COMPUTER GRAPHICS

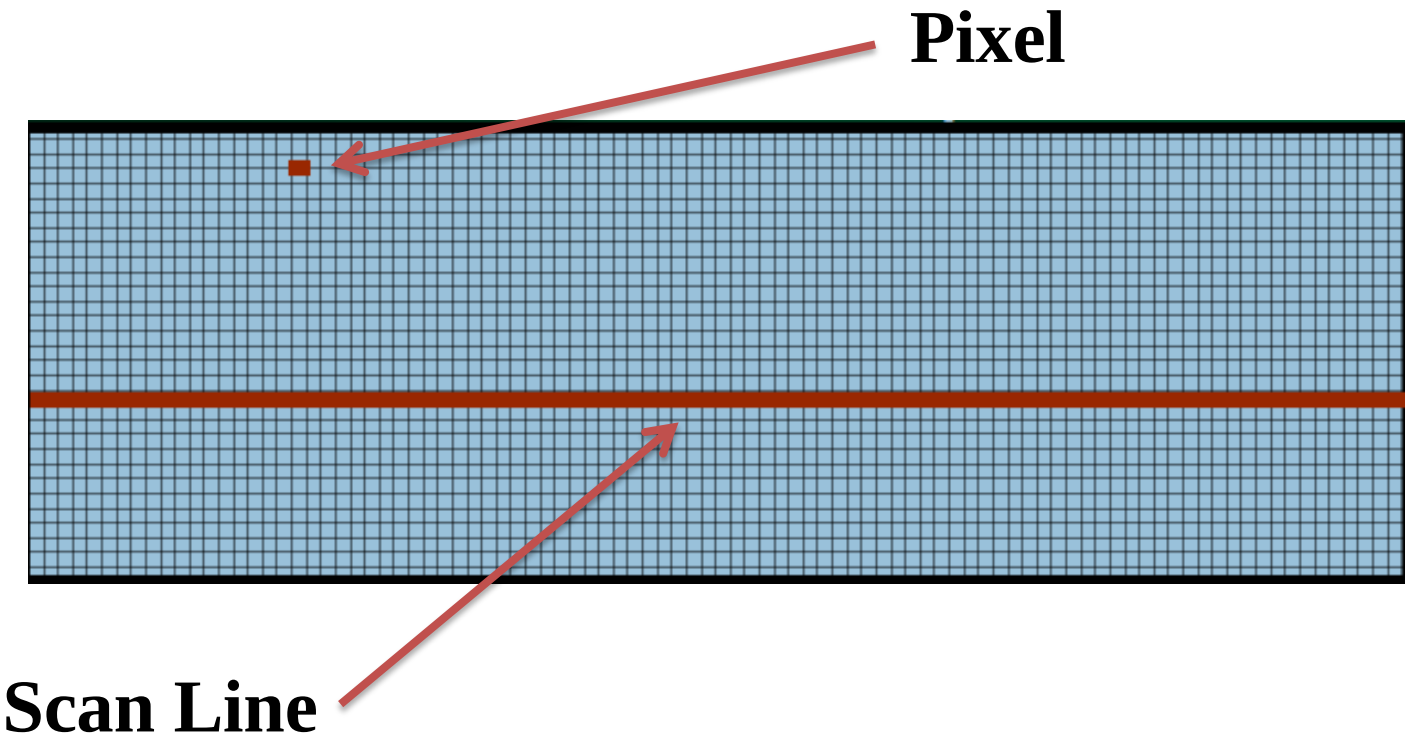
(E2UC402B)

Prof. (Dr) Sanjeev Punia

BASIC TERMS

Pixel: Pixel (Pix) / Picture Element (Pel)

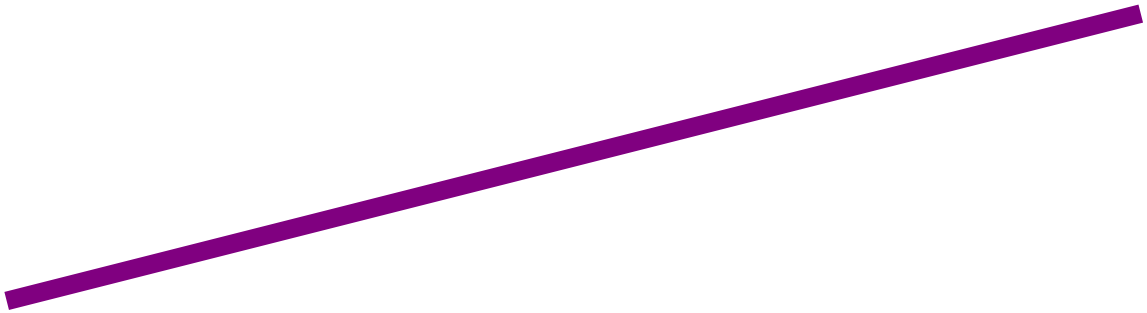
Scan Line: Row of pixels



Line Representation - Analog

Analog devices display a straight line smoothly from one endpoint to another.

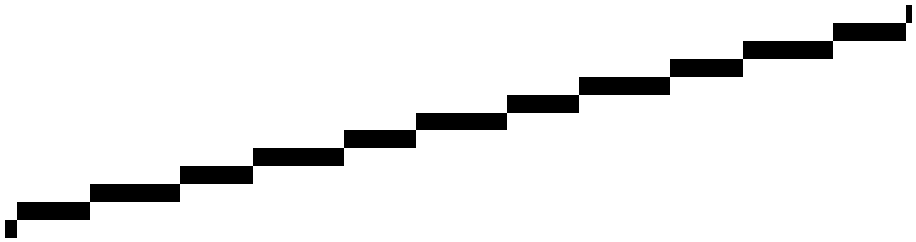
Linearly varying horizontal and vertical deflection voltages are generated that are proportional to the required changes in the x and y directions to produce the smooth line.



Line Representation - Digital

Digital devices display a straight line by plotting discrete coordinate points along the line path which are calculated from the equation of the line.

Screen locations are referenced with integer values, so plotted positions may only approximate actual line positions between two specific endpoints.



Line Equation: y=m.x + c

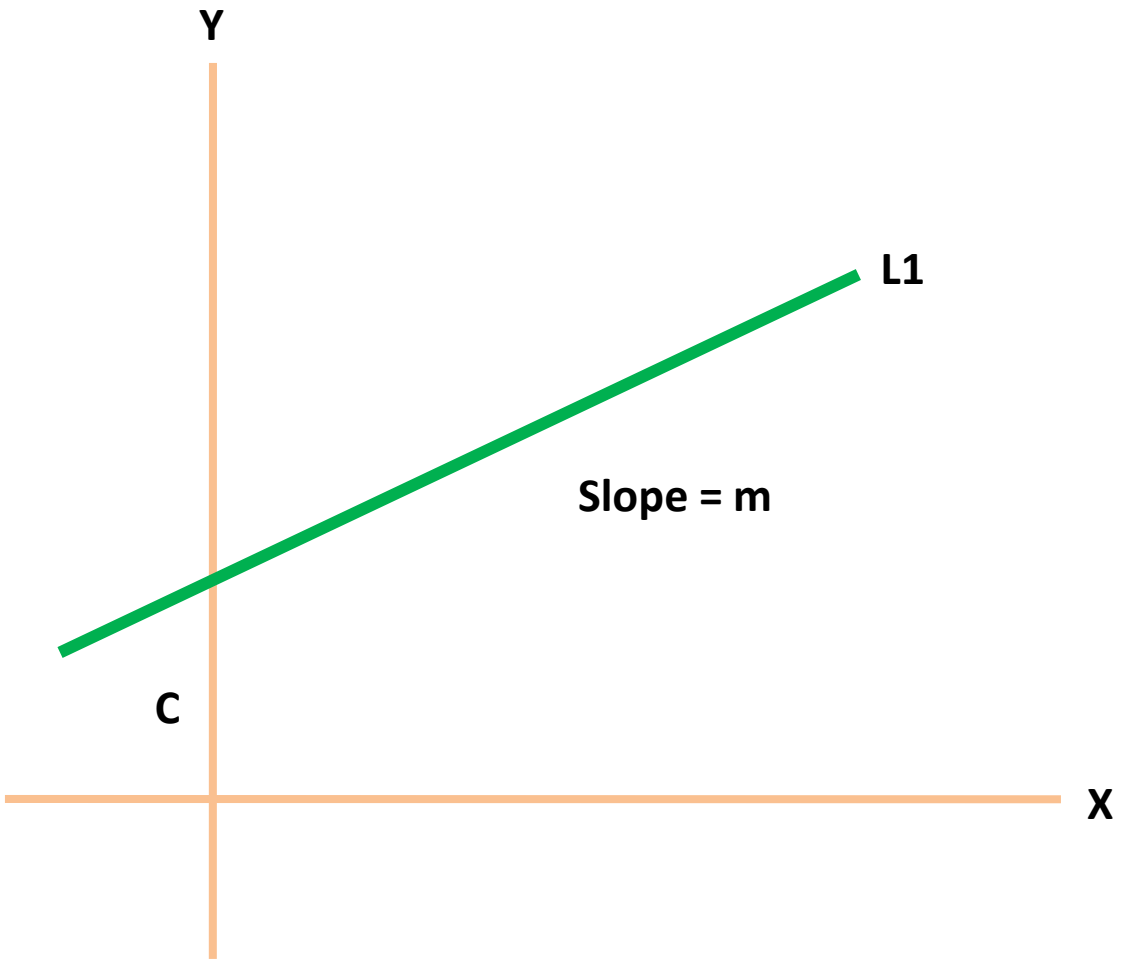
x = x coordinate

y = y coordinate

m = slope of line

= (y2 – y1) / (x2 – x1)

c = intercept on y-axis



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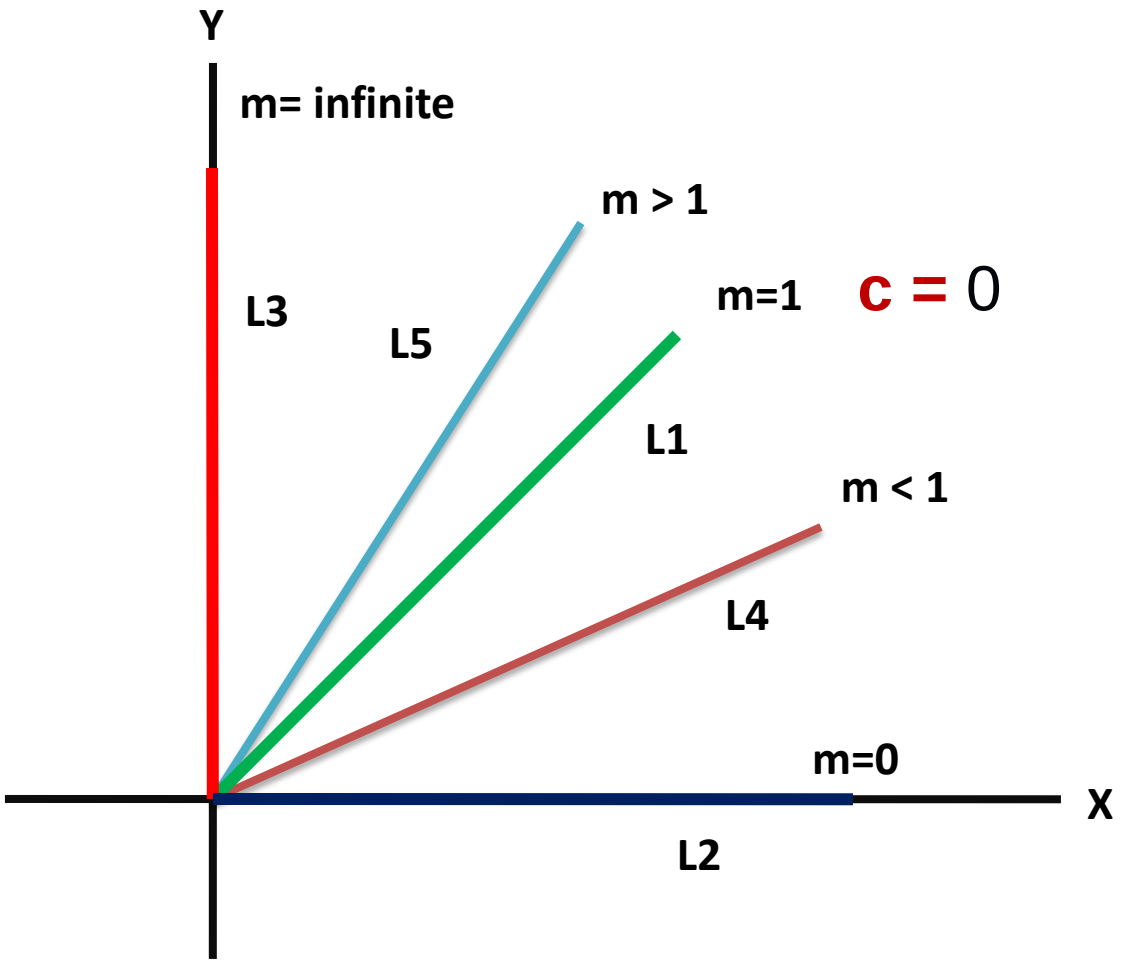

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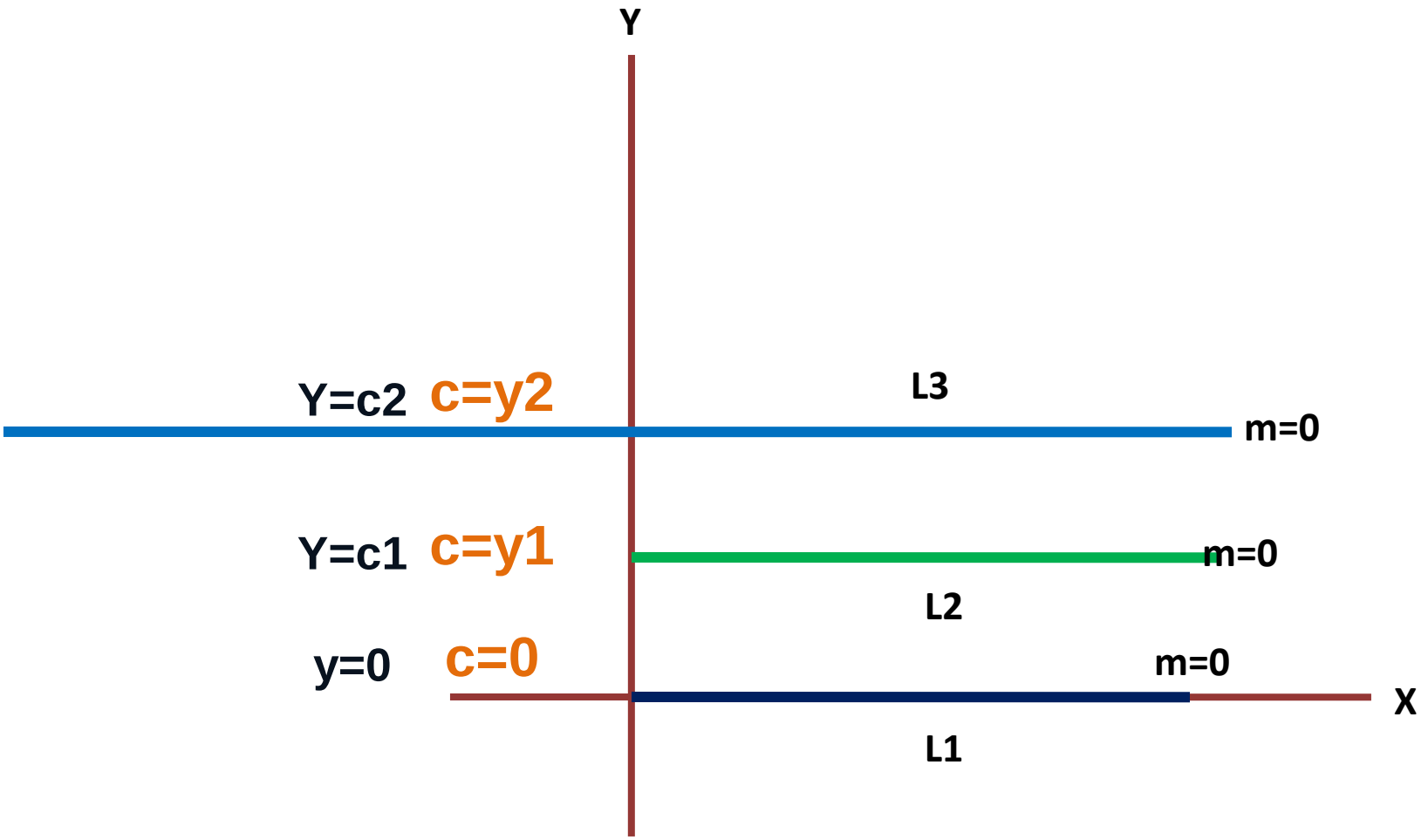
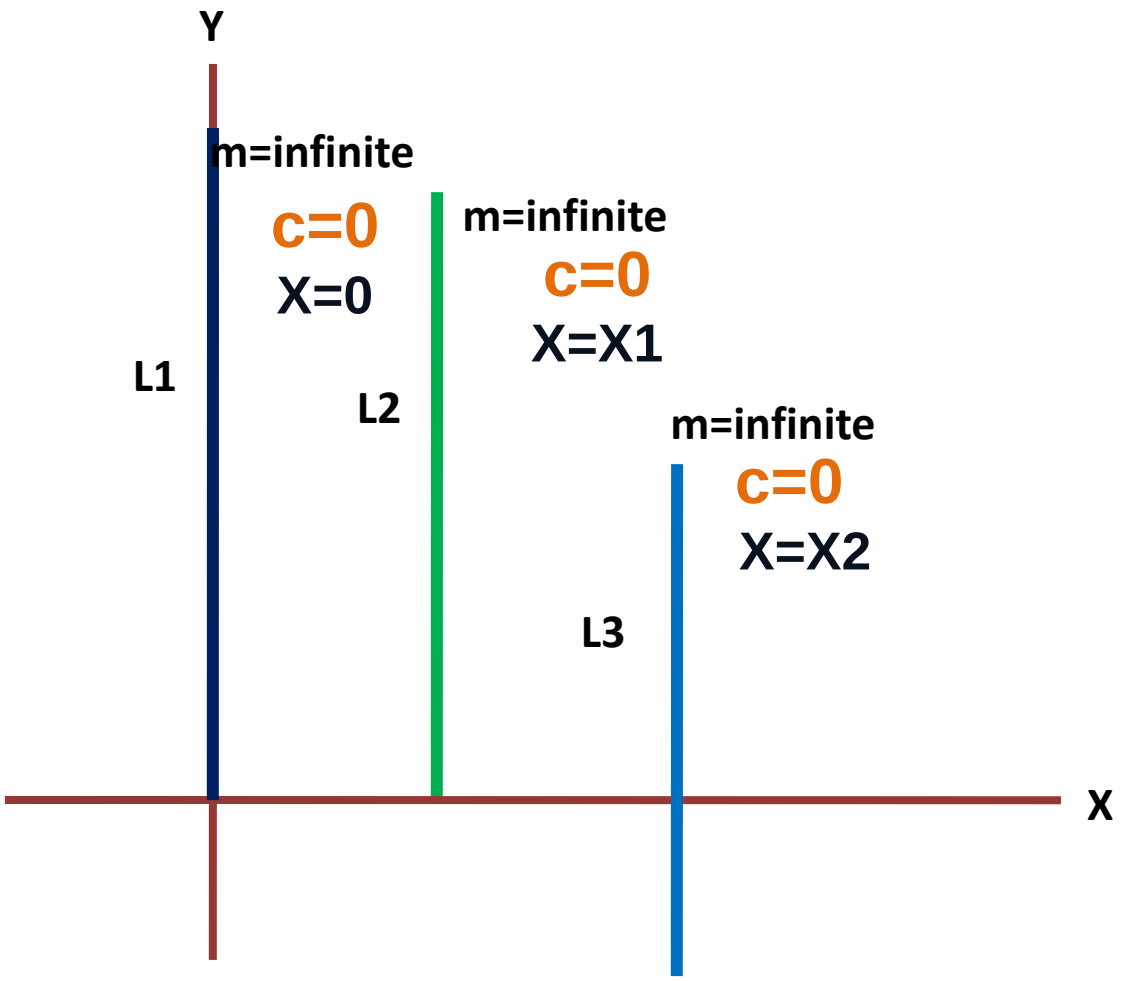


Line Equation: $y=m.x + c$



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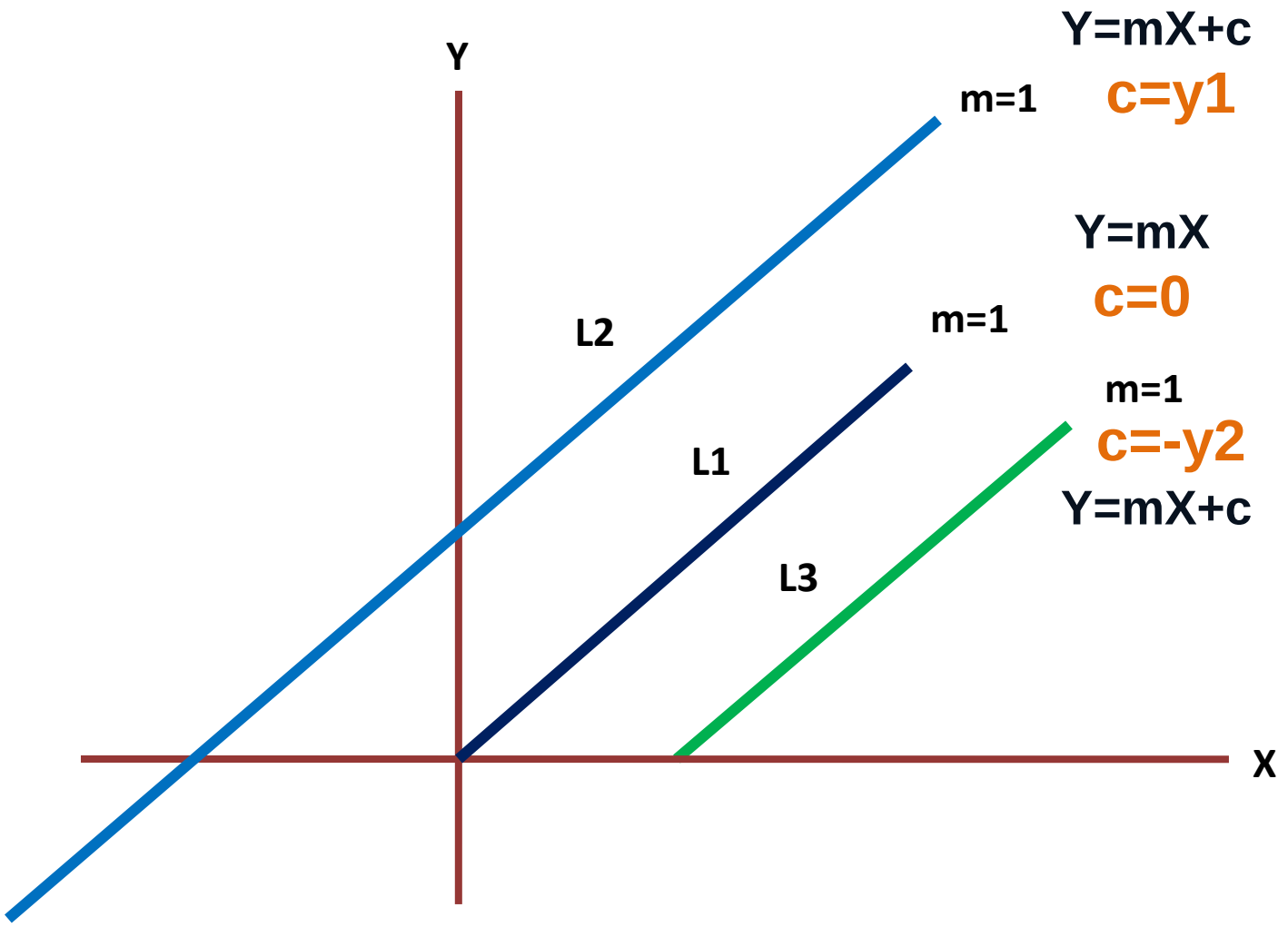

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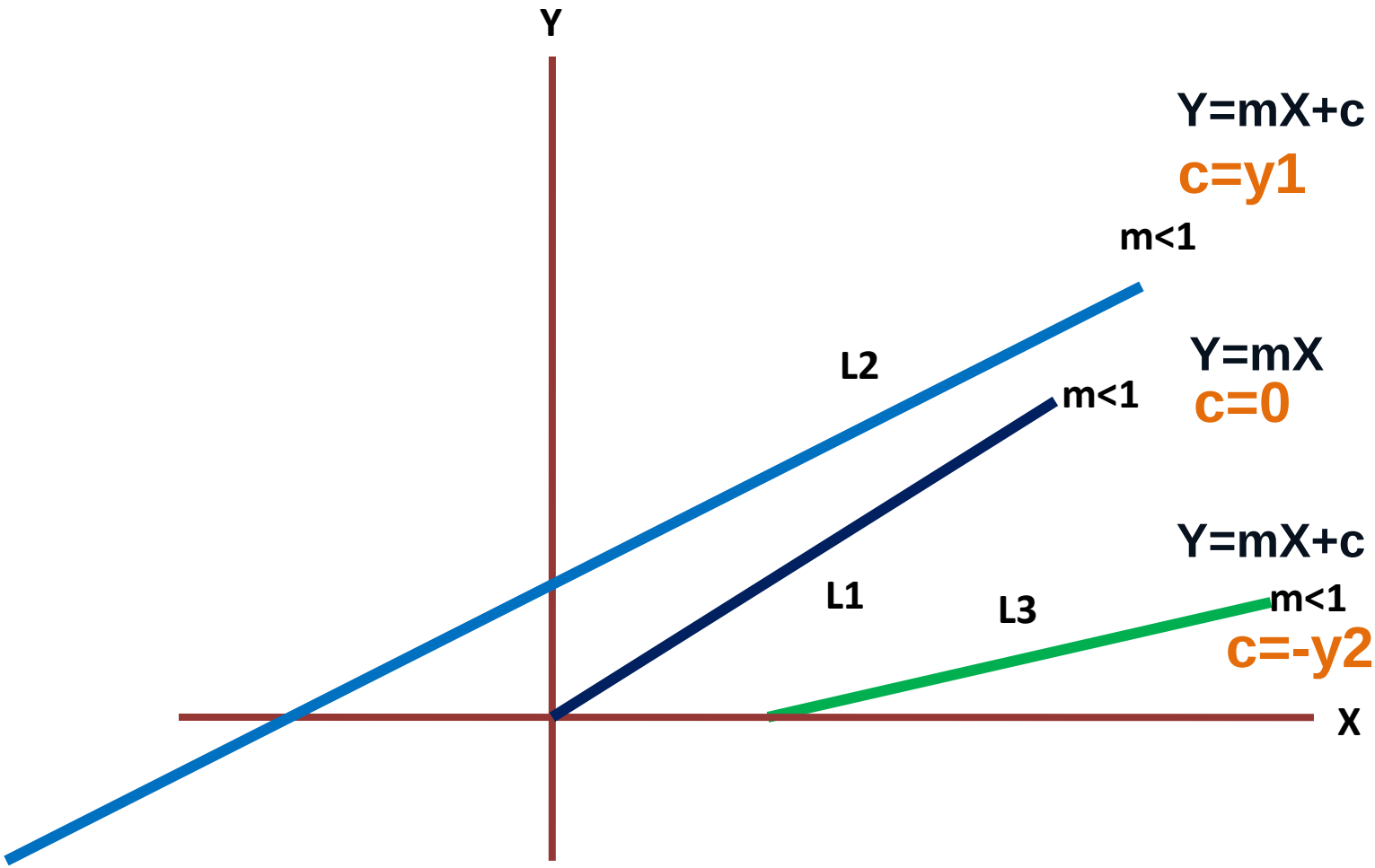
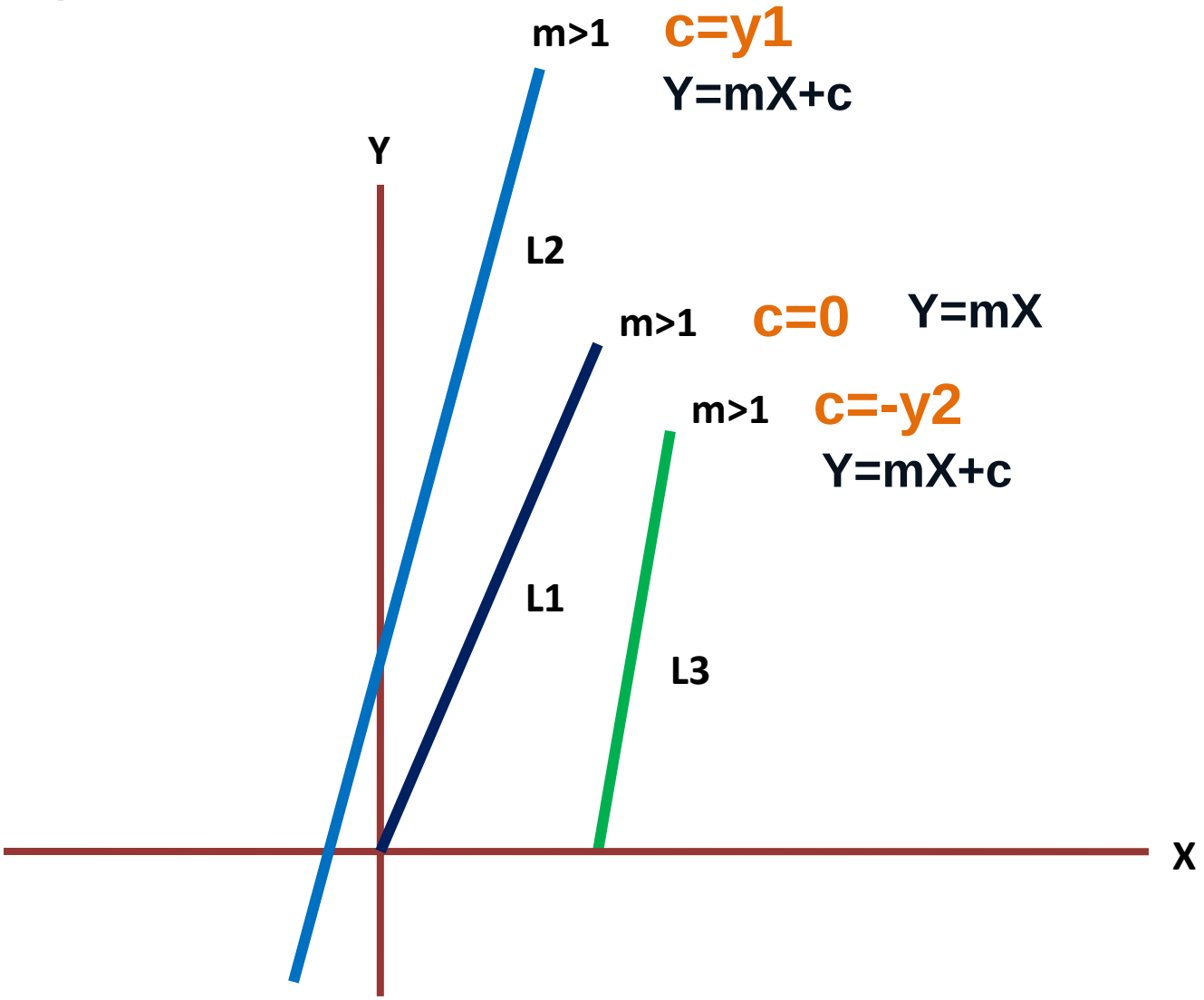
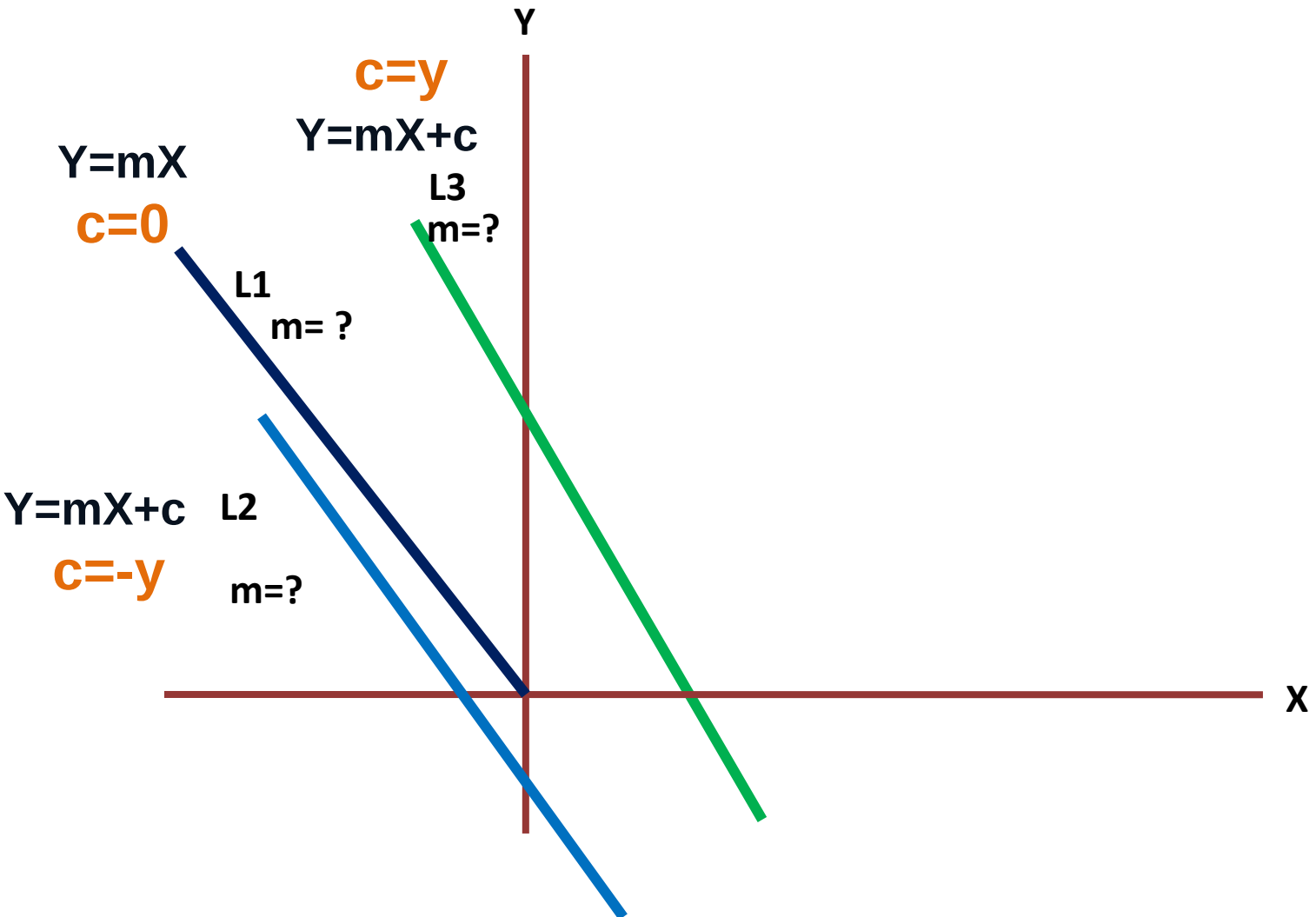


Line Equation: $y=m.x + c$



Line Equation: $y=m.x + c$



QUESTIONS?
COMMENTS?
CONCERNS?