Assignment 1 Intersection of two segments

Figure out a function that calculate the intersect point of two line object.  
1. You need to define point class and line class;  
2. Create two instances of line class and two functions;  
3. Write algorithm to get the intersect point and print output

**/\*I could not figure it out according to the hint you gave me (like the max-value of x and y; using ‘if’ several times; considering the vertical situation), I did it my own way, however it does not run, and I could not find out the problem. Please guide me. Thank you. \*/**

**import** java.awt.Point; //import Point function in order to use (a, b) to represent a point//

**import** java.awt.geom.Point2D.Double;

**public** **class** Intersection {

**class** Points{ //declare a point class, including four points//

Double p1 = **new** Point.Double(1, 1); //declare a decimal variable, assign (1, 1) to p1//

Double p2 = **new** Point.Double(4, 5); //declare a decimal variable, assign (4, 5) to p2//

Double p3 = **new** Point.Double(1, 3); //declare a decimal variable, assign (1, 3) to p3//

Double p4 = **new** Point.Double(5, 2); //declare a decimal variable, assign (5, 2) to p4//

}

**class** Lines{ //declare a line class//

**public** **void** mian(String[] arg){//public a method named 'main' that returns no value. This method must be given an array of string//

**double** x1 = 1, y1 = 1, x2 = 4, y2 = 5; //declare decimal variable x1, x2, y1, y2//

**double** k1 = (y2-y1)/(x2-x1);//declare a variable k1, representing slope of the lineA//

**double** b1 = (x1\*y2-x2\*y1)/(x1-x2);//declare a variable b for lineA's formula//

**double** xa = 0;//declare a decimal variable xa. xa's value starts from 0//

**double** ya = k1\*xa + b1;//declare a decimal variable ya for lineA, based on y=kx+b//

System.***out***.println("yb =" + k1 + "xa+" + b1);//out print the equation of lineA//

**double** x3 = 1, y3 = 3, x4 = 5, y4 = 2;

**double** k2 = (y4-y3)/(x4-x3);

**double** b2 = (x3\*y4-x4\*y3)/(x3-x4);

**double** xb = 0;

**double** yb = k2\*xb + b2;

System.***out***.println("yb =" + k2 + "xb+" + b2);

**double** x = 0.0, y = 0.0; //declare two variable x, y. They will be the horizontal and vertical value of the hypothetical intersection//

**if** (y == k1\*x+b1 & y == k2\*x+b2){ //This means the condition if hypo-intersection (x, y) fits on both of the equations//

System.***out***.println("These two segments share an intersection point (" + x + ", " + y + ")");//out print this intersection//

}**else** {System.***out***.println("These two segments share no intersection point.");//if the condition could not be fulfilled, print out the conclusion//

}

}

}

}