Next Prime Number

1) Write a program that takes an integer from the user and prints the first prime number after it.

Input:

integer **n** where -1000 <= n <= 1000

Output:

first prime number after n.

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4	5
-100	2

Rhombus

2) Write a program that receives two numbers **m** and **n** as input from the user and print m Rhombus next to each other in a row with diameter n as output using the * character. (n is an odd number)

Input:

1 <= m <= 4

1 <= n <= 15

Output:

Print Rhombus next to each other

Input:

2

5

Output:

```
  *     *
 ***   ***
***** *****
 ***   ***
  *     *
```

Perfect Number

3) A number is a perfect number if is equal to sum of its proper divisors, that is, sum of its positive divisors excluding the number itself. Write a program take two integers as input and find all perfect numbers between them.

Input:

Take two integers, in two lines.

Output:

All perfect numbers between two integers.

Example

Input: 0 100 **Output:** 6 28

ستون 1	ستون 2	ستون 3
Perfect number	Positive factors	Sum of all factors excluding itself
6	1,2,3,6	6
28	1,2,4,7,14,28	28

Palindrome

Write a program that takes a number and checks whether it is a palindrome or not.

input

```
1<=n<= 2*(10^9)
```

output

If number is palindrome print “yes” and if not print “no” as output

Example

input1

```
234565432
```

output1

```
Yes
```

input2

```
7010
```

output2

No

Fibonacci

The Fibonacci numbers are the numbers in the following integer sequence. 1, 2, 3, 5, 8, 13, 21 , 34, 55 , 89, 144, ...

In mathematical terms, the sequence of Fibonacci numbers is defined by the recurrence relation :

```
Fib(1) = 1 , Fib(2)= 2
Fib(n) = fib(n-1)  +  fib(n-2)
```

Write a program that get and integer and print a string like : s1, s2, s3 ,s4,... .

si is “+” where i is a member of Fibonacci series and si is “-“ where i is not a member of Fibonacci series.

input

take a integer number n where 0 < n <100

output

Print string with length of n.

Example

input1

```
15
```

output1

+++-+--+----+--

ورودی نمونه ۲

4

خروجی نمونه ۲

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