Project Euler #6: Sum square difference



Problem Statement

This problem is a programming version of Problem 6 from projecteuler.net

The sum of the squares of the first ten natural numbers is, $1^2+2^2+\ldots+10^2=385$. The square of the sum of the first ten natural numbers is, $(1+2+\cdots+10)^2=55^2=3025$. Hence the difference between the sum of the squares of the first ten natural numbers and the square of the sum is 3025-385=2640.

Find the difference between the sum of the squares of the first N natural numbers and the square of the sum.

Input Format

First line contains T that denotes the number of test cases. This is followed by T lines, each containing an integer, N.

Output Format

Print the required answer for each test case.

Constraints

 $1 \le T \le 10^4 \\ 1 < N < 10^4$

Sample Input

2 3 10

Sample Output

22 2640