**Assignment 1:**

public class Node {

int data;

Node head ,left, right;

Node(int data){

this.data=data;

left = right = null;

}

}

import java.util.Scanner;

public class BinarySearch {

Node root;

BinarySearch(){

root= null;

}

public void insert(int key){

Node newNode = new Node(key);

if(root==null){

root = newNode;

return;

}

Node current = root;

Node parent = null;

while(true){

parent = current;

if(key<current.data){

current = current.left;

if(current==null){

parent.left = newNode;

return;

}

}

else{

current = current.right;

if(current==null){

parent.right = newNode;

return;

}

}

}

}

public void search(int key){

Node current= root;

boolean found= false;

while(current!=null && found==false){

if(key<current.data)

current=current.left;

else if(key>current.data)

current=current.right;

else

found=true;

}

if(found==true)

System.out.println("\nFound");

else

System.out.println("\nNot Found");

}

public void display(Node root){

if(root!=null){

display(root.left);

System.out.print(" " + root.data);

display(root.right);

}

}

public static void main(String args[]){

BinarySearch b= new BinarySearch();

b.insert(5);

b.insert(3);

b.insert(2);

b.insert(4);

b.insert(7);

b.insert(6);

b.insert(8);

b.display(b.root);

b.search(8);

}

}