4. Elite Numbers

Program Name: Elite.java Input File: elite.dat

The sieve of Eratosthenes is a well known process for finding the prime numbers by the following process:

- List all of the natural numbers from 1 to infinity.
- Starting with the number 2, do not mark out the number 2 but do mark out every second number thereafter.
- Then, starting with the number 3, do not mark out the number 3 but mark out every third number thereafter
- Continue this process forever ...

This process will leave only the number 1 and all of the prime numbers unmarked.

The program you will write will be similar to the sieve of Eratosthenes but will leave only what we will refer to as Elite numbers. The process is as follows:

- List all of the natural numbers from 1 to infinity.
- Remove all even numbers leaving the odd numbers:
  1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, ...
- The 2nd number is 3. Start counting with the number 1 and remove every 3rd number leaving:
  1, 3, 7, 9, 13, 15, 19, 21, 25, 27, 31, 33, ...
- The 3rd number is 7. Start counting with the number 1 and remove every 7th number leaving:
  1, 3, 7, 9, 13, 15, 21, 25, 27, 31, 33, ...
- Continue this sieve with the 4th number which is 9.
- Then continue this process forever …

Input

The first line of input will contain a single integer `n` that indicates the number of test cases to follow. Each of the next `n` lines will contain a single natural number smaller than 1500.

Output

For each natural number input, you will print `ELITE` if it is an Elite number or `NOT ELITE` if it is not an Elite number.

Example Input File

```
4
33
85
1053
500
```

Example Output to Screen

```
ELITE
NOT ELITE
ELITE
NOT ELITE
```