', 'Alex,' 'Jahntu', 'Malek']

if len(CSstudents) >=30:
    print "Wow, you have a huge class."
elif len(CSstudents) >=4:
    print "That's a good sized class!"
elif len(CSstudents) >=0:
    print "Well, at least someone wants to take the class."
else:
    print "Ms. Jenkins is so lonely in CS by herself."
```

```
That's a good sized class!
```

Your turn:

* **Unit 3 – Exercises!**