**Value Dollar’s trip**

Value Dollar is travelling in a country named Cold Storage. The map of Cold Storage can be modelled as an undirected graph, with cities and bi-directional roads connecting them. The cities are numbered from 1 to . Each city has an interesting value, assigned by Tripadvisor. Value Dollar is currently in city with number , and he wants to visit the city with number . He wants to travel from city to city , but with a very strict condition that he will only visit a city with an interesting value higher than the interesting values of all previously visited cities. Can you help him to check if there exists such a path?

## Input

The first line contains four integers – the number of cities, number of roads connecting those cities, the starting city and the destination

The second line contains integers , the interesting values of the cities. ( ).

In the next lines, each consists two integers – represents a bi-directional road connecting city and city .

## Output

Print “YES” if there exists a path from to satisfied the requirement and “NO” otherwise.

## Examples

|  |  |
| --- | --- |
| Input (trip1.in) | Output (trip1.out) |
| 6 5 1 4  1 2 3 4 0 6  1 3  2 1  2 4  5 4  5 3 | YES |

|  |  |
| --- | --- |
| Input (trip2.in) | Output (trip2.out) |
| 4 5 1 2  3 2 4 1  1 2  3 4  2 3  1 4  3 1 | NO |

## Explanation:

For the 1st example:

(The green number is the interesting value of each vertex)

We need to travel from 1 to 4. One of the possible path is . There exists another path from 1 to 4 is but this path does not satisfy the requirement since the interesting value of vertex 5 (0) is not strictly larger than the value of vertex 3 (3).

## Note:

1. A skeleton file has been given to help you. You should not create a new file or rename the file provided. You should develop your program using this skeleton file.
2. You are free to define your own helper methods and classes (or remove existing ones) if it is suitable but you must put all the new classes, if any, in the same skeleton file provided

## Skeleton File

You can find the skeleton file Trip.java in the lab package.