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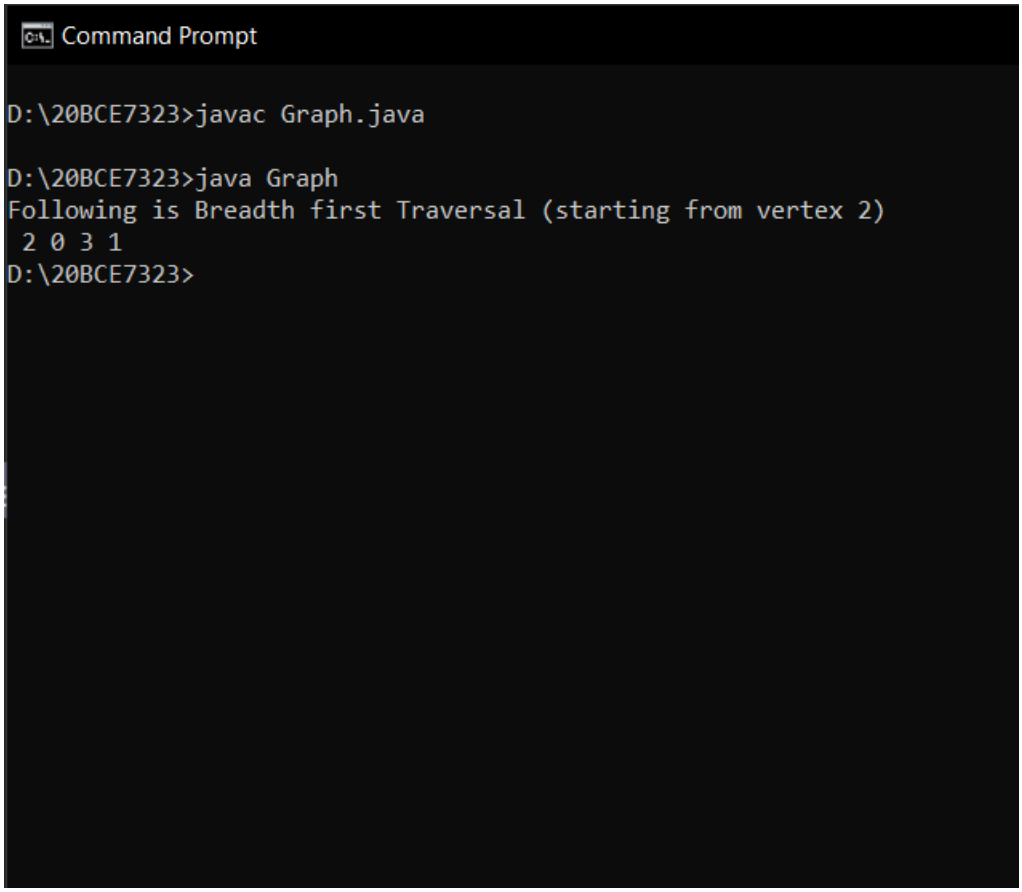
Write a program to implement Breadth First Search algorithm to explore a graph.

Code:

```
import java.io.*;
import java.util.*;
import java.LinkedList;
class Graph
{
	private int V; //
	private LinkedList<Integer> adj[];
	Graph(int v)
	{
		V = v;
		adj = new LinkedList[v];
		for (int i=0; i<v; ++i)
			adj[i] = new LinkedList();
	}
	void addEdge(int v,int w)
	{
		adj[v].add(w);
	}
	void BFS(int s)
	{
		boolean visited[] = new boolean[V];
		LinkedList<Integer> queue = new LinkedList<Integer>();
		visited[s]=true;
```

```
        queue.add(s);

        while (queue.size() != 0)
        {
            s = queue.poll();
            System.out.print(s+" ");
            Iterator<Integer> i = adj[s].listIterator();
            while (i.hasNext())
            {
                int n = i.next();
                if (!visited[n])
                {
                    visited[n] = true;
                    queue.add(n);
                }
            }
        }
}
public static void main(String args[])
{
        Graph g = new Graph(4);

        g.addEdge(0, 1);
        g.addEdge(0, 2);
        g.addEdge(1, 2);
        g.addEdge(2, 0);
```

```
        g.addEdge(2, 3);
        g.addEdge(3, 3);

        System.out.println("Following is Breadth First Traversal "+
                           "(starting from vertex 2)");

        g.BFS(2);
    }
}
```


Command Prompt
D:\20BCE7323>javac Graph.java
D:\20BCE7323>java Graph
Following is Breadth first Traversal (starting from vertex 2)
2 0 3 1
D:\20BCE7323>