

27

MAY
SATURDAY

on

APR	M	T	W	T	F	S	S
2023	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30

* Celebrity Problem :-

Stack-based solution for CP.....

Import java.util.*;

public class CelebrityProblem {

public static boolean knows (int[][] M, int a, int b)

{

return M[a][b] == 1;

}

* function to find celebrity :-

public static int findCelebrity (int[][] M, int n) {

Stack<Integer> st = new Stack<>();

Push everyone in stack.

for (int i = 0; i < n; i++) {
st.push(i);

}

Elimination Process

while (st.size() > 1) {

int a = st.pop();

int b = st.pop();

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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WK 21 + 11B-217

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```
if (knows (M, a, b) {
    st.push(b);
}
```

```
else {
    st.push(a);
}
```

```
int cand = st.pop();
```

```
for (int i = 0; i < n; i++) {
```

```
    if (i != cand) {
```

```
        if (knows (M, cand, i) || !knows (M, i, cand)) {
            return -1;
        }
    }
}
```

```
return cand;
```

```
}
```

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public static void main (String [] args) {

int [][] M = {

{ 0, 1, 1, 13,

{ 0, 0, 1, 13,

{ 0, 0, 0, 13,

{ 0, 0, 0, 0 }

};

int n = M.length;

int celeb = findCelebrity (M, n);

if (celeb == -1)

System.out.println ("No celebrity");

else

System.out.println ("celebrity" + celeb);

}

}

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AUGUST