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#Program to demonstrate Breadth First Search

from collections import defaultdict
class Graph:
    def __init__(self):
        self.graph=defaultdict(list)
    def addEdge(self,u,v):
        self.graph[u].append(v)
    def BFS(self,s):
        visited=[False]*(max(self.graph) +1)
        queue=[]
        queue.append(s)
        visited[s]=True

        while queue:
            s=queue.pop()
            print(s,end=" ")
            for i in self.graph[s]:
                if visited[i]==False:
                    queue.append(i)
                    visited[i]=True

g=Graph()
g.addEdge(0,1)
g.addEdge(0,2)
g.addEdge(1,2)
g.addEdge(2,0)
g.addEdge(2,3)
g.addEdge(3,3)

source=int(input('enter a string vertex: '))
print("following is Breadth First Traversal" "(starting from
vertex)",source);
g.BFS(source)

**************************output**********************************
enter a string vertex: 1
following is Breadth First Traversal(starting from vertex) 1
1 2 3 0
```