Count Triangles

You are given a regular N-gon with vertices at (cos(2πi / N), sin(2πi / N)), ∀ i ∈ [0,N-1]. Some of these vertices are blocked and all others are unblocked. We consider triangles with vertices at the vertices of N-gon and with at least one vertex at unblocked point. Can you find how many *pairs* of such triangles have equal area?

Input Format
The first line of input contains single integer T - number of testcases. 2T lines follow.
Each testcase has two lines.
The first line of testcase contains a single integer N - the number of vertices in N-gon. The second line contains string S with length N. If S[j] equals '1' it means that the vertex (cos(2πj / N), sin(2πj / N)) is unblocked, and if S[j] equals '0' it means that the vertex (cos(2πj / N), sin(2πj / N)) is blocked.

Output Format
For each testcase output single line with an answer.

Constraints
1 <= T <= 100
3 <= N <= 10^4

There will be no more than 50 blocked vertices in each of the testcase.

Sample Input

```
1
4
1111
```

Sample Output

```
6
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Explanation

The testcase given is a square and there are 4 triangles that have the same area. So, the number of pairs are 4C2 = 6.