# **HackerRank**

# Day 8: Least Square Regression Line

## **Objective**

In this challenge, we practice using *linear regression* techniques. Check out the Tutorial tab for learning materials!

#### Task

A group of five students enrolls in Statistics immediately after taking a Math aptitude test. Each student's Math aptitude test score, x, and Statistics course grade, y, can be expressed as the following list of (x,y) points:

- 1. (95, 85)
- 2. (85, 95)
- 3. (80, 70)
- 4.(70,65)
- 5. **(60, 70)**

If a student scored an 80 on the Math aptitude test, what grade would we expect them to achieve in Statistics? Determine the equation of the best-fit line using the least squares method, then compute and print the value of y when x=80.

## **Input Format**

There are five lines of input; each line contains two space-separated integers describing a student's respective  $\boldsymbol{x}$  and  $\boldsymbol{y}$  grades:

```
95 85
85 95
80 70
70 65
60 70
```

If you do not wish to read this information from stdin, you can hard-code it into your program.

# **Output Format**

Print a single line denoting the answer, rounded to a scale of 3 decimal places (i.e., 1.234 format).