Intersection of a Point with other Shapes.
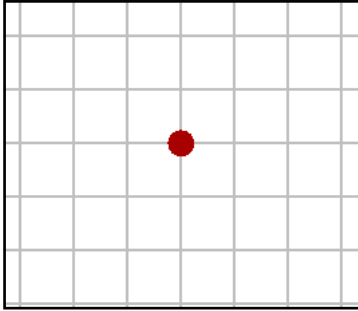
Test of Point.intersect(Point)

Case 1:

Point p1 = new Point(7f, 7f);
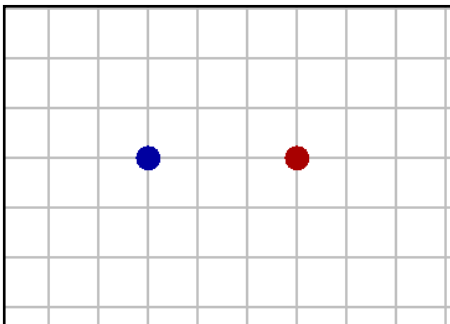Point p2 = new Point(7f, 7f);
Expected Result: true
Code Result: true
Test Result: pass

Case 2:

Point p3 = new Point(7f, 7f);
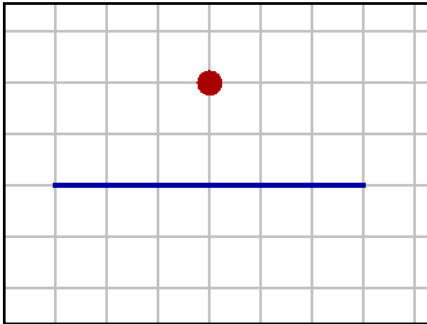Point p4 = new Point(4f, 7f);
Expected Result: false
Code Result: false
Test Result: pass

Test of Point.intersect(LineSeg)

Case 1:

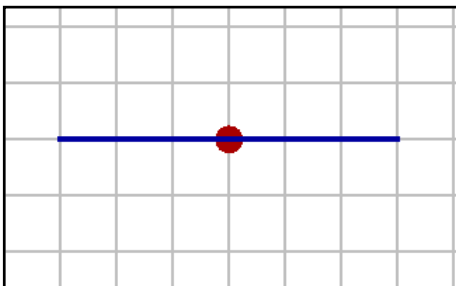Point p1 = new Point(6,5);
LineSeg l1 = new LineSeg(new Point(3,3),new Point(9,3));
Expected Result: false
Code Result: false
Test Result: pass

Case 2:
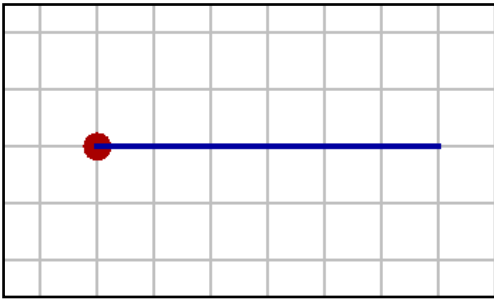

Point p2 = new Point(6,3);
LineSeg l2 = new LineSeg(new Point(3,3),new Point(9,3));
Expected Result: true
Code Result: true
Test Result: pass
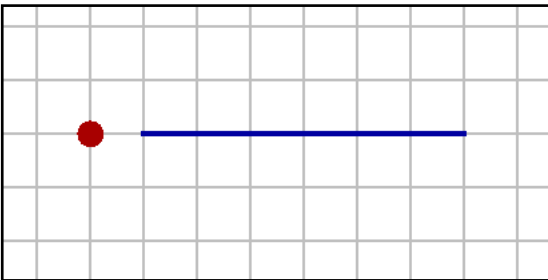
Case 3:

Point p3 = new Point(6,3);
LineSeg l3 = new LineSeg(new Point(3,3),new Point(9,3));
Expected Result: true
Code Result: true
Test Result: pass

Case 4:

Point p4 = new Point(2, 3);
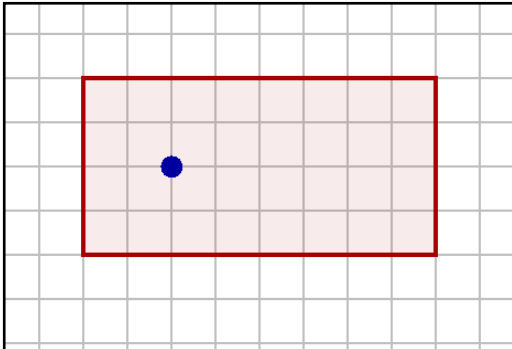LineSeg l4 = new LineSeg(new Point(3,3),new Point(9,3));
Expected Result: false
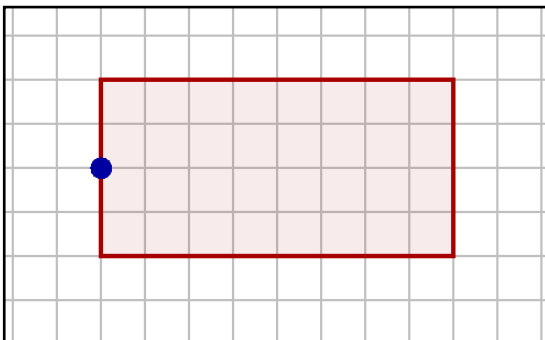Code Result: false
Test Result: pass

Test of Point.intersect(Rectangle)
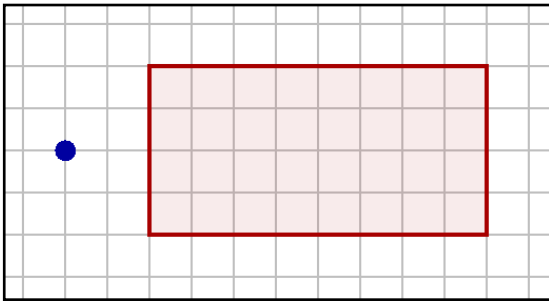
Case 1:

Point p1 = new Point(6, 5);
Rectangle r1 = new Rectangle(4,12,7,3);
Expected Result: true
Code Result: true
Test Result: pass

Case 2:

Point p2 = new Point(4, 5);
Rectangle r2 = new Rectangle(4,12,7,3);
Expected Result: true
Code Result: true
Test Result: pass

Case 3:

Point p3 = new Point(2, 5);

Rectangle r3 = new Rectangle(4,12,7,3);

Expected Result: false

Code Result: false

Test Result: pass

Case 4:

Point p4 = new Point(4, 3);
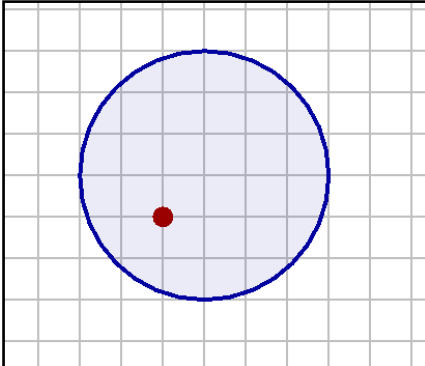
Rectangle r4 = new Rectangle(4,12,7,3);

Expected Result: true

Code Result: true

Test Result: pass

Test of Point.intersect(Circle)
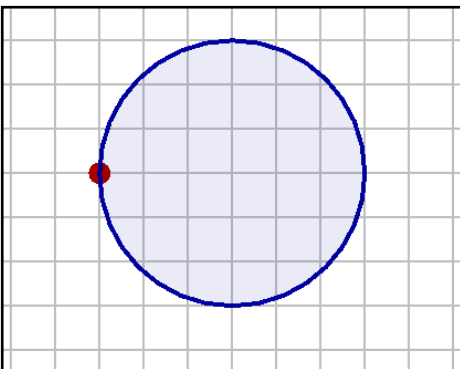
Case 1:

Point p1 = new Point(6, 5);
Circle c1 = new Circle(new Point(7,6), 3);
Expected Result: true
Code Result: true
Test Result: pass
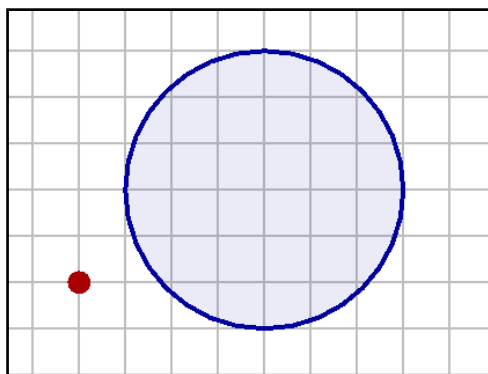
Case 2:

Point p2 = new Point(4, 6);
Circle c2 = new Circle(new Point(7,6), 3);
Expected Result: true
Code Result: true
Test Result: pass

Case 3:

Point p3 = new Point(3, 4);
Circle c3 = new Circle(new Point(7,6), 3);
Expected Result: false
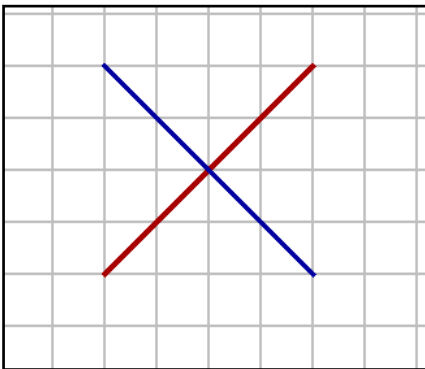Code Result: false
Test Result: pass

Intersection of a Line Segment with other Shapes.

Test of LineSeg.intersect(Point)

Same as Point.intersect(LineSeg) which has already been tested.

Test of LineSeg.intersect(LineSeg)

Case 1:

LineSeg l1 = new LineSeg(new Point(3,3),new Point(7,7));
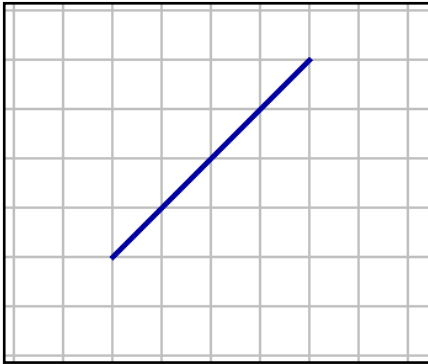LineSeg l2 = new LineSeg(new Point(3,7),new Point(7,3));
Expected Result: true
Code Result: true
Test Result: pass

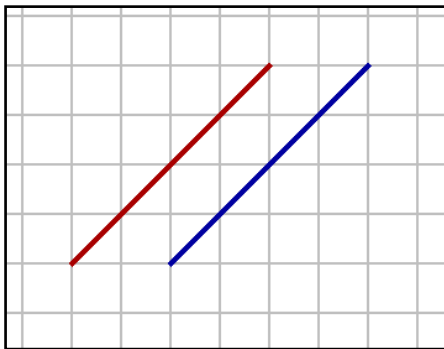Case 2:

LineSeg l3 = new LineSeg(new Point(3,3),new Point(7,7));
LineSeg l4 = new LineSeg(new Point(3,3),new Point(7,7));
Expected Result: true
Code Result: true
Test Result: pass

Case 3:

LineSeg l5 = new LineSeg(new Point(3,3),new Point(7,7));
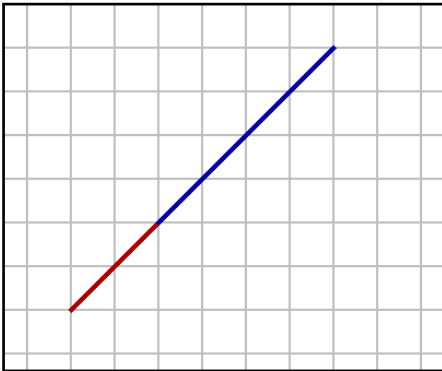LineSeg l6 = new LineSeg(new Point(5,3),new Point(9,7));
Expected Result: false
Code Result: false
Test Result: pass

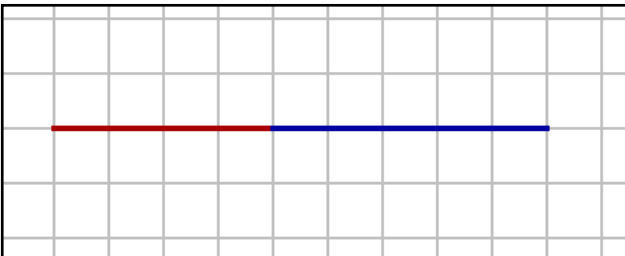Case 4:

LineSeg l7 = new LineSeg(new Point(3,3),new Point(7,7));
LineSeg l8 = new LineSeg(new Point(5,5),new Point(9,9));
Expected Result: true
Code Result: true
Test Result: pass

Case 5:

LineSeg l9 = new LineSeg(new Point(3,3),new Point(7,3));
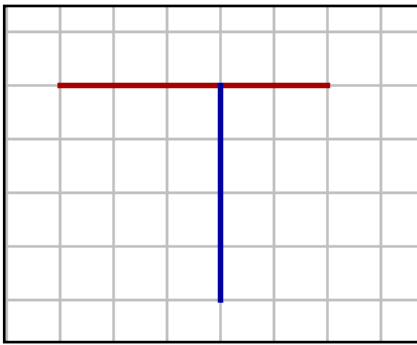LineSeg l10 = new LineSeg(new Point(7,3),new Point(12,3));
Expected Result: true
Code Result: true
Test Result: pass

Case 6:

LineSeg l11 = new LineSeg(new Point(3,5),new Point(8,5));
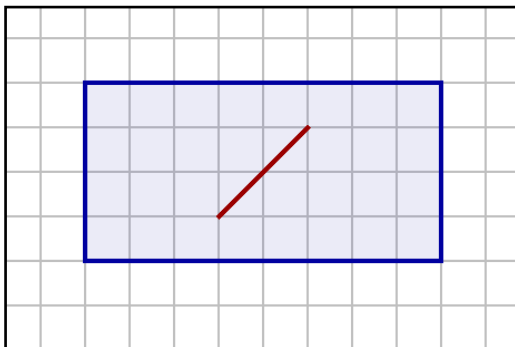LineSeg l12 = new LineSeg(new Point(6,5),new Point(6,1));
Expected Result: true
Code Result: true
Test Result: pass

Test of LineSeg.intersect(Rectangle)

Case 1:

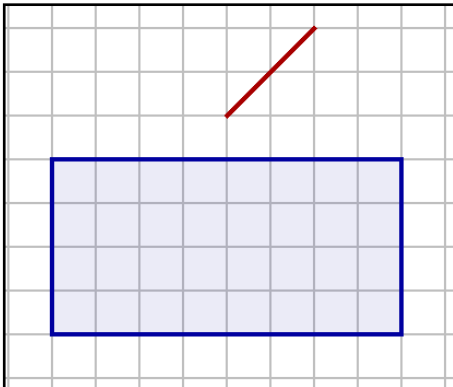
LineSeg l1 = new LineSeg(new Point(7,4),new Point(9,6));
Rectangle r1 = new Rectangle(4,12,7,3);
Expected Result: true
Code Result: true
Test Result: pass

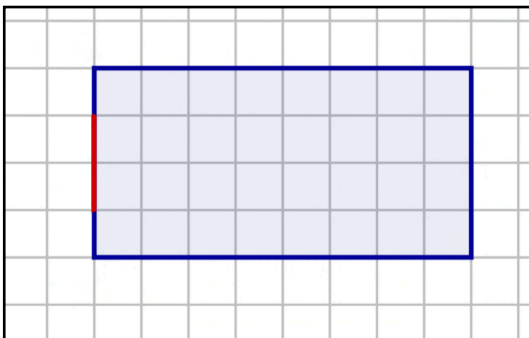Case 2:

LineSeg l2 = new LineSeg(new Point(8,8),new Point(10,10));
Rectangle r2 = new Rectangle(4,12,7,3);
Expected Result: false
Code Result: false
Test Result: pass

Case 3:

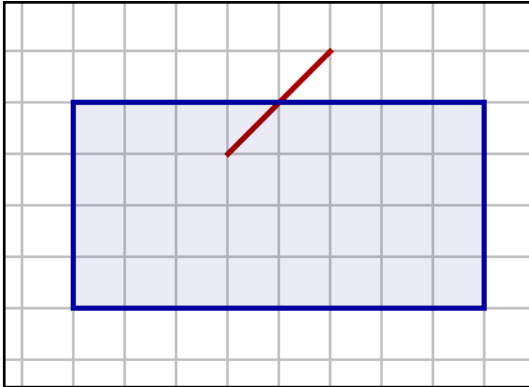
LineSeg l3 = new LineSeg(new Point(4,4),new Point(4,6));
Rectangle r3 = new Rectangle(4,12,7,3);
Expected Result: true
Code Result: true
Test Result: pass

Case 4:

LineSeg l4 = new LineSeg(new Point(7,6),new Point(9,8));
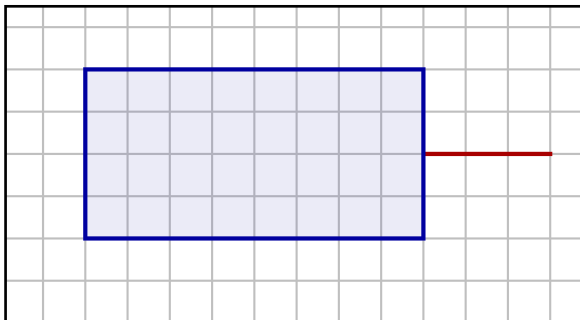Rectangle r4 = new Rectangle(4,12,7,3);
Expected Result: true
Code Result: true
Test Result: pass

Case 5:

LineSeg l5 = new LineSeg(new Point(12,5),new Point(15,5));
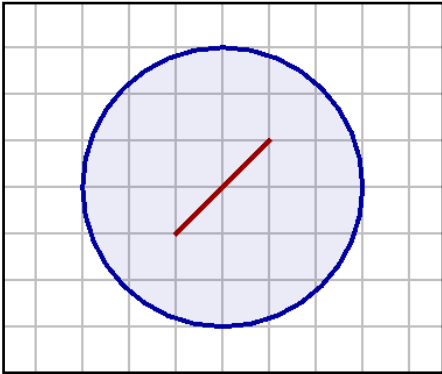Rectangle r5 = new Rectangle(4,12,7,3);
Expected Result: true
Code Result: true
Test Result: pass

Test of LineSeg.intersect(Circle)

Case 1:

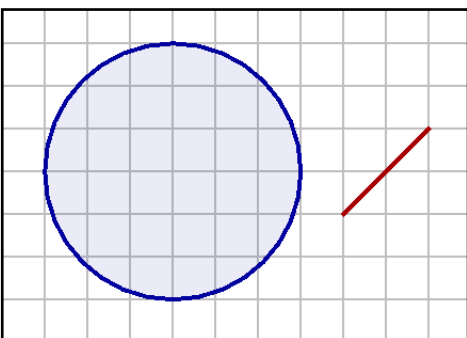
LineSeg l1 = new LineSeg(new Point(6,5),new Point(8,7));
Circle c1 = new Circle(new Point(7,6), 3);
Expected Result: true
Code Result: true
Test Result: pass

Case 2:

LineSeg l2 = new LineSeg(new Point(11,5),new Point(13,7));
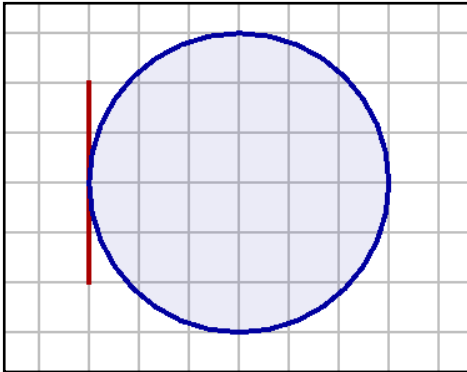Circle c2 = new Circle(new Point(7,6), 3);
Expected Result: false
Code Result: false
Test Result: pass

Case 3:

LineSeg l3 = new LineSeg(new Point(4,4),new Point(4,8));
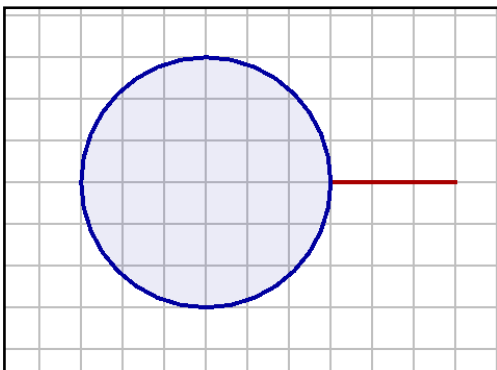Circle c3 = new Circle(new Point(7,6), 3);
Expected Result: true
Code Result: true
Test Result: pass

Case 4:

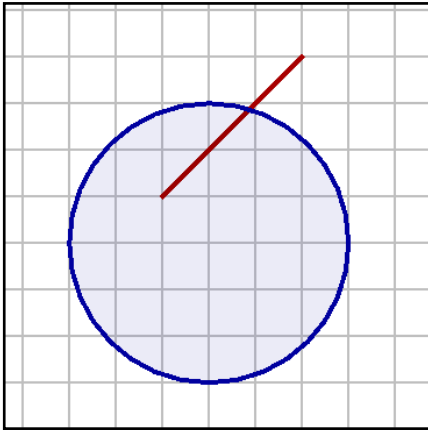LineSeg l4 = new LineSeg(new Point(10,6),new Point(13,6));
Circle c4 = new Circle(new Point(7,6), 3);
Expected Result: true
Code Result: true
Test Result: pass

Case 5:

LineSeg l5 = new LineSeg(new Point(6,7),new Point(9,10));
Circle c5 = new Circle(new Point(7,6), 3);
Expected Result: true
Code Result: true
Test Result: pass

Intersection of a Rectangle with other Shapes.

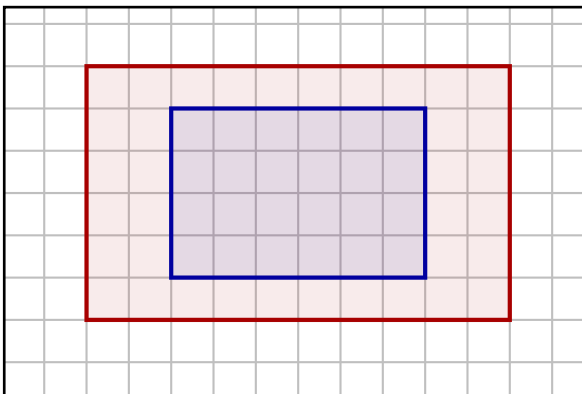## Test of Rectangle.intersect(Point)

Same as Point.intersect(Rectangle) which has already been tested.

Test of Rectangle.intersect(LineSeg)

Same as LineSeg.intersect(Rectangle) which has already been tested.

Test of Rectangle.intersect(Rectangle)
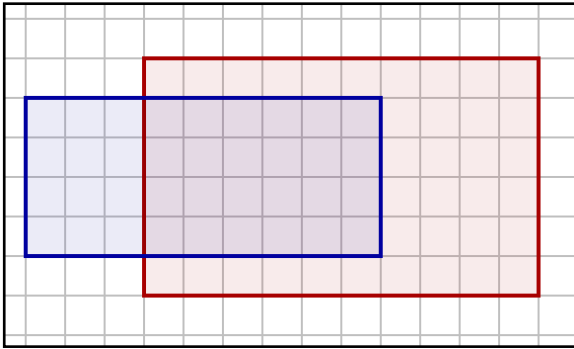
Case 1:

Rectangle r1 = new Rectangle(4,14,9,3);
Rectangle r2 = new Rectangle(6,12,8,4);
Expected Result: true
Code Result: true
Test Result: pass

Case 2:

Rectangle r3 = new Rectangle(4,14,9,3);
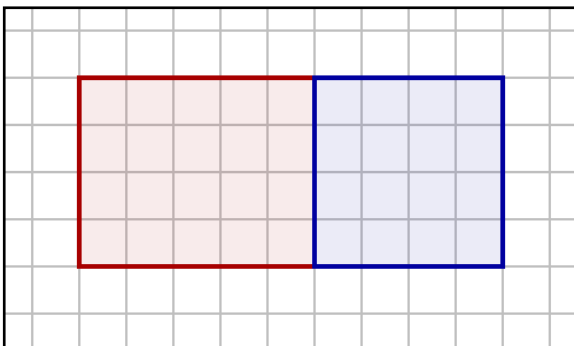Rectangle r4 = new Rectangle(1,10,8,4);
Expected Result: true
Code Result: true
Test Result: pass

Case 3:

Rectangle r5 = new Rectangle(3,8,7,3);
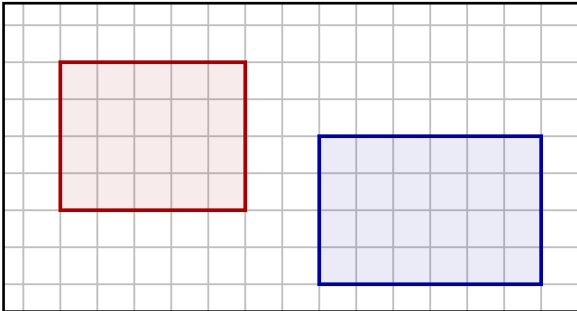Rectangle r6 = new Rectangle(8,12,7,3);
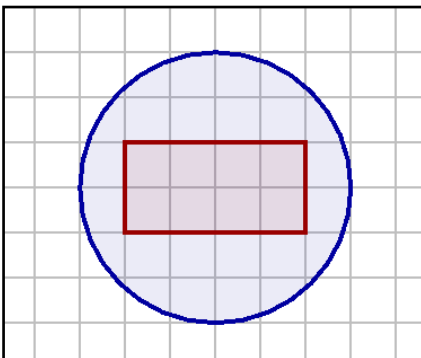Expected Result: false
Code Result: false
Test Result: pass

Case 4:

Rectangle r7 = new Rectangle(3,8,7,3);
Rectangle r8 = new Rectangle(10,16,5,1);
Expected Result: false
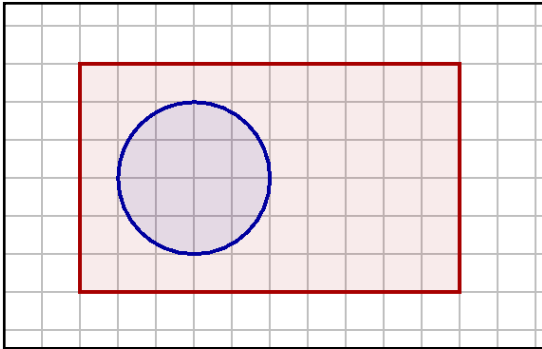Code Result: false
Test Result: pass
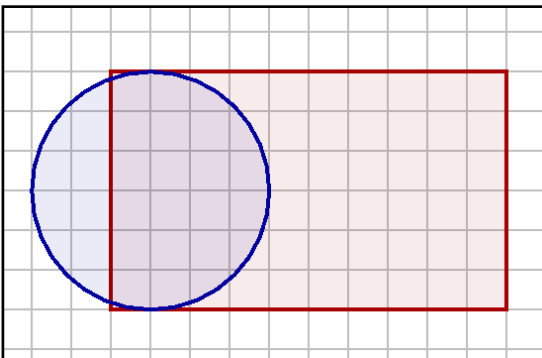
Test of Rectangle.intersect(Circle)

Case 1:

Rectangle r1 = new Rectangle(5,9,7,5);
Circle c1 = new Circle(new Point(7,6), 3);
Expected Result: true
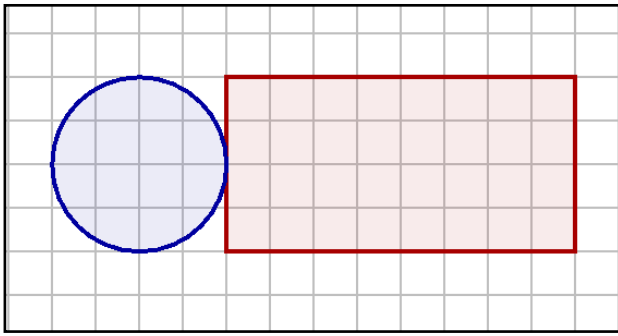Code Result: true
Test Result: pass

Case 2:

Rectangle r2 = new Rectangle(4,14,9,3);
Circle c2 = new Circle(new Point(7,6), 2);
Expected Result: true
Code Result: true
Test Result: pass

Case 3:

Rectangle r3 = new Rectangle(4,14,9,3);
Circle c3 = new Circle(new Point(5,6), 3);
Expected Result: true
Code Result: true
Test Result: pass

Case 4:

Rectangle r4 = new Rectangle(8,16,8,4);
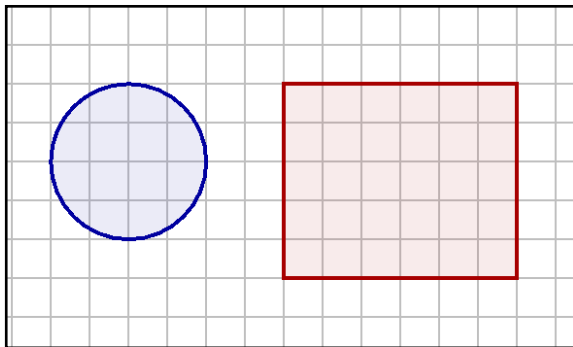Circle c4 = new Circle(new Point(6,6), 2);
Expected Result: false
Code Result: false
Test Result: pass

Case 5:

Rectangle r5 = new Rectangle(9,15,8,3);
Circle c5 = new Circle(new Point(5,6), 2);
Expected Result: false
Code Result: false
Test Result: pass

Intersection of a Circle with other Shapes.

Test of Circle.intersect(Point)

Same as Point.intersect(Circle) which has already been tested.
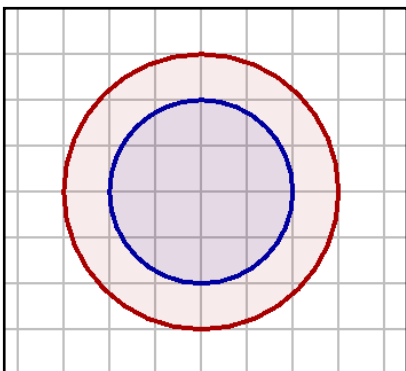
Test of Circle.intersect(LineSeg)

Same as LineSeg.intersect(Circle) which has already been tested.

Test of Circle.intersect(Rectangle)

Same as Rectangle.intersect(Circle) which has already been tested.

Test of Circle.intersect(Circle)
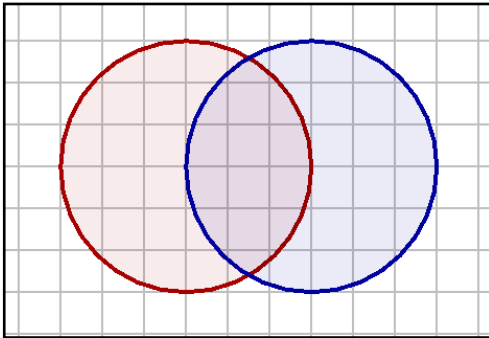
Case 1:

Circle c1 = new Circle(new Point(5,6), 3);
Circle c2 = new Circle(new Point(5,6), 2);
Expected Result: true
Code Result: true
Test Result: pass

Case 2:

Circle c3 = new Circle(new Point(5,6), 3);
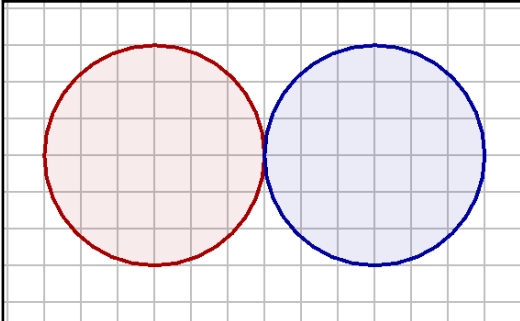Circle c4 = new Circle(new Point(8,6), 3);
Expected Result: true
Code Result: true
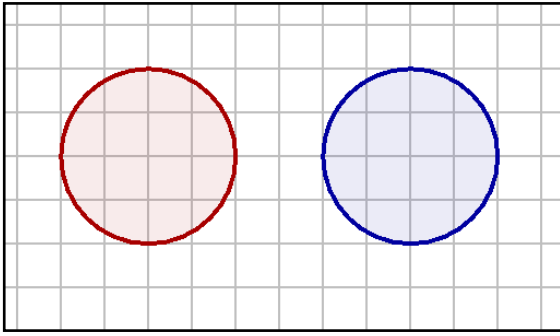Test Result: pass

Case 3:

Circle c5 = new Circle(new Point(5,6), 3);
Circle c6 = new Circle(new Point(11,6), 3);
Expected Result: false
Code Result: false
Test Result: pass

Case 4:

Circle c7 = new Circle(new Point(5,6), 2);
Circle c8 = new Circle(new Point(11,6), 2);
Expected Result: false
Code Result: false
Test Result: pass