code jam
hello, world!

Practice Mode

Round 1B 2010

- Submissions

File Fix-it

12pt	Not attempted **3049/3404 users** correct (90%)
14pt	Not attempted **2909/3047 users** correct (95%)

Picking Up Chicks

13pt	Not attempted **1430/1965 users** correct (73%)
17pt	Not attempted **1393/1424 users** correct (98%)

Your Rank is Pure

14pt	Not attempted **1036/1705 users** correct (61%)
30pt	Not attempted **502/827 users** correct (61%)

- Top Scores

Gluk	100
yuhch123	100
Gennady.Korotkevich	100
SergeyRogulenko	100
andrewzta	100
vepifanov	100
burunduk3	100
nika	100
mystic	100
Vasyl	100

Problem C. Your Rank is Pure

This contest is open for practice. You can try every problem as many times as you like, though we won't keep track of which problems you solve. Read the Quick-Start Guide to get started.

Small input
14 points

Download C-small-practice.in

your output file: Choose File No file chosen

source file(s): not needed for the practice contest

Submit file Hide

Large input
30 points

Download C-large-practice.in

your output file: Choose File No file chosen

source file(s): not needed for the practice contest

Submit file Hide

Problem

> *Pontius*: You know, I like this number 127, I don't know why.
> *Woland*: Well, that is an object so pure. You know the *prime numbers*.
> *Pontius*: Surely I do. Those are the objects possessed by our ancient masters hundreds of years ago. Oh, yes, why then? 127 is indeed a prime number as I was told.
> *Woland*: Not... only... that. 127 is the 31st prime number; then, 31 is itself a prime, it is the 11th; and 11 is the 5th; 5 is the 3rd; 3, you know, is the second; and finally 2 is the 1st.
> *Pontius*: Heh, that is indeed... purely prime.

The game can be played on any subset S of positive integers. A number in S is considered pure with respect to S if, starting from it, you can continue taking its rank in S, and get a number that is also in S, until in finite steps you hit the number 1, which is not in S.

When **n** is given, in how many ways you can pick S, a subset of {2, 3, ..., n}, so that **n** is pure, with respect to S? The answer might be a big number, you need to output it modulo 100003.

Input

The first line of the input gives the number of test cases, **T**. **T** lines follow. Each contains a single integer **n**.

Output

For each test case, output one line containing "Case #x: y", where x is the case number (starting from 1) and y is the answer as described above.

Limits

T ≤ 100.

Small dataset

2 ≤ **n** ≤ 25.

Large dataset

$2 \le \mathbf{n} \le 500$.

Sample

Input	Output
2 5 6	Case #1: 5 Case #2: 8