

homework3.2 K-th number

Description

With three parameters p, q, r , a sequence S is defined by $S_i=(p*i_2+q*i+r)\bmod 106, \forall i\geq 1$. Given a positive integer n , please find the k -th largest number in the sequence S_1, \dots, S_n .

Input Format

The first line contains a positive integer $T(T\leq 10)$ - the number of test cases.

For each test case, there is one line containing five positive integers $n(n\leq 10^7), k(k\leq n), p, q, r(p, q, r\leq 10^2)$.

Output Format

For each test case, print the k -th largest number in the sequence in a separate line.

Hint

Sample Input	Sample Output
5 7 7 56 50 61 7 2 50 73 41 7 2 34 77 27 7 2 8 51 32 7 7 94 12 3710 6 5 10	3155 387 317 166 4727