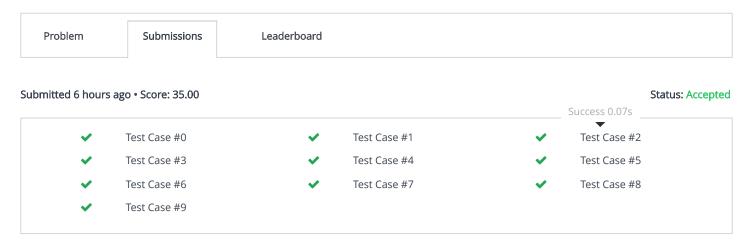
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## H5\_1)Connectivity



## **Submitted Code**

```
Language: Python 3
                                                                                               P Open in editor
1 def getNum(letter):
       return ord(letter) - ord("A")
2
3
4 def getLetter(num):
5
       return chr(num + ord("A"))
7 def AdjacencyMatrix(V, edges):
8
       graph = [[False]*V for _ in range(V) ]
9
10
       for edge in edges:
           X,Y = (edge)
11
12
           i, j = getNum(X),getNum(Y)
13
           graph[i][j] = True
14
15
           graph[j][i] = True
       return graph
16
17
18 def firstFalse(L):
19
       i = 0
20
       while L[i] == True:
21
           i = i + 1
22
       return i
23
24 def connectivity(V, edges):
25
26
       M = AdjacencyMatrix(V, edges)
27
       visitedbool = [False]*V
       subgraphs = []
28
29
30
       while not all(visitedbool):
31
           subgraph = []
           start = firstFalse(visitedbool)
```

```
33
           stack = [start]
34
35
           while stack:
36
               node = stack.pop()
37
               if not visitedbool[node]:
38
                   visitedbool[node] = True
                   subgraph.append(node)
39
40
                   for i in range(V):
41
                        if M[node][i] == True and not visitedbool[i]:
42
                            stack.append(i)
43
           subgraph.sort()
44
           subgraph = [getLetter(i) for i in subgraph]
45
           word = ""
46
47
           for letter in subgraph:
48
               word = word + letter
49
50
           subgraphs.append(word)
51
       if len(subgraphs) == 1:
52
53
           print("T")
54
       else:
55
           print("F")
56
       for g in subgraphs:
57
           print(g)
58
59 numbers = input()
60 numbers = tuple(map(int,numbers.split()))
61 V, E = numbers
62
63 edges = []
64 for i in range(E):
65
       edge = input()
       edge = tuple(map(str,edge.split()))
66
67
       edges.append(edge)
68
  connectivity(V, edges)
69
70
71
```

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