3. Stack and Queue

Use a stack to reverse a given string.

- **Example Input:**

```
String: "HELLO"
```

- **Example Output:**

```
Reversed String: "OLLEH"
```

CSE 2216 : Data Structures and Algorithm 1 Lab

Lab Final

Time: 1h 15 minutes

1. Binary Search Tree

Problem 1a:

Write a program to implement insertion and searching in a BST.

Example Input:

- Insert: 50, 30, 70, 20, 40, 60, 80
- Search: 40, 90

Example Output:

```
Search Result:
40: Found
90: Not Found
```

Problem 1b:

Write a program to delete a node in the BST created in 1a and display the Inorder traversal after deletion.

Example Input:

- Delete: 70

Example Output:

```
Inorder Traversal after Deletion: 20 → 30 → 40 → 50 → 60 → 80
```

2. Graph

Write a program to check whether a given graph is bipartite using BFS.

Example Input:

- Number of vertices: 4
- Edges: (0, 1), (1, 2), (2, 3), (3, 0)

Example Output:

```
Graph is Bipartite: Yes
```