Radosvet started working in a prestigious software company. He discusses algorithmic tasks with his colleagues. The following was too difficult for him and now he asks you for help.

We will call a number "power even" if the sum of the powers in its canonical prime factorisation is even. Formally, if , where are prime numbers, then is “power even” if is the even number.

You are given a natural number . Find the number of "power even" numbers from to inclusive.

**Input**

The only line of the file **even.in** contains the number.

**Output**

On the only line of the file **even.out**, print the required value.

**Constraints**

**Time limit: 3 sec.**

**Memory limit: 256 MB.**

**Sample test**

|  |  |
| --- | --- |
| **Input (even.in)** | **Output (even.out)** |
| 16 | 8 |