Mutually Friendly Numbers

Two numbers are mutually friendly if the ratio of the sum of all divisors of the number and the number itself is equal to the corresponding ratio of the other number. This ratio is known as the abundancy of a number. For example, 30 and 140 are friendly, since the abundancy of these two numbers is equal. Figure 1 show this example

$$\frac{1+2+3+5+6+10+15+30}{30}=\frac{72}{30}=\frac{12}{5}\quad\frac{1+2+4+5+7+10+14+20+28+35+70+140}{140}=\frac{336}{140}=\frac{12}{5}$$

Figure 1 – 30 and 140 are friendly

This problem consists in finding all pairs of natural numbers that are mutually friendly within the range of positive integers provided to the program at the start of the execution. Write a parallel program to compute mutually friendly numbers.

Input

The input must be read from the standard input. The input contains one line contains two integers (S, E) that correspond to the range where the mutually friendly numbers will be searched.

- $1 < S < 10^2$
- $I < E < 2^{20}$

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The output must be written to the standard output. The output contains the count of solutions founded (pair of Mutually Friendly Numbers).

INPUT	OUTPUT
30 140	Founded 1 pairs
100 1000	Founded 10 pairs