

A Prime-Adam integer is a positive integer (without leading zeros) which is a prime as well as an Adam number.

Prime number: A number which has only two factors, i.e. 1 and the number itself.

Example: 2, 3, 5, 7 ... etc.

Adam number: The square of a number and the square of its reverse are reverse to each other.

Example: If $n = 13$ and reverse of 'n' = 31, then,

$$(13)^2 = 169$$

$$(31)^2 = 961 \text{ which is reverse of } 169$$

thus 13, is an Adam number.

Accept two positive integers m and n, where m is less than n as user input.

Display all Prime-Adam integers that are in the range between m and n (both inclusive) and output them along with the frequency, in the format given below:

Test your program with the following data and some random data:

Example 1

INPUT:

m = 5

n = 100

OUTPUT:

THE PRIME-ADAM INTEGERS ARE:

11 13 31

FREQUENCY OF PRIME-ADAM INTEGERS IS: 3

Example 2

INPUT:

m = 100

n = 200

OUTPUT:

THE PRIME-ADAM INTEGERS ARE:

101 103 113

FREQUENCY OF PRIME-ADAM INTEGERS IS: 3

A Circular Prime is a prime number that remains prime under cyclic shifts of its digits. When the leftmost digit is removed and replaced at the end of the remaining string of digits, the generated number is still prime. The process is repeated until the original number is reached again.

A number is said to be prime if it has only two factors 1 and itself.

Example:

131

311

113

Hence, 131 is a circular prime.

Accept a positive number N and check whether it is a circular prime or not. The new numbers formed after the shifting of the digits should also be displayed.

Test your program with the following data and some random data:

Example 1

INPUT:

N = 197

OUTPUT:

197

971

719

197 IS A CIRCULAR PRIME.

Example 2

INPUT:

N = 1193

OUTPUT:

1193

1931

9311

3119

1193 IS A CIRCULAR PRIME.