AI LAB EXP-4
IMPLEMENTATION OF DFS AND BFS

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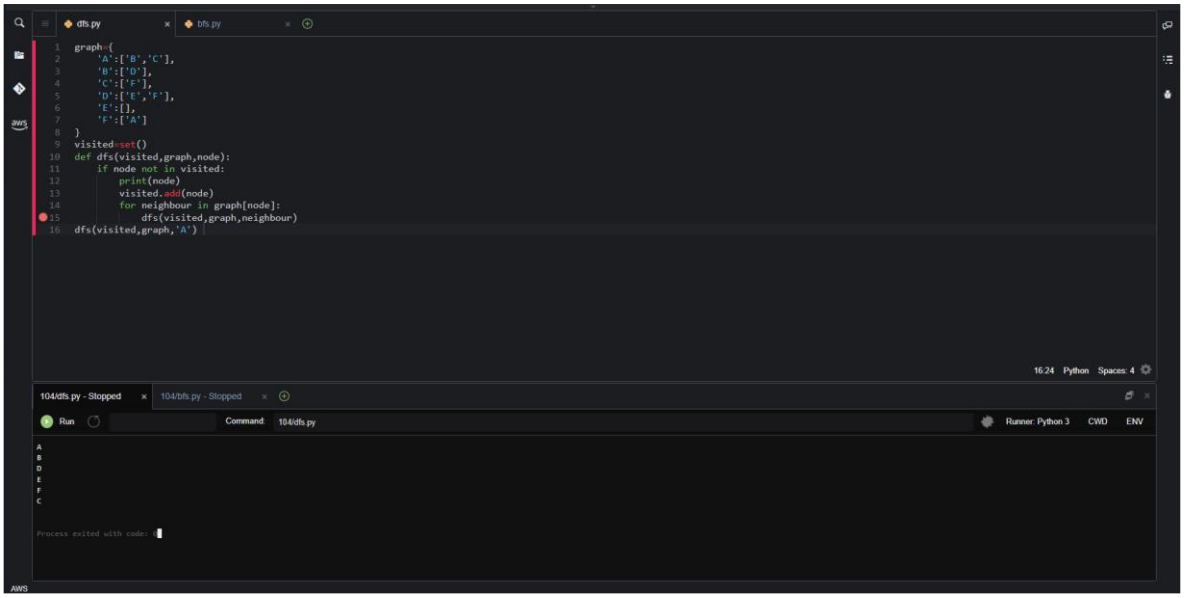
AIM:

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')
```

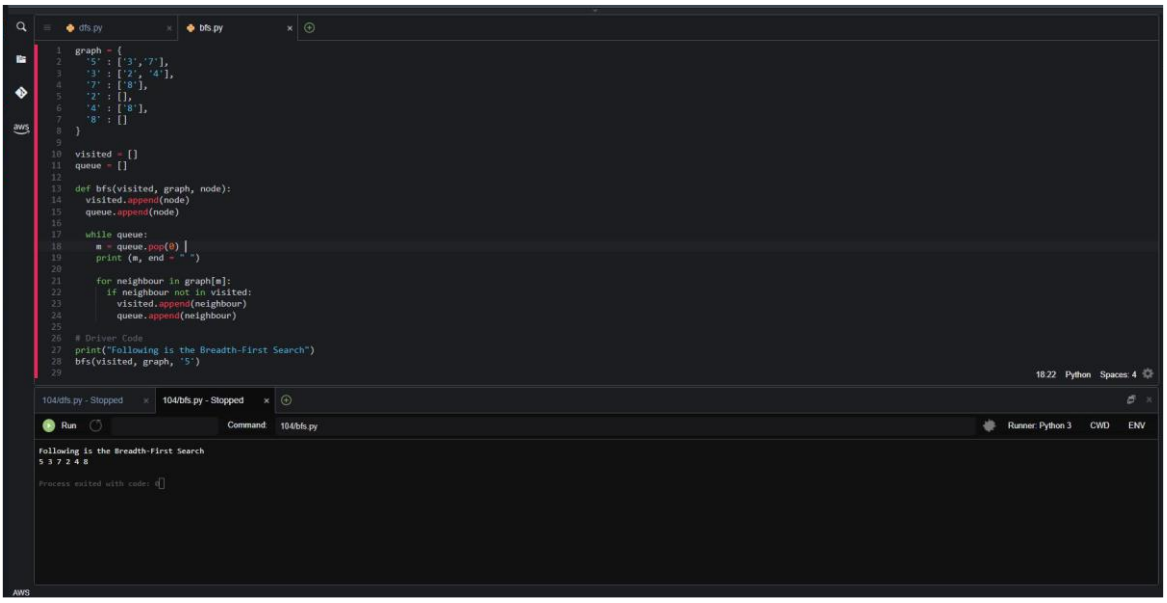
OUTPUT SCREENSHOT:



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.