

1. What is your typing speed?

Let us see how fast you can type!

Sahil's speed is 58 WPM!!!

Given two integers N and K, print all the integers from 1 to **N** except the numbers divisible by **K**.

Constraints:

$1 \leq N \leq 100$

$1 \leq K \leq 100$

Input:

Two integers N and K

Output:

Space separated integers from 1 to N except the numbers divisible by K

SAMPLE INPUT

10 2

SAMPLE OUTPUT

1 3 5 7 9

2. PANDYA SWAG

After winning yesterday's match against Australia, Hardik Pandya thought of cooking up a problem. As he is a "champ" and contributes heavily in almost all the wins of India, with all the amount he collects as the man of the match and with the earning of this season's IPL, he bought a new house.

The house looks like a grid of size N (1-indexed). This house consists of $N \times N$ rooms. Each of these rooms contain gold plated watches gifted to him by Neeta Ambani. For each room, the room number is equal to the sum of the row number and column number. That means that the first room number is 2 inspite of being 1.

The number of watches present in the room makes up to the absolute difference between the sum of even digits and the sum of odd digits in its room number.

For example, if the room number is 2134, then the number of gold plated watches kept in that room will be $| (2+4) - (1+3) | = 2$

You are given the size of the grid N and you have to print the number of watches Neeta gifted Hardik.

Constraints:

$$1 \leq T \leq 100000$$

$$1 \leq N \leq 1000000$$

Input:

The first line of input contains a single integer T denoting the number of test cases. The description of T test cases follows.

The only line of each test case contains a single integer N .

Output:

For each line, print the answer on a separate line.

SAMPLE INPUT

```
3
1
2
3
```

SAMPLE OUTPUT

```
2
12
36
```

3. PUBG Sahil

"Winner Winner Chicken Dinner!"

If you haven't heard of the above line before, this means either of the one thing:

1. You never played PUBG, which is okay!
2. You are not even social to see it on social media, which is okay-ish too!
3. You never won a game in PUBG -_-

Sahil was a ruthless PUBG player. He used to play PUBG while preparing for GATE too (don't tell sir :P)

But his elder brother came to know about this and decided a punishment for him. The task for him was simple, he was given an integer N . He could do one of the three given below:

1. If N is divisible by 2, replace it by $N/2$.
2. If N is divisible by 3, replace it by $2N/3$.
3. If N is divisible by 5, replace it by $4N/5$.

His task was to use any of the above operations and convert the final N to 1.

His task was also to minimize the number of operations and report his brother about the steps taken to convert N to 1 using the minimum number of operations. He comes to ask for your help.

Constraints:

$$1 \leq T \leq 100$$

$$1 \leq N \leq 1000000000$$

Input:

The first line of input contains a single integer T denoting the number of test cases. The description of T test cases follows.

The only line of each test case contains a single integer N .

Output:

Print the number of steps required to convert N to 1, print -1 if this is not possible.

SAMPLE INPUT

```
7
1
10
25
30
14
27
1000000000
```

SAMPLE OUTPUT

```
0
4
6
6
-1
6
36
```

4. We love Sahil

Problem looks so big,

The memory given is so small.

Use your brain a little,

Don't spend all the time and just scroll.

Sahil loves to play around with numbers. These problems at times can be tricky to crack. He faces one such problem today and needs your help to crack the problem. He is given a very large number. Now you got to test this number for three properties:

a. Is this number divisible by unity

b. Is this number divisible by itself

c. Is this number divisible by none other than the numbers above.

Test each number for the given properties.

Constraints:

$1 \leq T \leq 100000$

$1 \leq N \leq 1000000000$

Input:

The first line of input contains a single integer T denoting the number of test cases. The description of T test cases follows.

The only line of each test case contains a single integer N.

Output:

Output Yes if the above properties satisfy and No if any of the property fails.

SAMPLE INPUT

4

10

3

2

9

SAMPLE OUTPUT

No

Yes

Yes

No