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5s, 256MB

At a grand and dazzling dance party, there are N guests, each with their own dance skill power a_i.

When two guests pair up on the dance floor, their performance score is equal to the **square root of the sum of their skill powers**. For example, if one guest has a skill power of 4 and another has 5, their duet would have a performance score of $\sqrt{4+5} = 3$.

As the host of this vivid celebration, you wish to measure the collective joy — the total performance score of every possible pair of guests dancing together exactly once.

Your task is to determine this total score.

INPUT

The first line contains a single integer n (2≤n≤200000) — the number of guests.

The second line contains N integers $a_1, a_2, \ldots, a_n$ $(1 \le a_i \le 10^9)$ — the dancing skill powers of the guests.

OUTPUT

A single real number — the total performance score at the party.

The answer is considered correct if the relative error does not exceed 10^{-6}.

EXAMPLE

INPUT	OUTPUT
5 7 3 11 2 17	39.009712

NOTE

All possible pairs and their performance scores are:

Guest 1 and guest 2: $\sqrt{7+3}$ ≈3.162277660

Guest 1 and guest 3: $\sqrt{7+11}$ ≈4.242640687

Guest 1 and guest 4: $\sqrt{7+2}$ =3

Guest 1 and guest 5: $\sqrt{7+17}$ ≈4.898979486

Guest 2 and guest 3: $\sqrt{3+11}$ ≈3.741657387

Guest 2 and guest 4: $\sqrt{3+2}$ ≈2.236067977

Guest 2 and guest 5: $\sqrt{3+17}$ ≈4.472135955

Guest 3 and guest 4: $\sqrt{11+2}$ ≈3.605551275

Guest 3 and guest 5: $\sqrt{11+17} \approx 5.291502622$
Guest 4 and guest 5: $\sqrt{2+17} \approx 4.358898944$
Adding them all up gives approximately 39.009712.