

...

Time complexity:  $O(V + E)$   
Space complexity:  $O(V^2)$

where  $V$  is the number of vertices in the input graph and  
 $E$  is the number of edges in the input graph

...

```
from sys import stdin, setrecursionlimit
setrecursionlimit(10**6)
import queue
```

```
class Graph:
```

```
    def __init__(self, nVertices):
        self.nVertices = nVertices
        self.adjMatrix = [[0 for i in range(nVertices)] for j in range(nVertices)]
```

```
    def addEdge(self, v1, v2):
        self.adjMatrix[v1][v2] = 1
        self.adjMatrix[v2][v1] = 1
```

```
    def removeEdge(self):
        if self.containsEdge(v1, v2) is False :
            return
        self.adjMatrix[v1][v2] = 0
        self.adjMatrix[v2][v1] = 0
```

```
    def containsEdge(self, v1, v2):
        if self.adjMatrix[v1][v2] > 0:
            return True
        else:
            return False
```

```
    def __str__(self):
        return str(self.adjMatrix)
```

```
    def __getPathDFS(self, sv, ev, visited) :
        if sv == ev :
            return list([sv])
```

```
        visited[sv] = True
```

```
        for i in range(self.nVertices) :
```

```
    if self.adjMatrix[sv][i] == 1 and not visited[i] :  
        li = self.__getPathDFS(i, ev, visited)
```

```
    if li != None :  
        li.append(sv)  
        return li
```

```
    return None
```

```
def getPathDFS(self, sv, ev) :  
    visited = [False for i in range(self.nVertices)]  
    return self.__getPathDFS(sv, ev, visited)
```

```
# Main  
li = stdin.readline().strip().split()  
V = int(li[0])  
E = int(li[1])  
  
g = Graph(V)  
  
for i in range(E) :  
    arr = stdin.readline().strip().split()  
    fv = int(arr[0])  
    sv = int(arr[1])  
    g.addEdge(fv, sv)  
  
li = stdin.readline().strip().split()  
sv = int(li[0])  
ev = int(li[1])  
  
li = g.getPathDFS(sv, ev)  
  
if li != None :  
    for element in li :  
        print(element, end = ' ')
```