

---

**Parity of the number of divisors****P24818\_en**

---

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**

Author: Salvador Roura  
Translator: Carlos Molina

Generation: 2026-01-25T10:23:05.550Z

© Jutge.org, 2006–2026.  
<https://jutge.org>