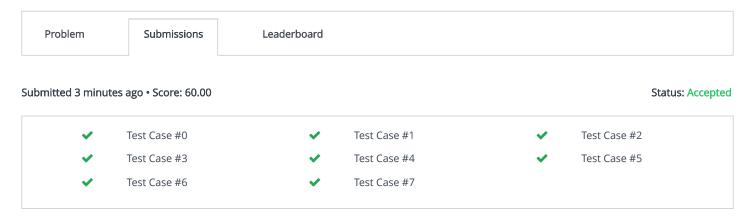
All Contests > HW5_Graphs > H5_2) DirectPath

H5_2) DirectPath



Submitted Code

```
Language: Python 3
                                                                                               Open in editor
1 def getNum(letter):
       return ord(letter) - ord("A")
4 def getLetter(num):
5
       return chr(num + ord("A"))
6
7
  def AdjacencyMatrix(V, edges):
8
       graph = [[False]*V for _ in range(V) ]
9
10
       for edge in edges:
11
           X,Y = (edge)
12
           i, j = getNum(X),getNum(Y)
13
14
           graph[i][j] = True
15
           graph[j][i] = True
16
       return graph
17
18
19 def DFS_DirectPath(graph, start, end):
20
       size = len(graph)
21
       visited = [False]*size
       stack = [getNum(start)]
22
23
       path = []
24
25
       while stack:
26
           current = stack.pop()
27
28
           if getLetter(current) == end:
29
               path.append(getLetter(current))
               word = ""
30
               for letter in path:
31
32
                   word = word + letter
33
               print(word)
```

```
34
               return
35
36
           if visited[current]:
               if getLetter(current)==path[-1]:
37
38
                   path.pop()
39
               continue
40
           else:
41
               visited[current] = True
42
               path.append(getLetter(current))
43
           new = False
44
           stack.append(current)
45
           for i in range(size):
46
               if graph[current][i] == True and not visited[i]:
47
                   new = True
48
49
                   stack.append(i)
50
51
           if not new:
52
               path.pop()
53
       return
54
55
56 numbers = input()
57 numbers = tuple(map(int, numbers.split()))
58 V, E = numbers
59 letters = input()
60 letters = tuple(map(str, letters.split()))
61 start, end = letters
62 edges = []
63 for i in range(E):
       edge = input()
64
65
       edge = tuple(map(str,edge.split()))
66
       edges.append(edge)
67
68 graph = AdjacencyMatrix(V, edges)
69
70 DFS_DirectPath(graph, start, end)
71
```

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