Counting Loops

Continuing from "Forever Loops"

```java
while(true){
    System.out.println("Bob");
}
```

How do we stop it from repeating?
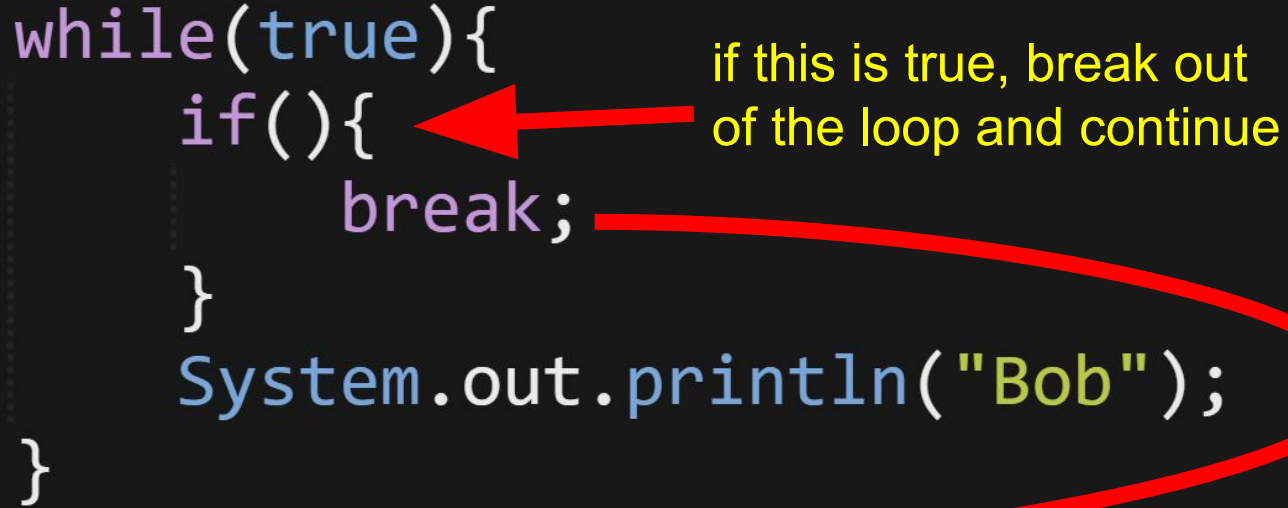
New Keyword: **break;**

Break will exit the loop and continue
to the next line of code.

Combine **break** with an if statement

```java
while(true){
    if(){
        break;
    }
    System.out.println("Bob");
}
```

if this is true, break out of the loop and continue

Move onto next line of code

3 Parts to a counting loop

1. Check Condition

2. Action

3. Set up for next loop (iteration)

3 Parts to a counting loop

```
while(true){
    // 1. Condition
    // 2. Action
    // 3. Next Loop Set Up
}
```

1. Always start by checking a condition

It's similar to crossing the street, check both ways before crossing.
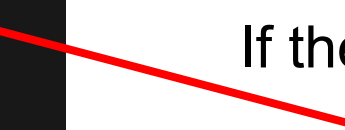
1. Always start by checking a condition

```
int x = 0;
while(true){
    if (x == 5){
        break;
    }
}
```

We start the loop with checking if "x" is the value 5

If the "x" is 5, then we stop the loop immediately!

2. Action

```java
int x = 0;
while(true){
    if (x == 5){
        break;
    }
    System.out.println(x);
}
```

In this case, the action is printing out the value of "x" forever.

Currently x is 0 so 0's print out forever.

3. Set up to work towards condition

```java
int x = 0;
while(true){
    if (x == 5){
        break;
    }
    System.out.println(x);
    x = x + 1;
}
```

To work towards our condition of "x" being 5,

We need to increase "x" to get closer to 5.

Here, we increase "x' by 1 for the next loop

The loop all together

```java
int x = 0;
while(true){
1.    if (x == 5){
2.        break;
3.    }
4.    System.out.println(x);
5.    x = x + 1;
}
```

Start with line 1, then move to line 2, and so on until we repeat the loop

	X	Condition	Action	Set Up
Loop 1	x = 0	x is not 5	Print x which is **"0"**	x = x + 1 -> x is now 1
Loop 2	x = 1	x is not 5	Print x which is **"1"**	x = x + 1 -> x is now 2
Loop 3	x = 2	x is not 5	Print x which is **"2"**	x = x + 1 -> x is now 3
Loop 4	x = 3	x is not 5	Print x which is **"3"**	x = x + 1 -> x is now 4
Loop 5	x = 4	x is not 5	Print x which is **"4"**	x = x + 1 -> x is now 5
Loop 6	x = 5	x is 5, BREAK LOOP		

Lab: Counting Loop

Take in the name of the user.

Take in an integer of how many times we should print out their name.

Print out their name that number of times.