

Contest Duration: 2025-06-28(Sat) 22:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250628T2100&p1=248>) - 2025-06-28(Sat) 23:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250628T2240&p1=248>) (local time) (100 minutes)

[Back to Home \(/home\)](#)

[🏠 Top \(/contests/abc412\)](#)

[☰ Tasks \(/contests/abc412/tasks\)](#)

[❓ Clarifications \(/contests/abc412/clarifications\)](#)

[☰ Results ▼](#)

[🏆 Standings \(/contests/abc412/standings\)](#)

[🏆 Virtual Standings \(/contests/abc412/standings/virtual\)](#)

[📖 Editorial \(/contests/abc412/editorial\)](#)



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 $1, 2, \dots, n$.

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

Constraints

- $1 \leq L \leq R \leq 10^{14}$
- $R - L \leq 10^7$
- 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 $(A_L, A_{L+1}, \dots, A_R)$.

2026-01-02 (Fri)

05:26:18 - 11:00

Sample Input 1

Copy

4 12

Copy

Sample Output 1

Copy

6

Copy

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

Sample Input 2

Copy

123456789 123456789

Copy

Sample Output 2

Copy

1

Copy

Sample Input 3

Copy

99999990000000 100000000000000

Copy

Sample Output 3

Copy

310458

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