Green University of Bangladesh
Department of Computer Science and Engineering (CSE)
Faculty of Sciences and Engineering
Semester: (Summer, Year:2022), B.Sc. in CSE (Day)

LAB REPORT NO 06
Course Title: Data Structure Lab
Course Code: CSE 106   Section: DA

Lab Experiment Name:
Implement a BST and traverse the tree using Pre-order, In-order and Post-order (by taking user choice) Traversal using linked list.

Student Details

Name	ID
Obaydur Rahman	213902018

Submission Date   : 23-08-2022
Course Teacher's Name   : Farhana Akter Sunny

Lab Report Status
Marks: ……………………………… Signature: ....
Comments: .... Date:...............................

1. TITLE OF THE LAB EXPERIMENT

Implement a BST and traverse the tree using Pre-order, In-order and Post-order (by taking user choice) Traversal using linked list.

2. AIM

Insert elements to a tree and then traverse the tree using pre-order, in-order or post-order traversal depending on user choice.

3. DESIGN

A tree is non-linear and a hierarchical data structure consisting of a collection of nodes such that each node of the tree stores a value and a list of references to other nodes. Traversing a tree involves iterating over all nodes in some manner. Because from a given node there is more than one possible next node, then, assuming sequential computation, some nodes must be deferred—stored in some way for later visiting. This is often done via a stack (LIFO) or queue (FIFO).

4. TEST RESULT / OUTPUT

```
1. Insert
2. Traverse
3. Exit
Enter your choice: 1
Enter data: 6

1. Insert
2. Traverse
3. Exit
Enter your choice: 2
Choose traversal type:
1. Pre-order
2. In-order
3. Post-order
3
6 5 4 2 1
1. Insert
2. Traverse
3. Exit
Enter your choice: []
```

5. ANALYSIS AND DISCUSSION

Based on the focused objective and basic operations of a tree traversal, the additional lab exercise made me more confident to have a clear understanding about trees and ultimately lead me towards the fulfilment of the objectives.