Lesson 2: Recap Setup and Draw, plus Point and Line

Setup and Draw

Remember: What are they?

```
void setup(){

}

void draw(){

}
```

Quick questions:

How many times is the code in the `void setup()` block (sandwiched between the "{" and "}") called in a program? _____

How many times is the code in the `void draw()` block (sandwiched between the two "{" and "}") called in a second? _____

Where would you put `size()` function? _____

where would you put an `ellipse(mouseX,mouseY, 50,50);`

function?_____

Quick task (blast from the past!):

- Make a program using `void setup()` and `void draw()` to move a circle around with your mouse.

Extras:

- Make it so you only see one circle at a time.
- Change to a square.
- Change to two circles - one either side of the mouse.

Point and line!

Some of you may have see point and line, but we never looked at it together. The two functions are: `point()` and `line()`.
Guess what you think they do:

`point()` - _____

`line()` - _____

Code the following example and see if you were right:

```
size(400,400);
strokeWeight(10); point(150,100);
point(250,100);
```

What does `strokeWeight()` do?_____

`point()` and `line()` are slightly different in terms of how they use parameters. Instead of taking position from left and position from top, then width and height (like `ellipse()` and `rect()`) they take distance from left and distance from top for the starting position, and then position from left and position from top for the ending. **This means we don't directly specify the width or height of the line, only its start and end.**

Lets try this out. Lets make two points below:

```
size(400,400);
strokeWeight(10);
point(75,75);
point(325,325);
line(100,300,300,300);
```

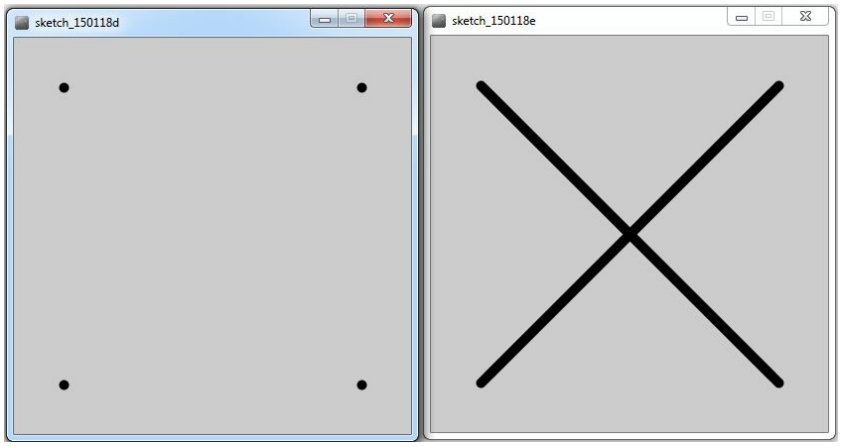
Now lets try that again (using exactly the same two positions, but not in two `point()` functions, but in one `line()` function. lets try that:

```
size(400,400);
strokeWeight(10);
line(75,75,325,325); //← same numbers as above!
```

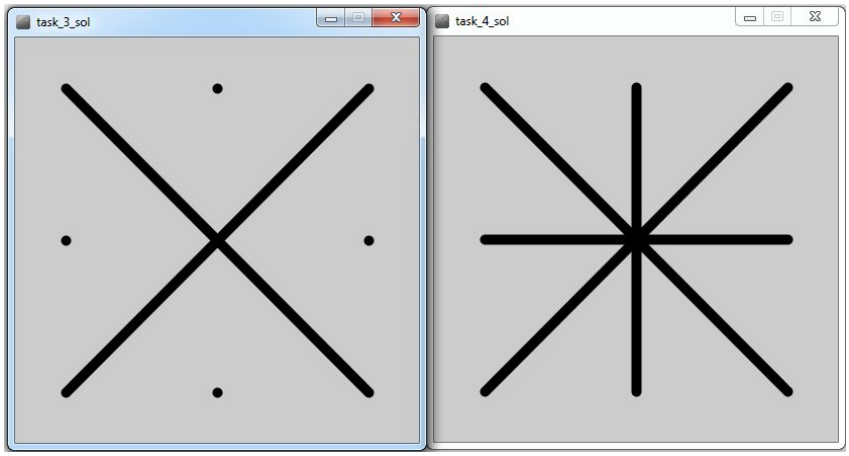
As we can see we have had two points, and then drew a line from one (the start) to the second one (the end).

Tasks: (Use void setup and void draw for the task below)

1. Use the `point()` function to create four dots outlining a square. (See below left)
2. Use these positions to draw lines in the shape of a cross (like we did in the example above.) See below right.



3. Add four more points (see below left)
4. Use these points as start and end of two more lines to make a star (see below right).



5. Use `point()` and `line()` and an `ellipse()` to make a stickman. (See below)
6. Use points and lines to make a smiling face.
7. Add this smiling face to the stick man.