Name: _____

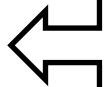# Continuing 'if' statements – Boolean pt 3

J. Wilcox

In the last two lessons, we learned about using if statements in our coding.

These statements used conditionals. A conditional statement can either be

_____ or _____. We learned about setting up comparison

statements using symbols such as _____ and

_____.

Today, we are going to look at setting up a conditional that is based on an action. Another term used when talking about a statement that is either true or false is Boolean. We are going to use this new term in our coding.

Type in the following code. Make sure to answer any questions in the arrow boxes.
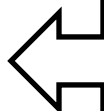
```
float x;
boolean moving = false;
```

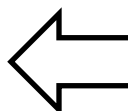This line creates a term, in this case 'moving', that is either going to be true or false.

```
void setup () {
size (1000,400);
x = 25;
}
```

```
void draw () {
background (0);
fill (250);
ellipse (x, 200, 50, 50);
if (moving) {
x = x + 2;
}
}
```

This line says that if moving is true, then the ellipse is going to

_____

```
void mousePressed() {
moving = !moving;
}
```

When the mouse is pressed, moving is going to become its opposite. Since moving starts off as false, the first time the mouse is clicked, it is going to become _____.

How could we change the program to have the ellipse go back and forth every time the mouse is clicked? One way to do this is to add one line and make a small change in one of the lines we already have written.

float x;
boolean moving = false;

void setup () {
size (1000,400);
x = 0;
}

void draw () {
background (0);
fill (250);
ellipse (x, 200, 50, 50);

_____ ⟵ Write a new line that will make the ellipse move to the right. It will start *x* =

if (moving) { ⟵ Change this line to make the ellipse move to the left. Remember that the ellipse is already wanting to move the right by the value you placed in the line above.
x = _____ ;
}
}

void mousePressed() {
moving = !moving;
}