

Narcissistic numbers

P29054_en

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

```
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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