In the intersection method or from the Line Runner class you need to check following before finding point of intersection of two lines. If you do not do this in correct order you will get Null Pointer Exception.

```
// check if both the lines are vertical and overlapping (x intercepts are same)
if (l1.isVertical() && l2.isVertical() &&  .. x intercepts are same)
      System.out.println("Consistent System, Infinitely many Solution");
      return null;
}
// check if both lines are vertical and not overlapping(x intercepts are different)
else if (l1.isVertical() && l2.isVertical() && … x intercepts are different) {
      System.out.println("Inconsistent System, No Solution");
      return null;
}
// Computes solution when one of the lines is vertical
else if (l1.isVertical() || l2.isVertical()) { // one line is vertical
                  if (l1.isVertical()) { // line 1 vertical
                        x = …
                        y = …
                        return new Point(x, y);
                  } else if (l2.isVertical()) { // line 2 vertical
                        x = …
                        y = …
                        return new Point(x, y);
                  }
}
// checks for parallel and not intersecting lines.
else if (!(l1.isConsistent(l2))) {
      // same slope different y intercept
      System.out.println("Inconsistent System, No Solution");
      return null;
}
// Lines with consistent solution, parallel overlapping and intersecting
else if (l1.isConsistent(l2)){
      // consistent parallel and overlapping
      if(l1.getSlope().equals(l2.getSlope())){
            System.out.println("Consistent, Dependent System, ……");
            return null;
      }
      // In this case find and return point of intersection
      else {
            // solution exists
            // calculat2 point of intersection of two lines
            Point A = …..
            return A;
      }
}
```