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## Control C301A

## P57404\_en

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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
270
```

### 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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