Romeo and Juliet

locked

Problem Statement

Romeo and **Juliet** are a newly married couple. They went to Switzerland for their honeymoon. They had a plan in mind: they would test their fortune by staying in different cities and seeing if they could reunite in at most **K** steps. Switzerland has **N** cities numbered from **0** to **N-1**, with **E** two-way roads connecting them.

Romeo is in city **X**, and Juliet is in city **Y**. In each step, they can cross one road and move from one city to another. It is not mandatory for both of them to cross; one can choose to stay in the same city if desired. However, the step will still be counted.

Can you tell if they can be reunited or not?

Input Format

- First line will contain **N** and **E**; The number of city and number of roads respectively.
- Next **E** lines will contain **A** and **B** which means there is a road between city A and B.
- Last line will contain **X**,**Y** and **K**.

Constraints

1. 2 <= **N** <= 100
2. 0 <= **E** <= 1000
3. 0 <= **X**, **Y** < N and **X** != **Y**
4. 0 <= **K** <= 1000

Output Format

- Output "**YES**" if they can be reunited otherwise output "**NO**".

Sample Input 0

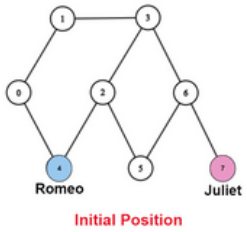
```
8 9
0 1
4 0
4 2
2 3
1 3
2 5
5 6
6 7
6 3
4 7 2
```

Sample Output 0

```
YES
```

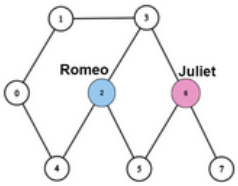
Explanation 0

1. Initial city of Romeo and Juliet are 4 and 7.



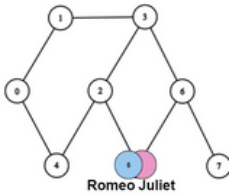
Initial Position

2. Romeo at city 2 and Juliet at city 6 after step 1 -



Step 1

3. Romeo and Juliet are both at city 5 after step 2 -



Step 2

Sample Input 1

```
8 9
0 1
4 0
4 2
2 3
1 3
2 5
5 6
6 7
6 3
2 7 2
```

Sample Output 1

```
YES
```

Sample Input 2

```
8 9
0 1
4 0
4 2
```

```
2 3
1 3
2 5
5 6
6 7
6 3
2 7 1
```

Sample Output 2

```
NO
```

Sample Input 3

```
7 6
4 0
0 1
3 1
3 2
4 2
5 6
4 6 10
```

Sample Output 3

```
NO
```

Submissions: 126
Max Score: 20
Difficulty: Easy

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C++20

```cpp
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

Line: 1 Col: 1

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