ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
Department of Computer Science and Engineering (CSE)

CSE 4108: Structured Programming I Lab
Lab 4, Section 2A

Objectives

- Exploring Conditional Statements & Logical Operators

- Introduction to the `vjudge` platform

Submissions

- All source codes (.c files) in the naming format `ID_Lab4_TaskN.c`, eg. `230041101_Lab4_Task4.c`.

- Source codes must be properly indented

- Screenshots are not required.

- No *Google Classroom* submissions are required for Task 5, submit solutions directly in the `vjudge` platform.

- Participate in the `vjudge` contest after you are done with the other tasks, and solve as many problems as you can throughout the week. Do not copy any of the solutions from others. .

Task 1 — Larger Number

Given three integers, print the largest among them. Try to minimize the number of comparisons needed to solve the problem

Note: It is possible to solve this problem using 3 comparisons only. If you use an extra variable, then it can be solved using only 2 comparisons.

Input

The input consists of a single line containing three integers a, b, and c ($1 \le a, b, c \le 10^9$).

Output

Output the largest number.

Sample Test Case(s)

Input

```
5 6 7
```

Output

```
7
```

Input

```
999999999 1000000000 999999998
```

Output

```
1000000000
```

Task 2 — Lucky Ticket

You are given a 6-digit ticket number. A ticket is considered lucky if the sum of the first three digits is equal to the sum of the last three digits.

Input

A single line containing a 6-digit integer n ($100000 \leq n \leq 999999$).

Output

Output "YES" if the ticket is lucky, otherwise output "NO".

Sample Test Case(s)

Input:

```
213132
```

Output:

```
YES
```

Input:

```
973894
```

Output:

```
NO
```

Explanation

Case 1:

- The sum of the first three digits is $2 + 1 + 3 = 6$.
- The sum of the last three digits is $1 + 3 + 2 = 6$.

Since both sums are equal, the output is "YES".

Case 2:

- The sum of the first three digits is $9 + 7 + 3 = 19$.
- The sum of the last three digits is $8 + 9 + 4 = 21$.

Since the sums are not equal, the output is "NO".

Task 3 — Treat

At the Institute of Unbearable Torture (IUT), it is customary for senior students to give a treat to their fresher rollmates for the sake of fostering the IUTian brotherhood. Two students are considered rollmates if and only if the last two digits of their student IDs match. Furthermore, the first two digits of the student ID of a senior student A is always strictly less than the first two digits of a fresher student B's ID.

Given the student IDs of two students, A and B, determine whether A should give a treat to B based on these conditions.

Input

The input consists of two lines:

- The first line contains the student ID of Student A, a nine-digit integer A.
- The second line contains the student ID of Student B, a nine-digit integer B.

Output

Print YES if Student A should give a treat to Student B. Otherwise, print NO.

Sample Test Case(s)

Input

```
180041205
190041117
```

Output

```
NO
```

Input

```
190041205
180041205
```

Output

```
NO
```

Input

```
170041105
180041205
```

Output

```
YES
```

Task 4 — Cake?

After the end of the 1st semester, the students of CSE-23 decided to celebrate. For this purpose, a large rectangular cake was ordered. The students gathered at the round table. Now, the question is — Is it possible to put a rectangular cake on the round table so that no piece of cake will extend beyond the table? You need to know the cake's dimensions and the table's radius in order to figure it out.

Input

Contains three positive integers: the radius of the table r $(1 \leq r \leq 1000)$, the width of the cake w, and the length of the cake l $(1 \leq w \leq l \leq 1000)$.

Output

Print the word YES, if the cake can be placed on the table, and the word NO otherwise.

Sample Test Case(s)

Output

```
38 40 60
```

Output

```
YES
```

Input

```
35 20 70
```

Output

```
NO
```

Input

```
50 60 80
```

Output

```
YES
```

Task 5 — Introduction to *vjudge*

- Create an account or login at https://vjudge.net

- In your profile page, set the nickname as your student ID

- Participate in the contest using the contest information provided in the Google Classroom.