"Strange" numbers X47452_en

A positive number > 0 is "strange" if when adding each of its digits raised to the number of digits that make it up, we obtain the number itself.

For example, 153 (which has three digits) is "strange", $153 = 1^3 + 5^3 + 3^3$

Make a program that reads a positive integer and checks if it is "strange" or not.

Input

A positive integer > 0 and < 10000

Output

Prints the input number and says if it is a "strange" number or not

Observation

It is forbidden to use any external function except, `cin` and `cout`, and also the program must be well documented if not it will be invalidated.

Sample input 1

```
3
```

Sample output 1

```
strange number: 3
```

Sample input 2

```
153
```

Sample output 2

```
strange number: 153
```

Sample input 3

```
12
```

Sample output 3

```
not strange number: 12
```

Problem information

Author: PRO1

Generation: 2026-01-25T21:34:51.676Z