



## 5 - 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:

$$W(n) = \text{SUM}[k = 1..n; k * T(k+1)]$$

### 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	Sample Output
4	1 3 45
3	2 4 105
4	3 5 210
5	4 10 2145
10	