

3392 Triangular Sums

The n -th *Triangular* number, $T(n) = 1 + \dots + n$, is the sum of the first n integers. It is the number of points in a triangular array with n points on side. For example $T(4)$:

```
  X
 X X
X X X
X X X X
```

Write a program to compute the weighted sum of triangular numbers:

$$W(n) = \sum_{k=1}^n k * T(k + 1)$$

Input

The first line of input contains a single integer N , ($1 \leq N \leq 1000$) which is the number of datasets that follow.

Each dataset consists of a single line of input containing a single integer n , ($1 \leq n \leq 300$), which is the number of points on a side of the triangle.

Output

For each dataset, output on a single line the dataset number, (1 through N), a blank, the value of n for the dataset, a blank, and the weighted sum, $W(n)$, of triangular numbers for n .

Sample Input

```
4
3
4
5
10
```

Sample Output

```
1 3 45
2 4 105
3 5 210
4 10 2145
```