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## Parity of the number of divisors

P24818\_en

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Write a program that reads a sequence of natural numbers and, for each one, tells if its number of divisors is even or odd.

For instance, 18 has 6 divisors (1, 2, 3, 6, 9 and 18), and 100 has 9 (1, 2, 4, 5, 10, 20, 25, 50 and 100).

### Input

Input consists of a sequence of strictly positive natural numbers.

### Output

Print each given number followed by “even” or “odd”, as required.

### Observation

The trivial algorithm to solve this exercise is too slow. The fastest algorithm uses the square root. Try to find an intermediate solution.

### Sample input 1

```
18
100
```

### Sample output 1

```
18: even
100: odd
```

### Problem information

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