



Celebrity Problem

The Celebrity problem

Problem

- You are given a number n , representing the number of people in a party.
- A **celebrity** is defined as somebody who knows no other person but everybody else knows him.
- Print the index of all the celebrities in the party, and there is no celebrity, then print "none".
- Note: There will be at least 2 people in the party, i.e. $N \geq 2$. A party with only the party organizer does not make sense, isn't it?

The Celebrity problem

Example:

Consider a party of 4 people with the array of strings as:

```
0101
0000
1101
1110
```

- In this scenario, the person with index 1 is the celebrity as everybody knows him but he does not know anybody else.
- Hence, the answer will be 1.

```
1 import java.util.*;
2 public class Main {
3     public static int celebritySolution(int[][] mat) {
4         Stack<Integer> stk = new Stack<>();
5         for(int i=0;i<mat.length;i++)
6         {
7             stk.push(i);
8         }
9         while(stk.size() > 1) {
10             int col = stk.pop();
11             int row = stk.pop();
12             if(mat[row][col] == 1) {
13                 stk.push(col);
14             }
15             else
16             {
17                 stk.push(row);
18             }
19         }
20
21
22
```

```
1      int x = stk.pop();
2      for(int j=0;j<mat.length;j++) {
3          if(j == x) continue;
4          if(mat[x][j] == 1) {
5              return -1;
6          }
7      }
8  }
9      for(int i=0;i<mat.length;i++) {
10         if(i == x) continue;
11         if(mat[i][x] == 0) {
12             return -1;
13         }
14     }
15 }
16 return x;
17 }
18
19
20
21
22
```

```
1 public static void main(String[] args){
2     Scanner sc=new Scanner(System.in);
3     int n=sc.nextInt();
4     int matrix[][]=new int[n][n];
5     for(int i=0;i<n;i++)
6         for(int j=0;j<n;j++)
7             matrix[i][j]=sc.nextInt();
8     int res = celebritySolution(matrix);
9     if(res == -1)
10         System.out.println("There is no celebrity in the party");
11     else
12         System.out.println(res + " is the celebrity in the party");
13 }
14 }
15
16
17
18
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22
```



THANK YOU