

## 1096 – nth Term

You have to find the  $n^{\text{th}}$  term of the following function:

$$\begin{aligned} f(n) &= a * f(n-1) + b * f(n-3) + c, \text{ if } (n > 2) \\ &= 0, \text{ if } (n \leq 2) \end{aligned}$$

### Input

Input starts with an integer  $T$  ( $\leq 100$ ), denoting the number of test cases.

Each case contains four integers  $n$  ( $0 \leq n \leq 10^8$ ),  $a$   $b$   $c$  ( $1 \leq a, b, c \leq 10000$ ).

### Output

For each case, print the case number and  $f(n)$  modulo 10007.

Sample Input	Output for Sample Input
2 10 1 2 3 5 1 3 9	Case 1: 162 Case 2: 27