

## 1. Is It Perfect?

### Problem Description

Take **T** (number of test cases) as input.

For each test case, take integer **N** as input, you have to tell whether it is a **perfect number** or not.

A **perfect number** is a positive integer that is equal to the sum of its **proper positive divisors** (excluding the number itself). A **positive proper divisor** divides a number without leaving any remainder.

### Problem Constraints

$1 \leq T \leq 10$

$1 \leq N \leq 10^6$

### Input Format

The first line of the input contains a single integer **T**.

Each of the next T lines contains a single integer **N**.

### Output Format

In a separate line, print **YES** if a given integer is perfect, else print **NO**.

### Example Input

Input 1:

2  
4  
6

Input 2:

1  
3

### Example Output

Output 1:

```
NO
YES
```

Output 2:

```
NO
```

### Example Explanation

Explanation 1:

For  $A = 4$ , the answer is "NO" as sum of its proper divisors  $= 1 + 2 = 3$ , is not equal to 4.

For  $A = 6$ , the answer is "YES" as sum of its proper divisors  $= 1 + 2 + 3 = 6$ , is equal to 6.

Explanation 2:

For  $A = 3$ , the answer is "NO" as sum of its proper divisors  $= 1$ , is not equal to 3.

## 2. Print the Primes!

### Problem Description

You are given an integer **N** you need to print all the **Prime Numbers** between **1** and **N**.

**Prime numbers** are numbers that have only 2 factors: 1 and themselves. For example, the first 5 prime numbers are 2, 3, 5, 7, and 11.

### Problem Constraints

$1 \leq N \leq 300$

### Input Format

First and only line of input contains a single integer **N**.

### Output Format

Print all the prime numbers between between **1** and **N** each in a new line.

### Example Input

Input 1:

5

Input 2:

10

### Example Output

Output 1:

2  
3  
5

Output 2:

2  
3  
5  
7

### Example Explanation

Explanation 1:

Prime numbers between [1, 5] are (2, 3, 5).

Explanation 2:

Prime numbers between [1, 10] are (2, 3, 5, 7)