Name: Piyush Chaudhari

Roll No: 20U419

Class: T.E. Comp

Div: 4

Batch: T14

**Assignment No. 1**

**BFS**

class Node:

def \_\_init\_\_(self, name):

self.name = name

self.adjacency\_list = []

self.visited = False

def breadth\_first\_search(start\_node):

queue = [start\_node]

# keep iterating until the queue becomes empty

while queue:

# remove and return the first item we have inserted

actual\_node = queue.pop(0)

actual\_node.visited = True

print(actual\_node.name)

# consider the neighbors of actual node

for n in actual\_node.adjacency\_list:

if not n.visited:

queue.append(n)

if \_\_name\_\_ == '\_\_main\_\_':

node1 = Node("A")

node2 = Node("B")

node3 = Node("C")

node4 = Node("D")

node5 = Node("E")

node1.adjacency\_list.append(node2)

node1.adjacency\_list.append(node3)

node3.adjacency\_list.append(node5)

node5.adjacency\_list.append(node4)

breadth\_first\_search(node1)

**output**

