EXPERIMENT 4

18CSC305J

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AIM: To implement BFS(Breadth first search) and DFS(Depth first search) using python.

BFS:

CODE:

```
graph = {
'5' : ['3','7'], '3' : ['2', '4'], '7' : ['8'],
'2' : [],
'4' : ['8'],
'8' : []

}

visited = [] # List for visited nodes. queue = [] #Initialize a queue

def bfs(visited, graph, node): #function for BFS visited.append(node) queue.append(node)
```

while queue: # Creating loop to visit each node m = queue.pop(0)
print (m, end = " ")

for neighbour in graph[m]: if neighbour not in visited:

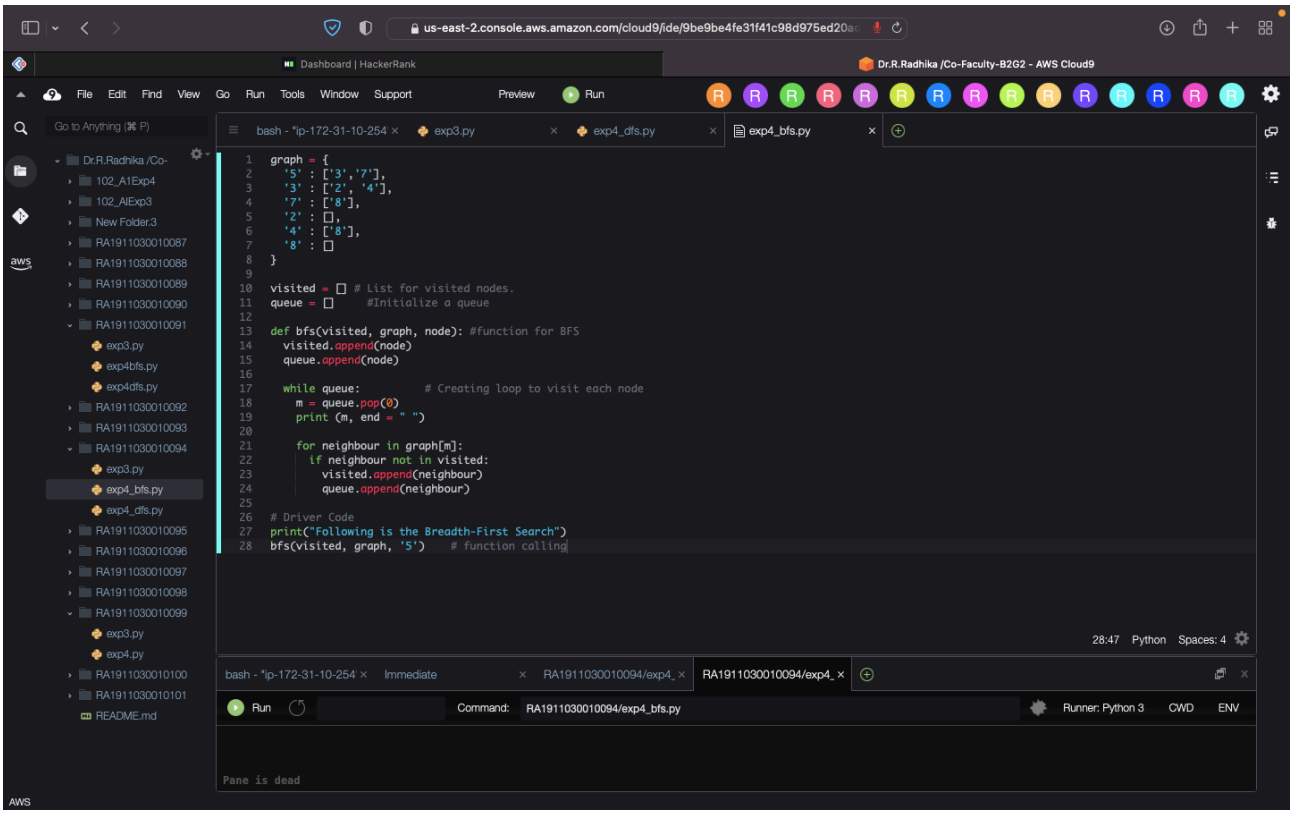
visited.append(neighbour)

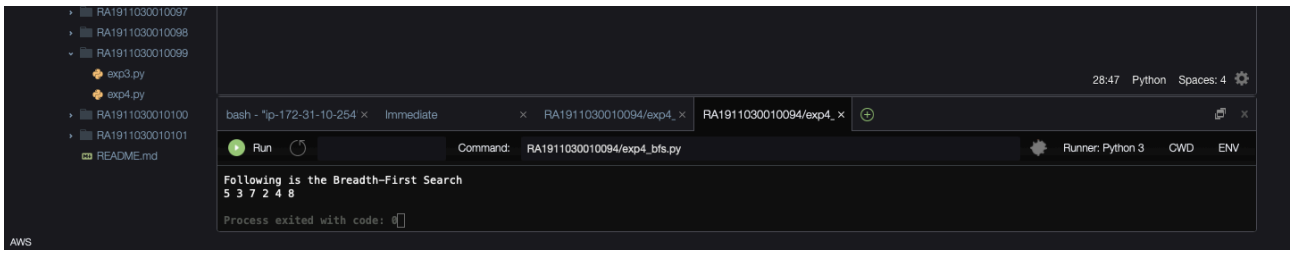
queue.append(neighbour)

Driver Code

print("Following is the Breadth-First Search") bfs(visited, graph, '5') # function calling

SCREENSHOTS:





DFS:

CODE:

graph = {
'A' : ['B','C'], 'B' : ['D'],
'C' : ['F'],
'D' : ['E', 'F'], 'E' : [],
'F' : ['A']

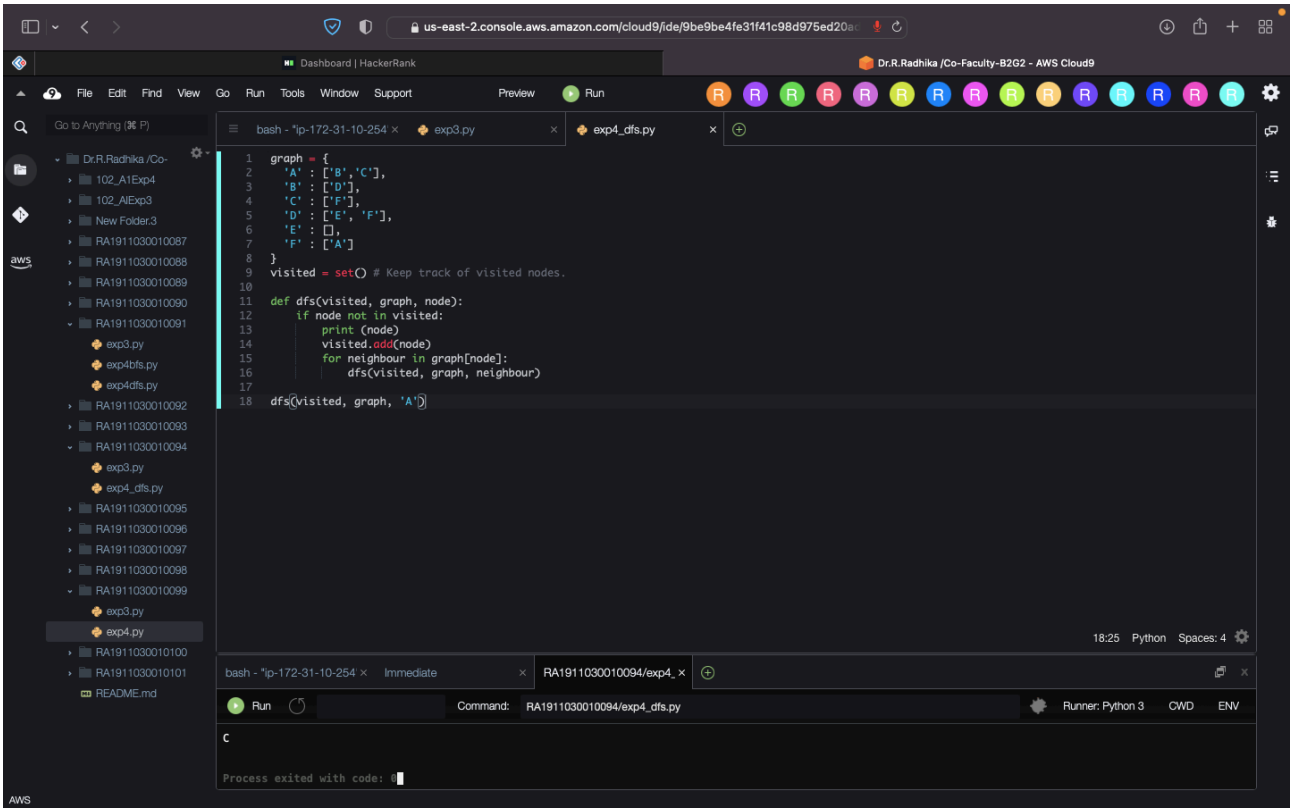
}
visited = set() # Keep track of visited nodes.

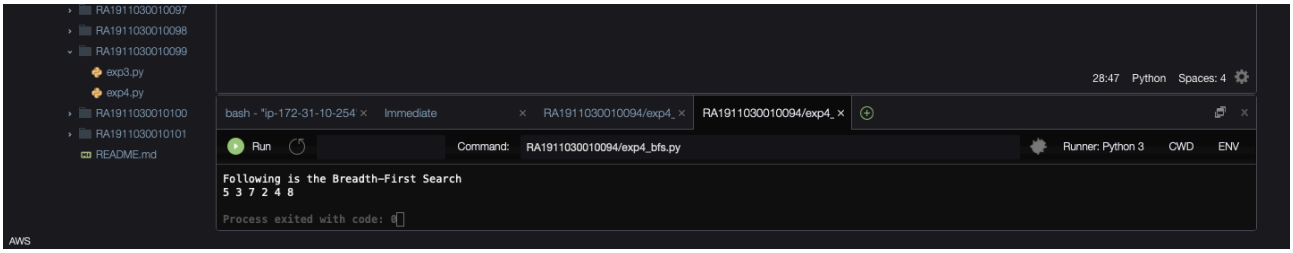
def dfs(visited, graph, node): if node not in visited:

print (node) visited.add(node)
for neighbour in graph[node]:

dfs(visited, graph, neighbour) dfs(visited, graph, 'A')

SCREENSHOTS:





RESULT:
BFS and DFS are successfully implemented using python in an AWS environment.