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# Data Structures

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BS (DS) Fall 2022

## Lab - 08

### Lab Objectives

Tree implementation with Linked Memory

## Lab Task

Abdullah owns a shoe company in Islamabad. His number of sales is pretty good. He wants to know about the total number of customers to provide some discounts to those. But, the record he has contains all the customer IDs depending on how many times they have purchased the shoes and he wants to know the unique IDs. Abdullah comes to you and asks you to tell him about the unique customers.

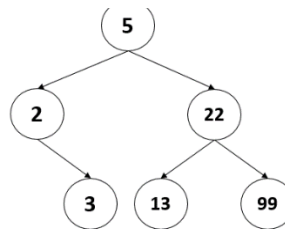
*Table 1: In the below table, total purchases are 5 but the total number of customers are only 3*

Date	Name	ID
1-2-2019	Ali	1
14-2-2019	Ayesha	2
5-5-2020	Ahmad	3
5-5-2020	Ali	1
6-3-2022	Ayesha	2

A binary search Tree helps you to create a tree containing no duplicates. You will use BST to solve this problem. Follow the following steps

1. Create a BST from the data provided by Abdullah (file attached). Keep in mind your BST does not have any duplicates.

Sorted Data after Traversal: 2, 3, 5, 13, 22, 99



2. Display data in sorted order (**Hint: Inorder Traversal**)