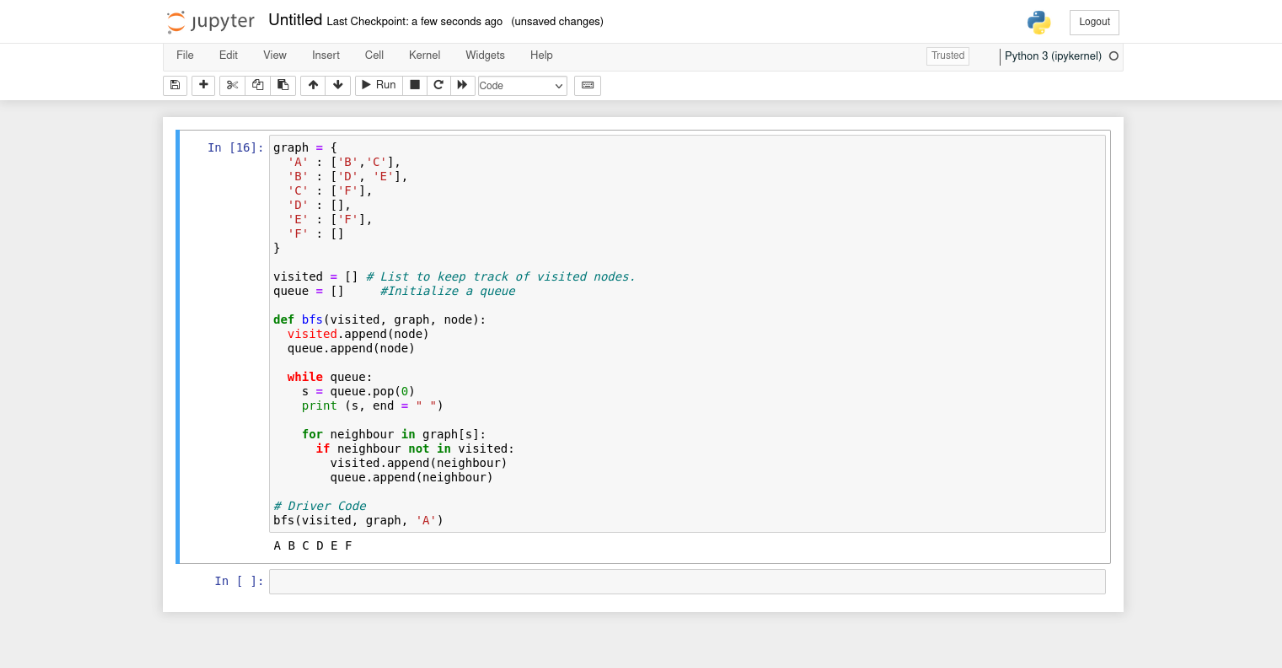
Name:-
Roll No.:-
Div:-

Title:- Implement DFS and BFS Algorithm. Use and Undirected Graph and develop a Recursive
Algorithm for searching all the vertices of the graph or tree data structure.

Program :-
Breadth First Search(BFS):-

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

visited = [] # List to keep track of visited nodes.
queue = []     #Initialize a queue

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

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

    for neighbour in graph[s]:
      if neighbour not in visited:
        visited.append(neighbour)
        queue.append(neighbour)

# Driver Code
```

bfs(visited, graph, 'A')




2. Depth-first Search:

```
# Using a Python dictionary to act as an adjacency list
graph = {
'A' : ['B','C'],
'B' : ['D', 'E'],
'C' : ['F'],
'D' : [],
'E' : ['F'],
'F' : []
}
visited = set() # Set to keep track of visited nodes of graph.
def dfs(visited, graph, node): #function for dfs
if node not in visited:
print (node)
visited.add(node)
for neighbour in graph[node]:
dfs(visited, graph, neighbour)
```

# Driver Code
print("Following is the Path using Depth-First Search")
dfs(visited, graph, 'A')