

Find Integers

Problem ID: p03findintegers

Write a program that:

1. Finds and prints all positive two digit integers strictly less than `stop_range`, whose square of the sum of its digits is equal to the original integer.
2. Finds and prints all positive integers strictly less than `stop_range`, with exactly `num_divisors` positive divisors.

The repetitions in the program should be implemented using **for loops**. Make sure you think about and write down an **algorithm** for the problem before you start coding!

Input

The input consists of two lines:

The first line contains one integer, $20 \leq \text{stop_range} \leq 100$.

The second line contains one integer, $1 \leq \text{num_divisors} \leq 12$.

Output

The output consists of $n \geq 0$ lines and each line contains a single integer.

The first part of the output contains the integers found according to item 1 above.

The second part of the output contains the integers found according to item 2 above.

Sample Input 1

100
10

Sample Output 1

81
48
80

Sample Input 2

90
5

Sample Output 2

81
16
81

Sample Input 3

50
5

Sample Output 3

16

Sample Input 4

82
8

Sample Output 4

81
24
30
40
42
54
56
66
70
78

Sample Input 5

82
7

Sample Output 5

81
64