In this exercise, we say that a natural number $n$ with $k$ digits is narcissistic, when $n$ is equal to the sum of the $k$-th power of its digits. For example, 153 and 1634 are narcissistic numbers, as $153 = 1^3 + 5^3 + 3^3$ and $1634 = 1^4 + 6^4 + 3^4 + 5^4$.

A sequence of natural numbers is insufferably narcissistic when all the elements in the sequence are narcissistic numbers.

Write a program which, given a non-empty sequence of natural numbers, indicates whether it is insufferably narcissistic or not.

Your program must include, implement and use a function

```cpp
bool is_narcissistic (int n);
```

indicating whether a natural $n$ is narcissistic or not.

**Input**

The input is formed by a non-empty sequence of natural numbers.

**Output**

The program has to indicate whether the sequence is insufferably narcissistic.

Follow the format described in the examples. Your code should follow the style rules and include the appropriate comments.

**Sample input 1**

0 1 2 3 4 5 6 7 8 9

**Sample output 1**

SI

**Sample input 2**

73 153 173 351 370 371 407 704

**Sample output 2**

NO

**Sample input 3**

153 370 1634 8208 407 9474 92727 93084 6

**Sample output 3**

SI

**Sample input 4**

1634 4361 4749 8208 9474 8028

**Sample output 4**

NO

**Problem information**

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