SPOJ Problem Set (classical)

11560. A Summatory

Problem code: PUCMM210

f(n) is defined as: f(n) = $1^3+2^3+3^3+...+n^3$, so it is the sum of the cubes of all natural numbers up to n.

In this problem you are about to compute,

f(1) + f(2) + f(3) + ... + f(n)

Input

The first line is an integer **T**(1 <= **T** <= 100,000), denoting the number of test cases. Then, **T** test cases follow.

For each test case, there is an integer **n**(1 <= **n** <= 1,000,000) written in one line.

Output

For each test case output the result of the summatory function described above.

Since this number could be very large, output the answer modulo 1,000,000,003.

Example

Input:32103**Output:**10794246

Added by: Olson Ortiz
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Time limit: 1s-4s
Source limit:50000B
Languages: All
Resource: Used in 2nd dominican ACM-ICPC Warm Up 2012 Competition in PUCMM