

Future Learning

Test Question 2

Algorithms

Razor Number

(Approx. Duration: 1 Hour)

A number whose only prime factors are 1,2,3,5 or 7 is called a *razor* number. The sequence 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 15, 16, 18, 20, 21, 24, 25, 27, ... shows the first 20 razor numbers.

Write a program to find and print the n th element in this sequence.

Sample Input

```
1
2
3
4
11
12
13
21
22
23
100
1000
5842
```

Sample Output

```
The 1st razor number is 1.
The 2nd razor number is 2.
The 3rd razor number is 3.
The 4th razor number is 4.
The 11th razor number is 12.
The 12th razor number is 14.
The 13th razor number is 15.
The 21st razor number is 28.
The 22nd razor number is 30.
The 23rd razor number is 32.
```



The 100th razor number is 450.

The 1000th razor number is 385875.

The 5842nd razor number is 2000000000.