

# Searching the Graph

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[English version](#)

For a given list of adjacent vertices of a graph and a chosen vertex  $v$  write down in the Depth First Search (DFS) or Breadth First Search (BFS) order all the vertices from the connected component of the graph containing  $v$ . Assume that the number of vertices of the graph is at most 1000.

## Input

$t$  [the number of graphs  $\leq 100$ ]

Graph:

$n$  [ $1 \leq n \leq 1000$  the number of graph vertices]

$i\ m\ a\ b\ c\ \dots$  [the list of  $m$  adjacent vertices to vertex  $i$ ]

Any query is as follows: [not more than  $n$  queries]

$v\ i$

where  $1 \leq v \leq n$  is the beginning vertex and  $i = 0$  for DFS order and  $i = 1$  for BFS order.

0 0 [at the end of the serie]

The list for isolated vertex  $a$  is  $a\ 0$ .

## Output

*graph i* [test case, word *graph* is necessary]

$a\ b\ c\ \dots$  [the DFS or BFS order of all vertices]

## Example

**Input:**

```
3
6
1 2 3 4
2 2 3 6
3 2 1 2
4 1 1
5 0
6 1 2
5 1
1 0
1 0
0 0
10
1 6 3 5 6 7 8 9
2 1 9
3 2 1 5
4 5 6 7 8 9 10
5 4 1 3 7 8
6 3 1 4 7
```

7 5 1 4 5 6 8  
8 5 1 4 5 7 10  
9 3 1 2 4  
10 2 4 8  
7 1  
1 0  
2 1  
4 1  
7 1  
0 0  
2  
1 0  
2 0  
1 1  
0 0

**Output:**

graph 1  
5  
1 3 2 6 4  
1 3 2 6 4  
graph 2  
7 1 4 5 6 8 3 9 10 2  
1 3 5 7 4 6 8 10 9 2  
2 9 1 4 3 5 6 7 8 10  
4 6 7 8 9 10 1 5 2 3  
7 1 4 5 6 8 3 9 10 2  
graph 3  
1