

# 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  $x$  and  $y$  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).