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H5_3)BFS_first

Problem Submissions Leaderboard

Submitted 4 hours ago • Score: 30.00

Status: Accepted

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Submitted Code

Language: Python 3

Open in editor

```python
def getNum(letter):
    return ord(letter) - ord("A")

def getLetter(num):
    return chr(num + ord("A"))

def AdjacencyMatrix(V, edges):
    graph = [[False]*V for _ in range(V) ]

    for edge in edges:
        X,Y = (edge)
        i, j = getNum(X),getNum(Y)

        graph[i][j] = True
        graph[j][i] = True
    return graph

def BFS_First(graph, start, objectives):
    stack = [getNum(start)]
    size = len(graph)
    visited = [False]*size

    while stack:
        node = stack.pop(0)

        for end in objectives:
            if getLetter(node) == end:
                print(end)
                return

        if not visited[node]:
            visited[node] = True
            for i in range(size):
                if graph[node][i] == True and not visited[i]:
                    stack.append(i)

numbers = input()
numbers = tuple(map(int, numbers.split()))
V, E, O = numbers
letters = input()
letters = list(map(str, letters.split()))
start = letters[0]
objectives = [letter for letter in letters[1:]]
edges = []
for i in range(E):
    edge = input()
    edge = tuple(map(str, edge.split()))
    edges.append(edge)

graph = AdjacencyMatrix(V, edges)

BFS_First(graph, start, objectives)
```