

## Re: Flipping Y axis in a Graphics 2D??

**Source:** <http://coding.derkeiler.com/Archive/Java/comp.lang.java.developer/2003-12/0073.html>

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Chris Grant wrote:

> *Hello:*

>

> *I am trying to do something that is supposed to be simple (?). In the  
> attached code, I have drawn a red dot at top right and blue dot at  
> lower left. I am tryin to flip the Y axis so I expect the red dot at  
> the lower right and the blue at the top left using:*

>

> *Graphics2D g2d = (Graphics2D)getGraphics();  
> g2d.scale(1, -1);*

>

> *The -1 is supposed to flip the y axis.*

And it does!

> *Nothing draws at all.*

This is what I'd expect...

> *If you*

> *comment out the g2d.scale(1, -1); line, then everything works fine.*

> *What am I doing wrong. Can you please show how I would correct it to*

> *do what I want?*

The reason you don't see anything is: by scaling all y coordinates by -1, you're causing all positive coords to be plotted at negative locations (and vice versa).. and the windows' visible space shows Y coords from 0 up to 800. So you end up plotting stuff off the top of your window, where you can't see it!

It sounds like you're wanting to mirror the Y coordinates about the central horizontal line of the window.

So y=800 maps to y=0, and y=0 maps to y=800, with the same idea applying to everything inbetween.

The equation to this mirroring is:  $y' = 800 - y$ .

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IF you want to do this transformation in the Graphics2D object, as you appear to want to do, you do it by first scaling the Y coords by  $-1$  (like you're doing now), and then by adding 800 to all the Y coords (in other words, a 'translation' of (0, 800)).

This will get you the result you want.

Look at Graphics2D's translate(dx,dy) command for more help with how to call translation...

alex