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CSC 130 – Program 2

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This program requires input of two ordered pairs and one additional X value. The program receives the two ordered pairs and develops three things: the slope between the ordered pairs, the Y-intercept, and the line equation in slope intercept form.

What must be done first is the determination of the slope.

To calculate the slope given two ordered pair we do the following:

Slope = rise / run

Slope = (y2 – y1) / (x2 – x1)

We then assign that to a variable.

Knowing the slope allows us to determine the Y-intercept of the line:

To calculate the Y-intercept given two ordered pair we first find the slope,

then solve for B (the Y-intercept) using a given ordered pair and basic algebra with the

slope intercept form.

Slope Intercept Equation: Y = mX + B

Solving for B gives:

B = Y – mX

Programmatically that will look like:

yIntercept = y1 – ( slope \* x1)

Finally, the program can use the information obtained above to place the values in a print statement formatted to indicate the Slope Intercept Equation.

Lastly, the program seeks a third X value and will calculate a corresponding Y based on the line equation above:

Input X-Value is x3:

thirdY = (slope \* x3) + yIntercept