AI LAB EXP-4

IMPLEMENTATION OF DFS AND BFS

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Github link: https://github.com/Supradeepvakada/AI-LAB/tree/main/4.%20Implementation%20of%20BFS%20and%20DFS

AIM: To implement BFS(Breadth First Search) and DFS(Depth First Search) using Python.

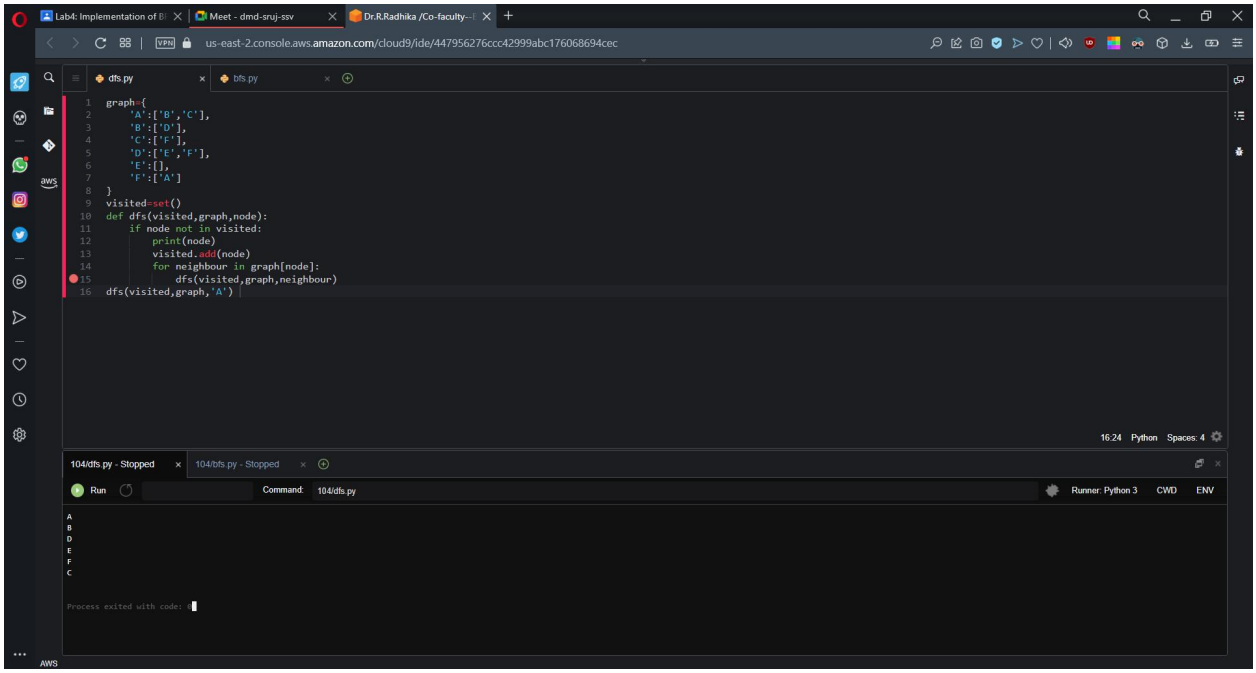
DFS CODE:

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


visited=set()
```

```
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')
```

OUTPUT SCREENSHOT:



BFS CODE:

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

```
  '7' : ['8'],
  '2' : [],
  '4' : ['8'],
  '8' : []
}

visited = []
queue = []

def bfs(visited, graph, node):
  visited.append(node)
  queue.append(node)

  while queue:
    m = queue.pop(0)
    print (m, end = " ")

    for neighbour in graph[m]:
      if neighbour not in visited:
        visited.append(neighbour)
```

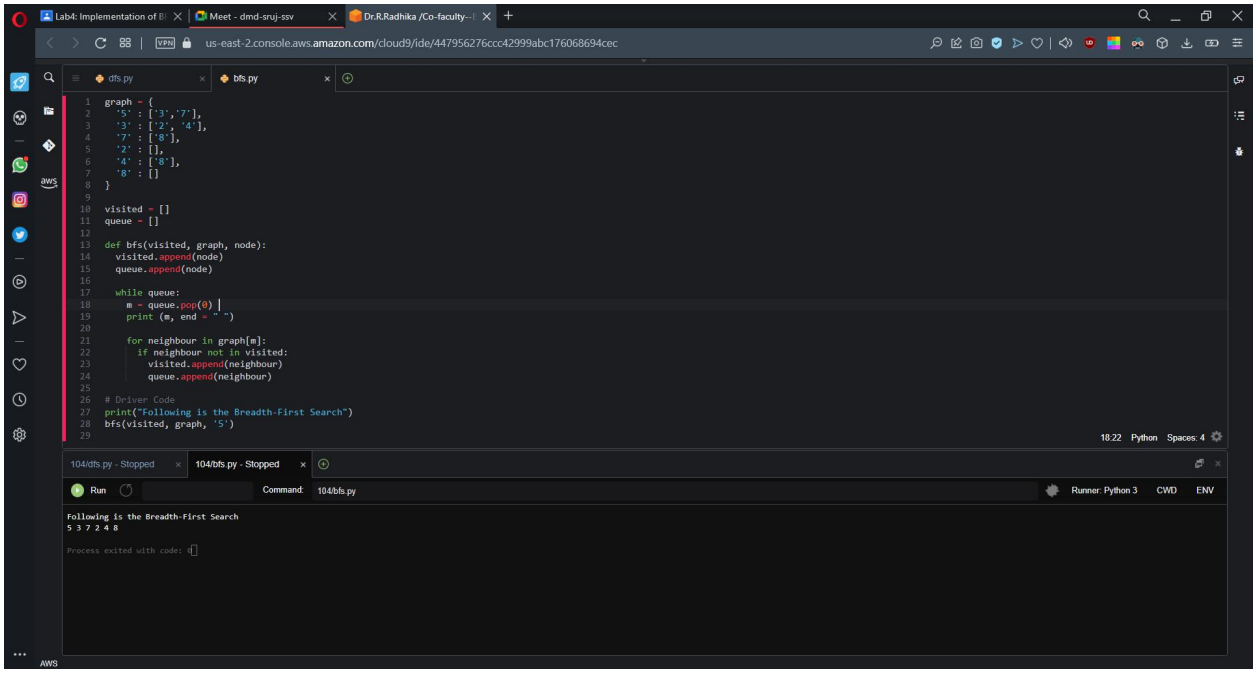
```
    queue.append(neighbour)


# Driver Code

print("Following is the Breadth-First Search")

bfs(visited, graph, '5')
```

OUTPUT SCREENSHOT:



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