Problem:

  Dr. Kromah is trying to figure out which two courses in the computer science department taken together supplement one another. He wants to compare past grades from students that took data structures, linear algebra, and statistics at the same time to see which two courses taken together yield the best output for students.

  In statistics, the **Pearson product-moment correlation coefficient** (sometimes referred to as the PPMCC or PCC or Pearson's *r*) is a measure of the linear correlation between two variables *X* and *Y*, giving a value between +1 and −1 inclusive, where 1 is total positive correlation, 0 is no correlation, and −1 is total negative correlation. It is widely used in the sciences as a measure of the degree of linear dependence between two variables. The equation is as followed:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[\, n\sum x^2 - (\sum x)^2 \,][\, n\sum y^2 - (\sum y)^2 \,]}}$$

What to do:

Write a program to help Dr. Kromah come up with a way to compute the PPMC and figure out which two courses have the strongest relationship. Print out all the correlation coefficients for each pair and make sure it the numbers are to two decimal places.

Input is a followed:

Each row represents student's grades during the semester.

Column 1: Data Structure grades

Column 2: Linear Algebra grades

Column 3: Statistic Grades

0 <= grades <= 100

Output:

Example Input:

80	85	90
65	78	90
32	76	98
43	76	98
96	85	48
90	78	95
98	54	32
46	65	98

98   87   90
<u>Output:</u>
-0.62   (Data Structures & Stats)
0.40   (Statistics & Linear Algebra)
0.14   (Linear Algebra & Data Structures)