

## 11554 Hapless Hedonism

Bob is a world-renowned stick collector. His most prized stick possessions include:

- an Arctic Redwood branch from a hike near Dawson City,
- a Desert Pine stick from a visit to the Grand Canyon, and
- a Chinese Arbour twig from an adventure into Tibet.

Bob collects sticks in a peculiar way. He will only accept a new stick into his collection if its length is exactly length  $n + 1$  cm where  $n$  is the number of sticks currently in his collection. This implies his collection of  $n$  sticks contains exactly one stick of length 1 cm through  $n$  cm.

One day Alice visited Bob to inspect his stick collection (upon Bob's insistence of course). Alice wasn't particularly interested in Bob's excessive descriptions and needed a quick conversation changer. Cleverly, she posed the following question to Bob: "If you are allowed to take any 3 sticks from your collection, how many different triangles can you make?"

Can you help Bob answer the question so he can get back to telling Alice about his sticks?

### Input

The input will begin with  $t$  ( $1 \leq t \leq 1000$ ), the number of test cases. Each test case will contain an integer  $n$  ( $3 \leq n \leq 1000000$ ), the number of sticks in Bob's collection. (Recall if Bob has  $n$  sticks, then he has exactly one stick of each of the lengths from 1 cm through  $n$  cm.)

### Output

For each test case, output on a line the number of different triangles you can make with Bob's sticks. Triangles  $X$  and  $Y$  are different if there is at least one stick in  $X$  that is not in  $Y$ . A triangle has area strictly greater than 0.

### Sample Input

```
3
3
4
10
```

### Sample Output

```
0
1
50
```