**Easy Practice Problem**

Time limit:

Memory limit: 256MB

Oo loves solving problems so much. One day, Oo met a challenging problem: “ Given points on the Oxy plane: the coordinate of the i-th point is ( Find two points having the largest distance among all pairs of points and print square of that distance.”

After 10 tireless days of researching, Oo finally came up with the formula of distance between two points on the Oxy plane. In case you may not know, Oo gladly shows you now: The square of distance between point and ( is . From that genius idea, Oo coded a genius solution. Unfortunately, the code is too long to write here but Oo still proudly tells you the core idea here: Checking all pairs of points and finding the optimal pair. The formula’s proof and coding part are left as exercises for the reader!

Shockingly, Oo realized that the problem’s constraint is But like the last time, it didn’t take Oo a long time to think of another genius idea: randomness. Sound scary? Don’t worry! Oo’s new solution is here for you: Choosing out of points randomly and using the above code for those points. But how do we choose ? Well, after 9954 experiments, Oo can confidently tell you that should not exceed 5000.

Not too surprise, Oo sees the code giving wrong answers sometimes. But it does not matter since Oo has finished this challenging problem. Now it’s your opportunity to apply your learned skills and lessons from Oo’s problem-solving process. Here is your practice problem: Find the expected printing value of Oo’s above code. Too easy, right? Don’t worry! Oo won’t give you any hint to keep your joy of problem-solving intact.

**Input**

The first line of the input contains 2 positive integers – the and in Oo’s code.

The next line contains integer numbers , the information of points.

**Output**

Print one number, the expected printing value of Oo’s code. Oo lets you know that the value can be written in form (Is it considered a hint? If yes, Oo apologizes you). You need to print

**Sample 1**

|  |  |
| --- | --- |
| 4 3  1 2 3 4 | 500000036 |

**Sample 2:**

|  |  |
| --- | --- |
| 2 2  2 3 | 5 |

**Explanation:**

In the first sample, there are 4 different triples can be chosen:

+ (1, 2, 3): The points are (2018, 2), (2017, 4), (2016, 6). The largest distance is between (2018, 2) and (2016, 6). Printing value is its square: .

+ (1, 2, 4): Printing value is 45.

+ (1, 3, 4): Printing value is 45.

+ (2, 3, 4): Printing value is 20.

The expected value is (20+20+45+45) / 4 = .