8. Prime Reduction

Program Name: Prime.java   **Input File: prime.dat**

Given an integer, find its largest prime factor.

Input
The first line will contain a single integer n that indicates the number of data sets in the input. Each data set will consist of a line containing a single integer i, 2 <= i <= 1000.

Output
For each data set in the input, output a single line with the largest prime factor for the given integer.

Example Input File
```
5
2
7
45
48
512
```

Example Output to Screen
```
2
7
5
3
2
```