Hello, **2024101067**.

Disease

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Points: 100 (partial)
Time limit: 1.0s
Memory limit: 256M

Allowed languages
C, C++

A new disease is widespread in IIITH. A student named *Roma* drew a graph of N students in IIITH. An edge between node A and Node B represents that A is a friend of B. (Assume **graph is undirected**)

The disease will spread from a node P to node Q if P and Q are connected (There is a path from node P to node Q).
Now he has got q queries. In each query, given nodes X and Y, if X is infected by the disease will node Y also be infected. Note that all queries are independent of each other.

Constraints

$n \leq 100$

$q \leq 100$

Input

First line contains n, q.

Next n lines contains the adjacency matrix, with each line having n elements either 1 or 0. 1 represents edge, 0 represents no edge.

Next q lines contains 2 integers, node which has disease and target node. Assume nodes are 0 indexed. (They are labelled as 0,1,...,n-1)

Output

Output consists of q lines, the answer for q queries. Print 1 if target node gets infected, Print 0 if target node does not get infected.

Sample Test Case

```
0 0 1 0 0
0 0 0 1 0
1 0 0 0 1
0 1 0 0 0
0 0 1 0 0
0 3
0 4
1 2
```

Output

Copy

```
0
1
0
```

Clarifications

Request clarification

No clarifications have been made at this time.