SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF INFORMATION TECHNOLOGY

DATASTRUCTURES

II YEAR III SEM

UNIT 2 –TREE DATASTRUCTURES

BINARY SEARCH TREE

Consider an example,

Tom is having a place which holds the dataset. He wants to add more data to the dataset. But he wants all the data to be stored in a sorted manner in a Hierarchical way.

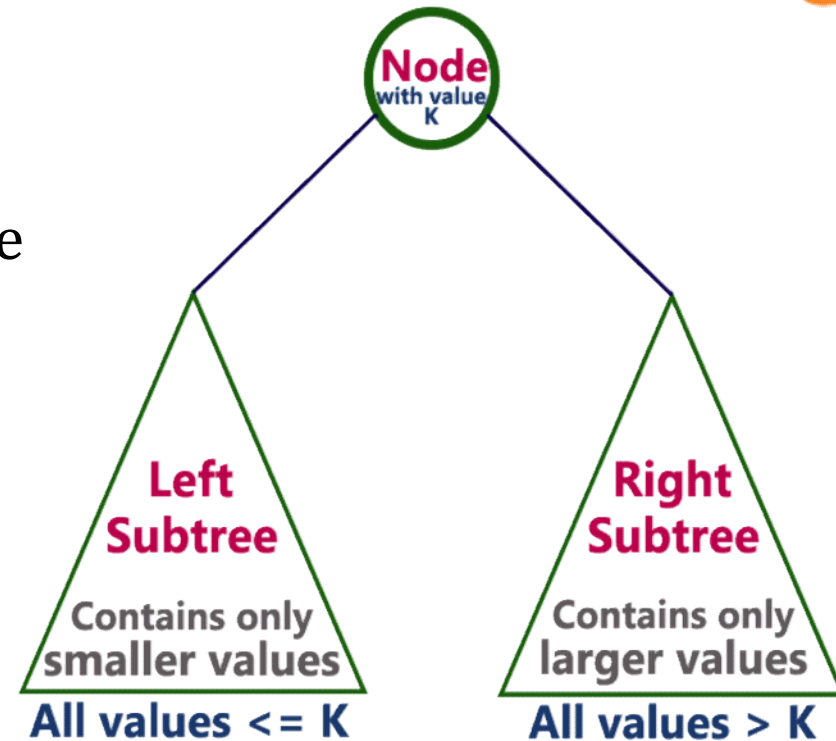What is the idea used by TOM to arrange data ?

BINARY SEARCH TREE

A binary tree in which every node contains:

• only smaller values in its left subtree
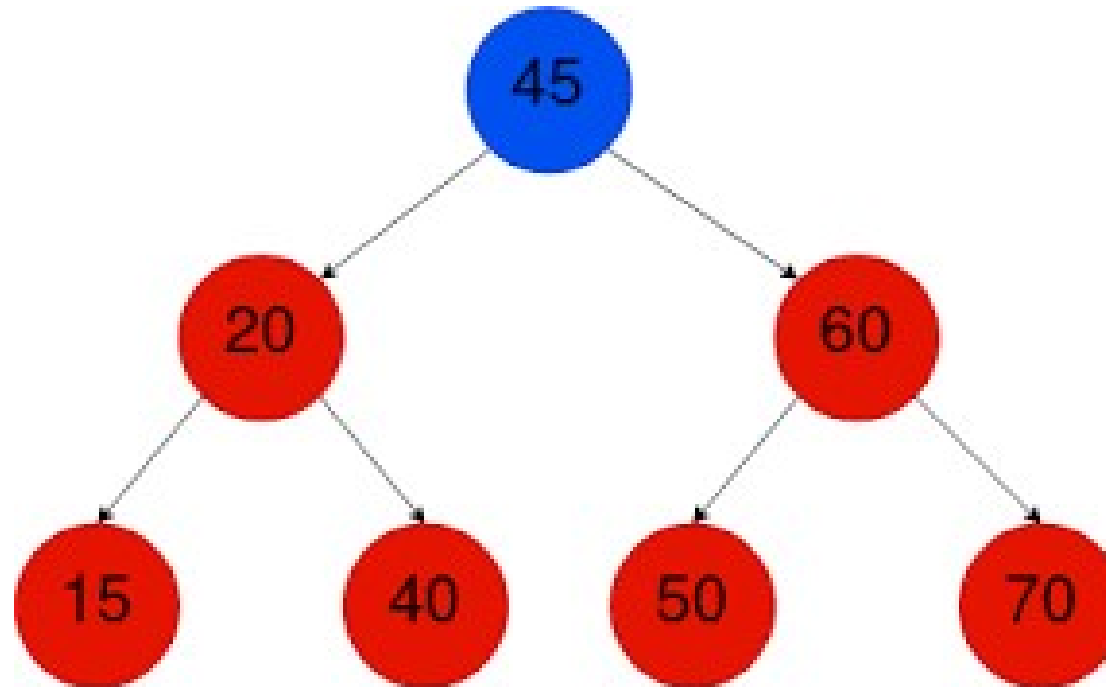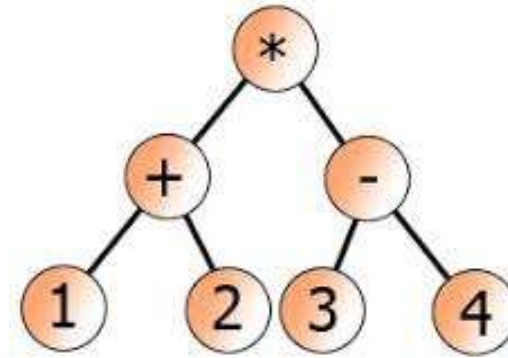
• only larger values in its right subtree

BINARY SEARCH TREE-

EXAMPLE

Picture Source : btechsmartclass.com

APPLICATIONS

•Calculating expression trees

•Expressing arithmetic expressions

•For dynamic sorting

•Virtual Memory Area management

•IP address indexing

$$((1+2)*(3-4))$$

Picture Source : geeksforgeeks.org

Which of the following is the example for Binary search tree?

A

B

C
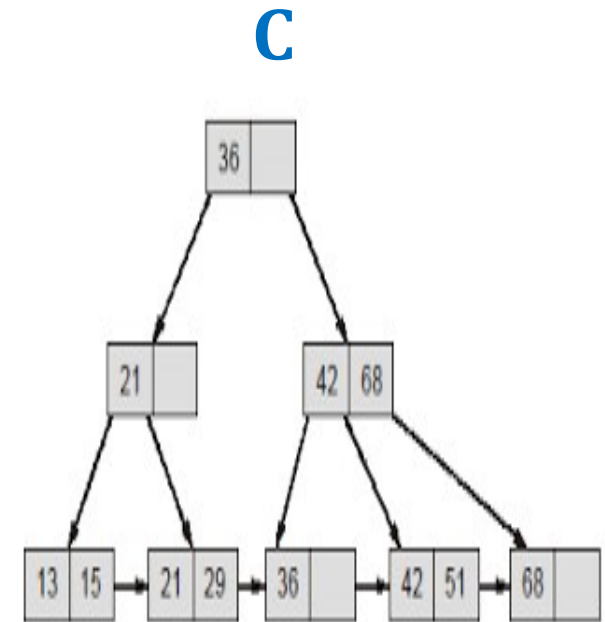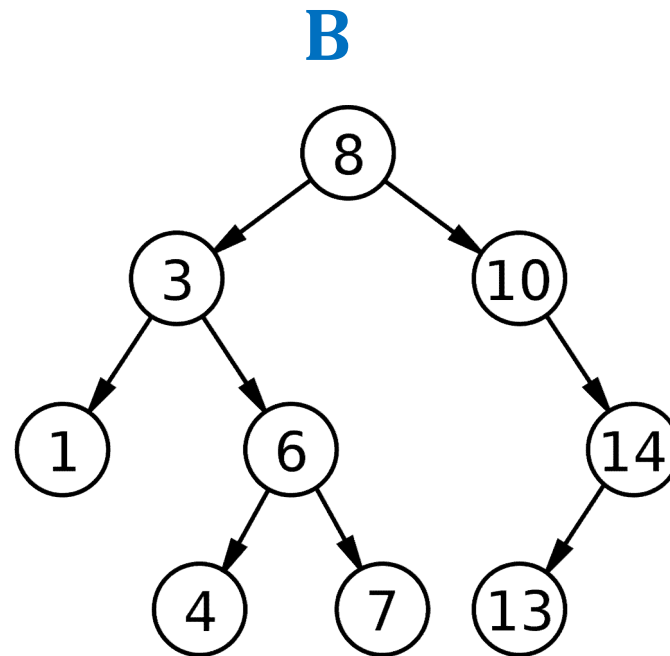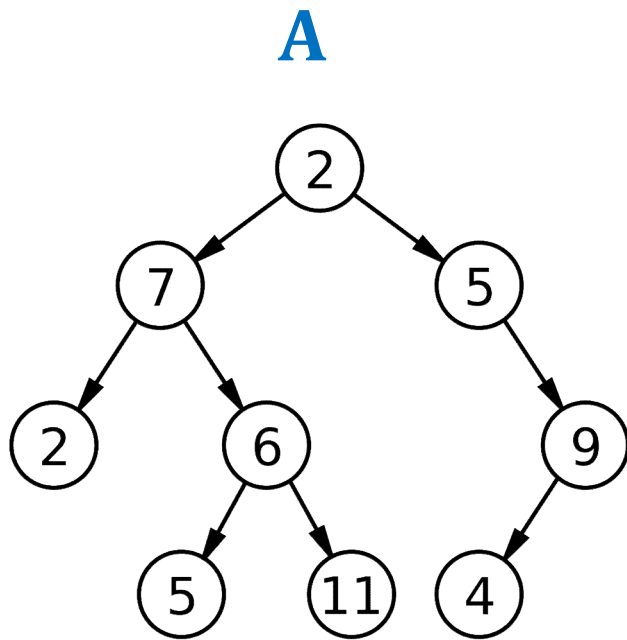
Picture Source : picuki.com

OPERATIONS

Insert()

Delete()

Create()

Display()

insert (10)

insert (12)

insert (5)

insert (4)

insert (20)

insert (8)

insert (7)

insert (15)

insert (13)

Picture Source : helloacm.com

1.Construct and place the following elements in a binary search tree.

10,12,5,4,20,8,7,15 and 13

REFERENCES

- https://https://ece.uwaterloo.ca/~dwharder/aads/Lecture_materials

- https://www.quora.com/datastructuresctures/realtimeexamples

- https://tutorialpoints.com/datast/Binarysearchtree

Thank You