These are also limited edition triangles There is trouble at the triangle factory. The triangle assembler has gone down, so all that has been produced for the day is a bunch of triangle sides. To make the best of this situation, it has been decided to create the triangle with the largest possible area from the available sides, and sell it as a limited edition triangle.

You have been hired to write a program that will determine the area of the limited edition triangle.

Input

Input begins with the number of test cases on its own line. Each test case begins with a positive integer N ($3 \leq N \leq 10,000$), followed by N positive real numbers s_i representing the lengths of the available triangle sides ($0 < s_i \leq 100,000$). A single test case may be spread out over several consecutive lines of the input.

Output

For each test case, output a line containing the largest possible area of a triangle built using three of the given sides (as a real number rounded to 2 decimal places). If it is not possible to construct any triangles then output '0.00' (quotes for clarity).

Sample Input

```
2
4 3.0 4.0 5.0 100.0
3 1.0 2.0 4.0
```

Sample Output

```
6.00
0.00
```