# Assignment 1 – Classes in C#

Due: Friday, September 2, 11:59PM

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| 1. | The equation of a line in standard form is ax + by = c, where both a and b cannot be 0, and a, b, and c are real numbers. If b != 0 then -a/b is the slope of the line. If a = 0 then it is horizontal, and if b = 0 it is vertical. A vertical line has an undefined slope. Two lines are parallel if they are both vertical or they both have the same slope. Two lines are perpendicular if one is horizontal and the other is vertical, or if the product of their slopes is -1.  Design a class Line. A Line should have private member variables, or **instance variables**, at least for the values a, b and c, and public **Properties** to get and set them. A Line should have **methods** to do the following:  Return the value of X for a given Y value  Return the value of Y for a given X value  Return the slope of the line  Determine whether 2 lines are parallel  Determine whether 2 lines are perpendicular  Determine the point at which 2 lines intersect if they are not parallel  Demonstrate each member function of the Line class in a simple program. | 100% |
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Submit the files to the assignment on MUOnline in a compressed (.zip) format. Include all project files for your programming solution. The submission should follow the naming convention:

IST303\_*LastName\_FirstInitial\_*A1.zip