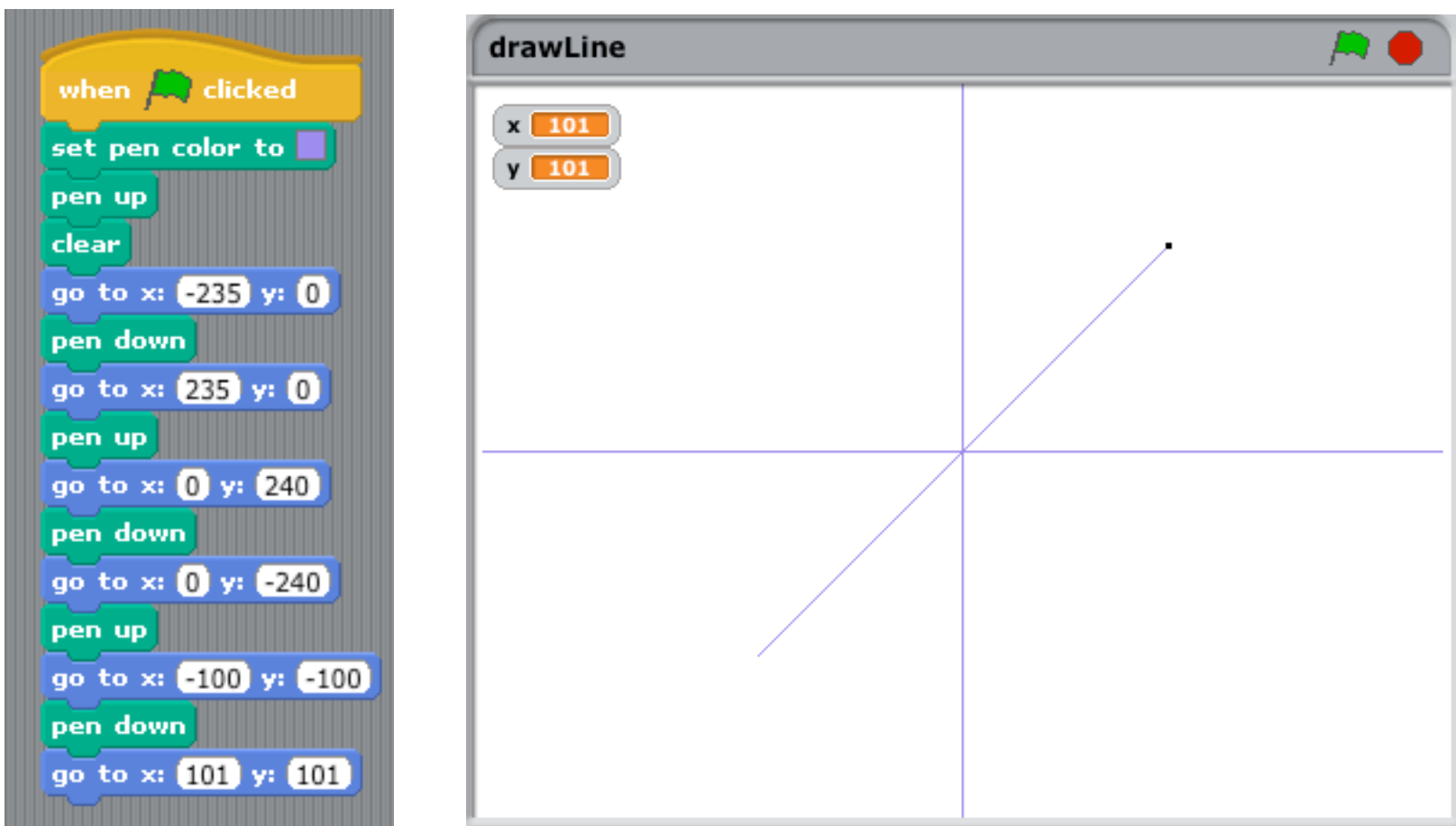
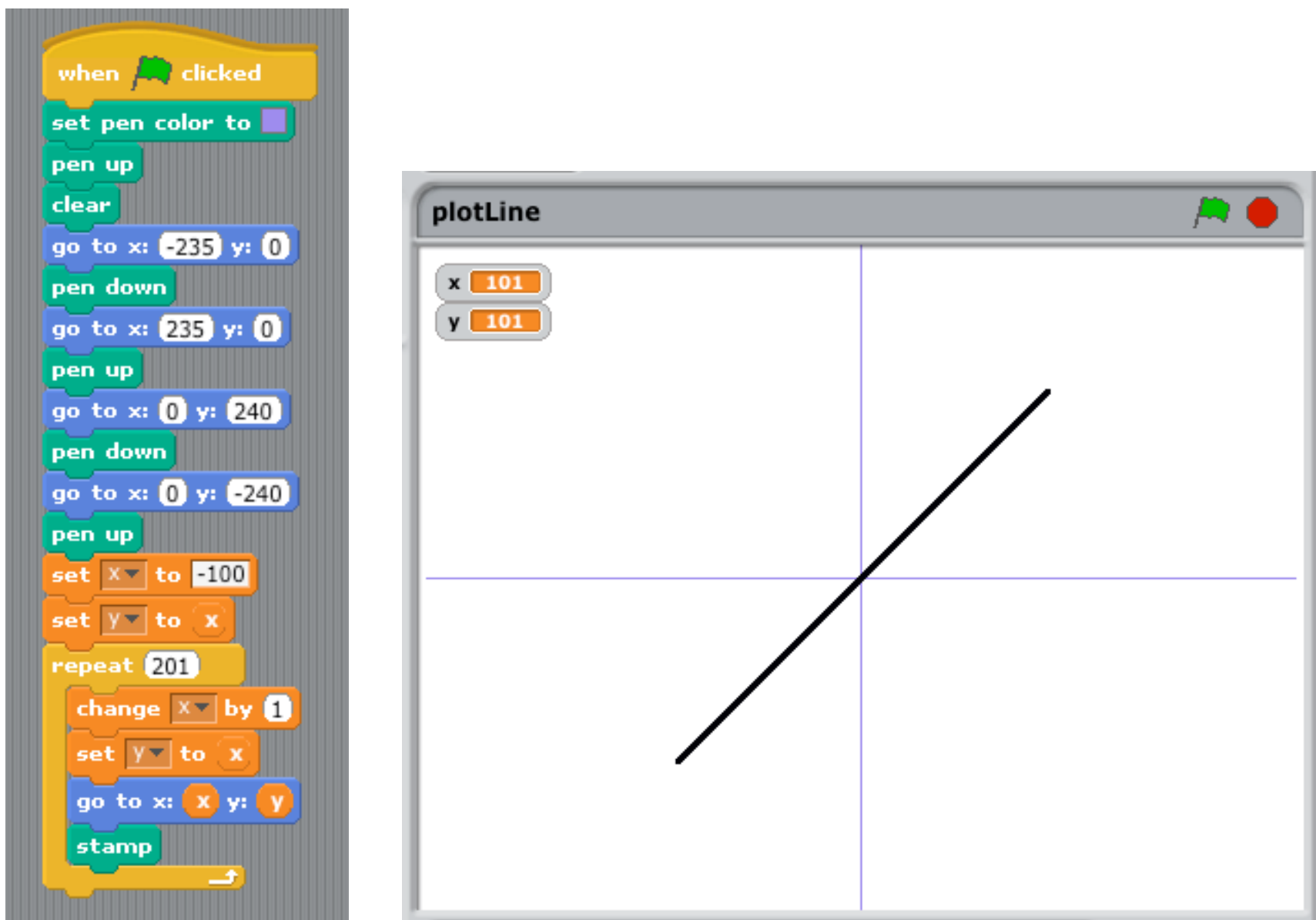


Drawing and plotting lines:

When possible programmers typically use built-in primitives to render graphics; for example the following code will draw a line in Scratch by simply drawing a line between two points:



However, some graphs are made up of complex images that require plotting point by point. The following example, while not required for lines, provides a simple example of how more complex graphs can be rendered by drawing a point at a time over some range, in this case (-100,-100) to (100, 100):



Note that the "stamp" component (second to last part of the program) is used to draw the current sprite, which in this case is simply one pixel wide by one pixel tall. Also note that the coordinate for y is simply a function of x -- in other words "y = x"; so for every value of x there is a corresponding y. Also note that the line is thicker because of the way each pixel is "stacked" upon the next.

Lastly, please note that the cosine wave shown in the website entry, "Simple Graphing in Scratch"; this is an example of a point by point rendering, which can also be done by using short/discrete lines between well known points based on the function being graphed.