To	Bruce Bolden	Feb 10, 2015
From	Chihsiang Wang	
Subject	Basic 2D scaling and mapping operations.	

Summary

In this assignment, I did mapping graphs from window to viewport for 5 graphs. First of all, I plot graph to the Java frame, then I use setWindow method to decide which part of the graph I want to map to the viewport. And I used setViewport method to decide which quadrant of the frame I want to map to. After set up both width and height of window and viewport, I called windowToViewport method which calls moveTo2D and drawTo2D methods; moveTo2D returns me variables which are necessary for scaling and translate it to the right location of viewport. For example, the moveTo2D will translate WX and WY(Window's X and Y) to be VX and VY(Viewport X and Y). Then the drawTo2D method will draw lines to the viewport. I also create another method named drawTo2D_dotted_line which will draw line with dotted line.
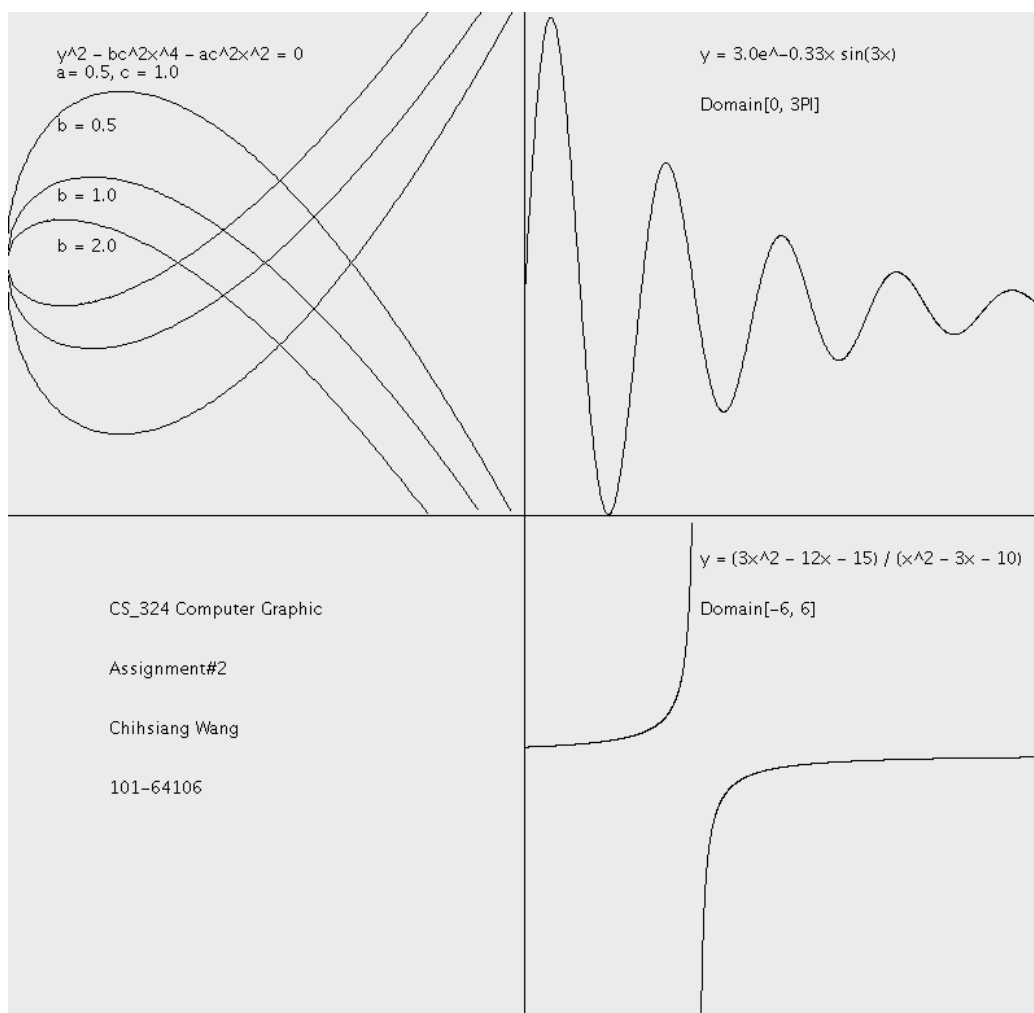
Appendices

y^2 − bc^2x^4 − ac^2x^2 = 0
a = 0.5, c = 1.0

b = 0.5

b = 1.0

b = 2.0

y = 3.0e^−0.33x sin(3x)

Domain[0, 3PI]

CS_324 Computer Graphic

Assignment#2

Chihsiang Wang

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y = (3x^2 − 12x − 15) / (x^2 − 3x − 10)

Domain[−6, 6]

Figure 1. HW#2 with Line mode

$y^2 - bc^2x^4 - ac^2x^2 = 0$
$a = 0.5, c = 1.0$

b = 0.5

b = 1.0

b = 2.0

$y = 3.0e^{-0.33x} \sin(3x)$

Domain[0, 3PI]

CS_324 Computer Graphic
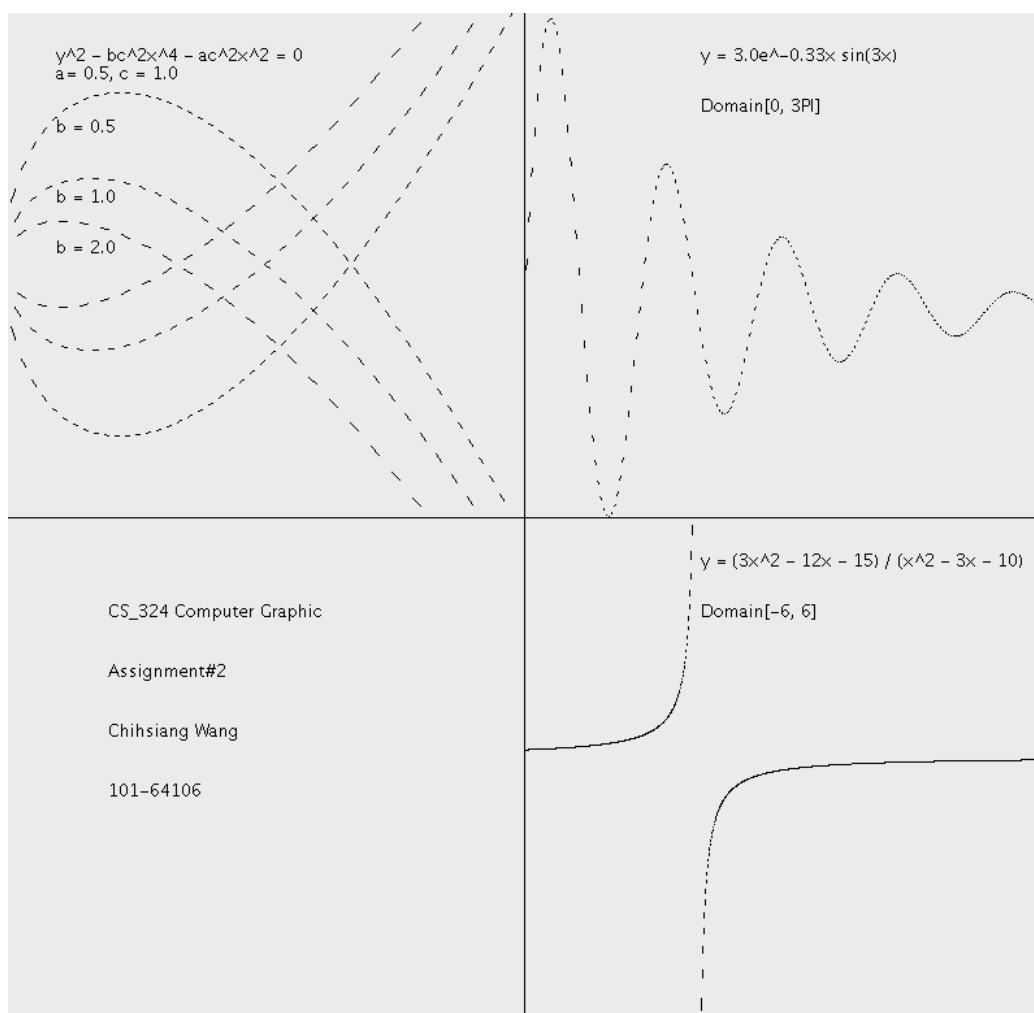
Assignment#2

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$y = (3x^2 - 12x - 15) / (x^2 - 3x - 10)$

Domain[-6, 6]

Figure 2. HW#2 with Line mode