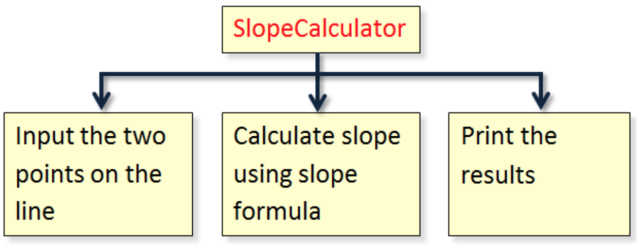
Calculate Slope of a Line

Problem Description

Steve is taking Algebra 1 this year and his class is currently doing a unit on linear equations. Steve is also taking Computer Science this year and has some experience programming in Java. The lesson they are doing in Algebra right now involves calculating the slope of line given two points on the line. Steve has decided to write a program that will calculate the slope for him. He knows the formula for calculating slope is $m = (y_2 - y_1) / (x_2 - x_1)$.

Structure Chart

A **structure chart** (hierarchy chart) is a graphic depiction of the decomposition of a problem. Below is a structure chart for Steve's problem.



Steve has decomposed his problem into three subtasks. The first task is to get the (x,y) values for the two points from the keyboard. The second task is to calculate the slope using slope formula. The third task is to print the results of the calculation.

Method Decomposition

Following the structure of his chart, Steve's program will have one class named SlopeCalculator and the class will contain three methods named **getPoints**, **calculateSlope**, and **printResults**.

Sample Run

```
Enter x1 --> 12
Enter x2 --> 20
Enter y1 --> 10
Enter y2 --> 5
Slope of points (12,20) and (10,5) is 7.5
```