Name: _____

Continuing 'if' statements – Boolean pt 2
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In the last lesson, we learned about using if statements in our coding. These statements used conditionals. A conditional statement can either be _____ or _____. We can set up a comparison statement using symbols such as _____ and _____.

Today, we are going to focus on using a key on the keyboard to control our figure. In order to do so, we will need to put together ideas from the past few lessons, and we will need to use a new 'if' statement: *if (keyPressed)*

float px;
float vx;

void setup() {
　　size (600,600);
　　px = 50;
　　vx = 0;
}

Our ellipse will start out on the _____ side of the screen. At first, its velocity will be _____, so it will/will not move.

void draw () {
　　background (50);
　　ellipse (px, 300, 50,50);
　　px = px + vx;
　　if (keyPressed) {
　　if (key == 'a') {
　　vx = _____;
　　}

What value would make the ellipse travel to the left of the screen? Do we want to add to px or subtract from px?

　　if (key == 'd'){
　　vx = _____;

What value would make the ellipse travel to the right hand side of the screen?

}
}
}

Wow! There are **3** brackets at the end!

Let's look a little more closely at the way these lines are written.

```
void draw () {
  background (50);
  ellipse (x,y,50,50);
  px = px +vx;

if (keyPressed) {

  if (key == 'a'){
  vx = -1;
}

  if (key == 'x') {
vx = 0;



}
}
}
```

⬅ Here is our first open bracket.

⬅ Here is our second open bracket.

⬅ If the key that is pressed is equal to 'a'…in other words if the a key is pressed. We also have our third open bracket!

⬅ What would happen if the x key is pressed?

_____

⬅ So, we have **3** brackets at the end!

Challenges:

Can you add two more variables (maybe call them py and vy) and a couple other lines of code that would have the ellipse start in the center of the screen and pressing the 'w' key makes the ellipse go up (not sideways at all, just up) and 's' makes the ellipse go down (again, not sideways at all, just downwards)?

Can you add another line so that when a key is pressed, the ellipse stops moving?

```
// notes for the teacher
Sample of code that could meet the final challenges
float px;
float vx;
float py;
float vy;

void setup () {
  size (600,600);
px = 300;
vx = 0;
py = 300;
vy = 0;
}

void draw () {
  background (50);
  ellipse (px, py, 50, 50);
  px = px +vx;
  py = py + vy;
  if (keyPressed) {
    if (key == 'a'){
     vx = -1;
     vy = 0;
    }
   if (key == 's'){
     vx = 0;
     vy = 1;
    }
   if (key == 'd'){
     vx = 1;
     vy = 0;
    }
   if (key == 'w') {
     vx = 0;
     vy = -1;
    }
if (key == 'x') {
 vx = 0;
vy = 0;
}
}
}
```