Problem A. F

Time limit 2000 ms
Mem limit 1048576 kB

Problem Statement

You are given two integers a and b. Determine if $a + b = 15$ or $a \times b = 15$ or neither holds.

Note that $a + b = 15$ and $a \times b = 15$ do not hold at the same time.

Constraints

- $1 \leq a, b \leq 15$
- All values in input are integers.

Input

Input is given from Standard Input in the following format:

```
a b
```

Output

If $a + b = 15$, print `+`; if $a \times b = 15$, print `*`; if neither holds, print `x`.

Sample 1

Input	Output
4 11	+

$4 + 11 = 15$.

Sample 2

Input	Output
3 5	*

$3 \times 5 = 15$.

Sample 3

Input	Output
1 1	x

$1 + 1 = 2$ and $1 \times 1 = 1$, neither of which is 15.

Problem B. Restricted

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

You are given two integers A and B as the input. Output the value of $A + B$.

However, if $A + B$ is 10 or greater, output `error` instead.

Constraints

- A and B are integers.
- $1 \leq A, B \leq 9$

Input

Input is given from Standard Input in the following format:

```
A B
```

Output

If $A + B$ is 10 or greater, print the string `error` (case-sensitive); otherwise, print the value of $A + B$.

Sample 1

Input	Output
6 3	9

Sample 2

Input	Output
6 4	error

Problem C. Between Two Integers

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

You are given three integers A, B and C. Determine whether C is not less than A and not greater than B.

Constraints

- $-100 \leq A, B, C \leq 100$
- A, B and C are all integers.

Input

Input is given from Standard Input in the following format:

```
A B C
```

Output

If the condition is satisfied, print `Yes`; otherwise, print `No`.

Sample 1

Input	Output
1 3 2	Yes

$C = 2$ is not less than $A = 1$ and not greater than $B = 3$, and thus the output should be `Yes`.

Sample 2

Input	Output
6 5 4	No

$C = 4$ is less than $A = 6$, and thus the output should be `No`.

Sample 3

Input	Output
2 2 2	Yes

Problem D. Bichrome Cells

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

We have an $N \times N$ square grid.

We will paint each square in the grid either black or white.

If we paint exactly A squares white, how many squares will be painted black?

Constraints

- $1 \leq N \leq 100$
- $0 \leq A \leq N^2$

Inputs

Input is given from Standard Input in the following format:

```
N
A
```

Outputs

Print the number of squares that will be painted black.

Sample 1

Input	Output
3 4	5

There are nine squares in a 3×3 square grid. Four of them will be painted white, so the remaining five squares will be painted black.

Sample 2

Input	Output
19 100	261

Sample 3

Input	Output
10 0	100

As zero squares will be painted white, all the squares will be painted black.

Problem E. Round Up the Mean

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

You are given two positive integers a and b. Let x be the average of a and b. Print x rounded up to the nearest integer.

Constraints

- a and b are integers.
- $1 \leq a, b \leq 100$

Input

Input is given from Standard Input in the following format:

```
a b
```

Output

Print x rounded up to the nearest integer.

Sample 1

Input	Output
1 3	2

The average of 1 and 3 is 2.0, and it will be rounded up to the nearest integer, 2.

Sample 2

Input	Output
7 4	6

The average of 7 and 4 is 5.5, and it will be rounded up to the nearest integer, 6.

Sample 3

Input	Output
5 5	5

Problem F. Placing Marbles

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

Snuke has a grid consisting of three squares numbered 1, 2 and 3. In each square, either `0` or `1` is written. The number written in Square i is s_i.

Snuke will place a marble on each square that says `1`. Find the number of squares on which Snuke will place a marble.

Constraints

- Each of s_1, s_2 and s_3 is either `1` or `0`.

Input

Input is given from Standard Input in the following format:

$s_1 s_2 s_3$

Output

Print the answer.

Sample 1

Input	Output
101	2

- A marble will be placed on Square 1 and 3.

Sample 2

Input	Output
000	0

- No marble will be placed on any square.

Problem G. Good Integer

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

We call a 4-digit integer with three or more consecutive same digits, such as 1118, **good**.

You are given a 4-digit integer N. Answer the question: Is N **good**?

Constraints

- $1000 \leq N \leq 9999$
- N is an integer.

Input

Input is given from Standard Input in the following format:

```
N
```

Output

If N is **good**, print `Yes`; otherwise, print `No`.

Sample 1

Input	Output
1118	Yes

N is **good**, since it contains three consecutive 1.

Sample 2

Input	Output
7777	Yes

An integer is also **good** when all the digits are the same.

Sample 3

Input	Output
1234	No

Problem H. One out of Three

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

You are given three integers, A, B and C.
Among them, two are the same, but the remaining one is different from the rest.
For example, when $A = 5, B = 7, C = 5$, A and C are the same, but B is different.
Find the one that is different from the rest among the given three integers.

Constraints

- $-100 \leq A, B, C \leq 100$
- A, B and C are integers.
- The input satisfies the condition in the statement.

Input

Input is given from Standard Input in the following format:

```
A B C
```

Output

Among A, B and C, print the integer that is different from the rest.

Sample 1

Input	Output
5 7 5	7

This is the same case as the one in the statement.

Sample 2

Input	Output
1 1 7	7

In this case, C is the one we seek.

Sample 3

Input	Output
-100 100 100	-100

Problem I. Infinite Coins

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

E869120 has A 1-yen coins and infinitely many 500-yen coins.
Determine if he can pay exactly N yen using only these coins.

Constraints

- N is an integer between 1 and 10000 (inclusive).
- A is an integer between 0 and 1000 (inclusive).

Input

Input is given from Standard Input in the following format:

```
N
A
```

Output

If E869120 can pay exactly N yen using only his 1-yen and 500-yen coins, print `Yes`; otherwise, print `No`.

Sample 1

Input	Output
2018 218	Yes

We can pay 2018 yen with four 500-yen coins and 18 1-yen coins, so the answer is `Yes`.

Sample 2

Input	Output
2763 0	No

When we have no 1-yen coins, we can only pay a multiple of 500 yen using only 500-yen coins. Since 2763 is not a multiple of 500, we cannot pay this amount.

Sample 3

Input	Output
37 514	Yes

Problem J. Addition and Subtraction Easy

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

Joisino wants to evaluate the formula "A op B". Here, A and B are integers, and the binary operator op is either `+` or `-`. Your task is to evaluate the formula instead of her.

Constraints

- $1 \leqq A, B \leqq 10^9$
- op is either `+` or `-`.

Input

The input is given from Standard Input in the following format:

```
A op B
```

Output

Evaluate the formula and print the result.

Sample 1

Input	Output
1 + 2	3

Since $1 + 2 = 3$, the output should be 3.

Sample 2

Input	Output
5 - 7	-2

Problem K. Cats and Dogs

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

There are a total of $A + B$ cats and dogs. Among them, A are known to be cats, but the remaining B are not known to be either cats or dogs.

Determine if it is possible that there are exactly X cats among these $A + B$ animals.

Constraints

- $1 \leq A \leq 100$
- $1 \leq B \leq 100$
- $1 \leq X \leq 200$
- All values in input are integers.

Input

Input is given from Standard Input in the following format:

```
A B X
```

Output

If it is possible that there are exactly X cats, print `YES`; if it is impossible, print `NO`.

Sample 1

Input	Output
3 5 4	YES

If there are one cat and four dogs among the $B = 5$ animals, there are $X = 4$ cats in total.

Sample 2

Input	Output
2 2 6	NO

Even if all of the $B = 2$ animals are cats, there are less than $X = 6$ cats in total.

Sample 3

Input	Output
5 3 2	NO

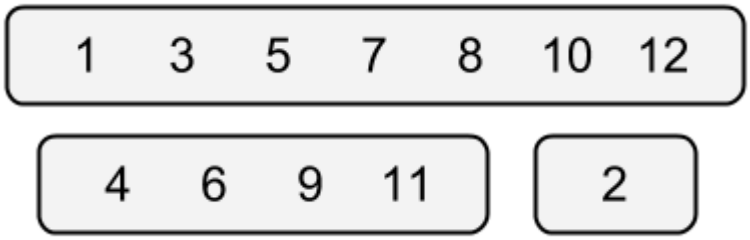
Even if all of the $B = 3$ animals are dogs, there are more than $X = 2$ cats in total.

Problem L. Grouping

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

Based on some criterion, Snuke divided the integers from 1 through 12 into three groups as shown in the figure below. Given two integers x and y ($1 \leq x < y \leq 12$), determine whether they belong to the same group.



Constraints

- x and y are integers.
- $1 \leq x < y \leq 12$

Input

Input is given from Standard Input in the following format:

```
x y
```

Output

If x and y belong to the same group, print `Yes`; otherwise, print `No`.

Sample 1

Input	Output
1 3	Yes

Sample 2

Input	Output
2 4	No

Problem M. Multiple of 2 and N

Time limit 2000 ms
Mem limit 1048576 kB

Problem Statement

You are given a positive integer N. Find the minimum positive integer divisible by both 2 and N.

Constraints

- $1 \leq N \leq 10^9$
- All values in input are integers.

Input

Input is given from Standard Input in the following format:

```
N
```

Output

Print the minimum positive integer divisible by both 2 and N.

Sample 1

Input	Output
3	6

6 is divisible by both 2 and 3. Also, there is no positive integer less than 6 that is divisible by both 2 and 3. Thus, the answer is 6.

Sample 2

Input	Output
10	10

Sample 3

Input	Output
999999999	1999999998

Problem N. Palindromic Number

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

You are given a three-digit positive integer N.
Determine whether N is a *palindromic number*.
Here, a palindromic number is an integer that reads the same backward as forward in decimal notation.

Constraints

- $100 \leq N \leq 999$
- N is an integer.

Input

Input is given from Standard Input in the following format:

```
N
```

Output

If N is a palindromic number, print `Yes` ; otherwise, print `No` .

Sample 1

Input	Output
575	Yes

$N = 575$ is also 575 when read backward, so it is a palindromic number. You should print `Yes` .

Sample 2

Input	Output
123	No

$N = 123$ becomes 321 when read backward, so it is not a palindromic number. You should print `No` .

Sample 3

Input	Output
812	No

Problem O. September 9

Time limit 2000 ms
Mem limit 262144 kB

Problem Statement

It is September 9 in Japan now.

You are given a two-digit integer N. Answer the question: Is 9 contained in the decimal notation of N?

Constraints

- $10 \leq N \leq 99$

Input

Input is given from Standard Input in the following format:

```
N
```

Output

If 9 is contained in the decimal notation of N, print `Yes` ; if not, print `No` .

Sample 1

Input	Output
29	Yes

The one's digit of 29 is 9.

Sample 2

Input	Output
72	No

72 does not contain 9.

Sample 3

Input	Output
91	Yes