📌

E - LCM Sequence   Editorial (/contests/abc412/tasks/abc412_e/editorial)   ● / 🇬🇧

Time Limit: 4 sec / Memory Limit: 1024 MiB

Score : 500 points

Problem Statement

For a positive integer n, define A_n as the least common multiple of $1, 2, \ldots, n$.

You are given positive integers L and R. How many distinct integers are contained in the sequence $(A_L, A_{L+1}, \ldots, A_R)$?

Constraints

- $1 \le L \le R \le 10^{14}$
- $R - L \le 10^7$
- L and R are integers.

Input

The input is given from Standard Input in the following format:

```
L   R
```

Output

Output the number of distinct integers contained in the sequence $(A_L, A_{L+1}, \ldots, A_R)$.

Sample Input 1

```
4 12
```

Sample Output 1

```
6
```

Listing A_4 through A_{12}:

- $A_4 = 12$
- $A_5 = 60$
- $A_6 = 60$
- $A_7 = 420$
- $A_8 = 840$
- $A_9 = 2520$
- $A_{10} = 2520$
- $A_{11} = 27720$
- $A_{12} = 27720$

Thus, $(A_4, A_5, \ldots, A_{12})$ contains six distinct integers.

Sample Input 2

```
123456789 123456789
```

Sample Output 2

```
1
```

Sample Input 3

```
99999990000000 100000000000000
```

Sample Output 3

```
310458
```

2026-01-02 (Fri)
05:26:16 +11:00

/#telegram)

url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fabc412%2Ftasks%2Fabc412_e%3Flang%3Den&title=E%20-

Rule (/contests/abc412/rules)   **Glossary (/contests/abc412/glossary)**

Terms of service (/tos)   **Privacy Policy (/privacy)**   **Information Protection Policy (/personal)**   **Company (/company)**
FAQ (/faq)   **Contact (/contact)**

/#telegram)

url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fabc412%2Ftasks%2Fabc412_e%3Flang%3Den&title=E%20-

2026-01-02 (Fri)
05:26:16 +11:00