## Jutge.org

The Virtual Learning Environment for Computer Programming

## Control C301A

A natural number $n>0$ is called powerful if, for each prime divisor $p$ of $n, p^{2}$ is also divisor of $n$. For example, $55125=3 \cdot 3 \cdot 5 \cdot 5 \cdot 5 \cdot 7 \cdot 7$ is a powerful number, because every prime factor appears, at least, twice.

Your task is to write a program that reads a sequence of numbers $m$ and, for each one, prints all the powerful numbers between 1 and $m$.

## Input

The input is a sequence of natural numbers $m>0$.

## Output

For each $m$ of the input, print a line with all the powerful numbers between 1 and $m$, separated by commas and in increasing order.

## Observation

Your program must implement and use the function
bool is_powerful (int $n$ );
that, given an integer strictly positive $n$, indicates if is powerful or is not

## Sample input

## 27

28
26
1
3
4

## Sample output

```
1,4,8,9,16,25,27
1,4,8,9,16,25,27
1,4,8,9,16,25
1
1
1,4
1,4,8,9,16,25,27,32,36,49,64,72,81,100,108,121,125,128,144,169,196,200,216,225,243,256
```


## Problem information

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