

P1 :: Exponent This!

An integer N is *exponent unique* if its prime decomposition contains no prime factor p that appears the same number of times as another prime factor q .

For example:

$$\begin{array}{llll} 36 & = 4 * 9 & = 2^2 * 3^2 & \text{not } \textit{exponent unique} \rightarrow \text{false} \\ 200 & = 8 * 25 & = 2^3 * 5^2 & \text{is } \textit{exponent unique} \rightarrow \text{true} \end{array}$$

Given a number N (in the range $1 < N \leq 2147483647$) determine whether N is *exponent unique*. You should observe that if N is a prime number, then it is also *exponent unique*.

Input Format

Your program will read from standard input. You will receive only one line of input which will contain a single positive integer by itself that represents the value N .

Output Format

Your program will write to standard output. Your program should produce just a single line of output.

If the input number N is *exponent unique*, then your program must output the string **true** on a line by itself. If N is not *exponent unique* then your program must output the string **false** on a line by itself.

Sample Input and Corresponding Sample Output

Sample Input	Sample Output
199	true
200	true
201	false
207	true
36	false