2538. Triangular Sums

Time Limit: 1.0 Seconds Memory Limit: 65536K
Total Runs: 1255 Accepted Runs: 947

The n^{th} Triangular number, `T(n) = 1 + ... + 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 ≤ N ≤ 1000) which is the number of datasets that follow.

Each dataset consists of a single line of input containing a single integer n, (1 ≤ n ≤ 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
```

Source: *Greater New York 2006*