Prime Numbers

Input file:	standard input
Output file:	standard output
Time limit:	1 second
Memory limit:	256 megabytes

Prime number is a special kind of number that is widely used in a lot of places, even our mother nature uses it! This question is simple, find the prime factor of a number, sum all of it, modulo it with the greatest prime factor and check whether the result is a prime number.

Input

The first line consists of an integer, $1 \le n \le 100$.

Every n lines consists of a number that is between $1 \le kleq2 \times 10^7$.

Output

"YES"or "NO"as to determine whether the result is a prime number.

Examples

standard input	standard output
3	NO
11	YES
18	NO
1000	
3	NO
1352888	YES
7213189	YES
17378468	

Note

For the first example, 11 has only one prime factor which is 11. Thus the result will be 11 modulo $11 = 0$ and 0 is not a prime number. 1000 has a prime factor of 2 x 2 x 2 x 5 x 5 x 5 and 5 is the greatest prime factor. Thus, $(2 + 2 + 2 + 5 + 5 + 5)$ modulo $5 = 1$ and 1 is not a prime factor.

For the second example, the second case 7213189 has a prime factor of 61 x 118249. Thus the result will be $(61 + 118249)$ modulo $118249 = 61$ and 61 is a prime number.