

## ADS MODULE END EXAM

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**Q1.**

**Java Code:**

```
class BST{
    Node root;
    static class Node{
        int data;
        Node left;
        Node right;
        Node(int d){
            data = d;
            left = right = null;
        }
    }

    BST(){
        root = null;
    }

    BST(int newdata){
        root = new Node(newdata);
    }

    void insert(int key){
        root = insertdata(root, key);
    }
}
```

```

Node insertdata(Node root, int key){
    if(root == null){
        root = new Node(key);
        return root;
    }

    if(key < root.data)
        root.left = insertdata(root.left, key);
    else if(key > root.data)
        root.right = insertdata(root.right, key);
    return root;
}

```

```

void preorder(Node n){
    if(n == null)
        return;

    System.out.print(n.data + " ");
    preorder(n.left);
    preorder(n.right);
}

```

```

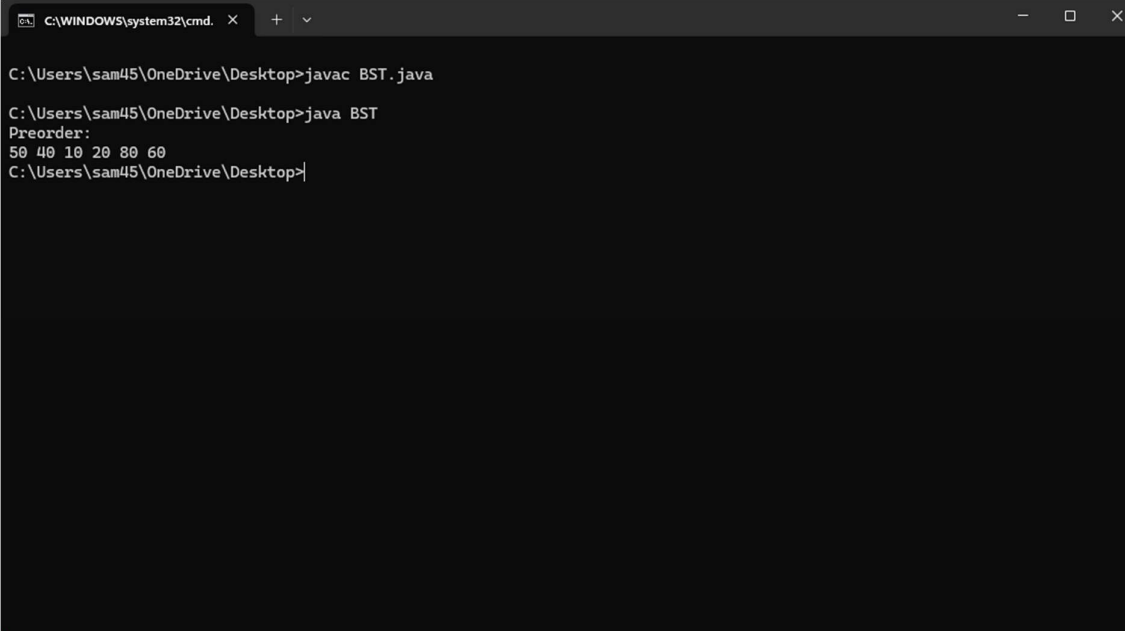
public static void main(String args[]){
    BST t1 = new BST();

    t1.insert(50);
    t1.insert(40);
    t1.insert(10);
    t1.insert(80);
}

```

```
        t1.insert(60);  
        t1.insert(20);  
  
        System.out.println("Preorder: ");  
        t1.preorder(t1.root);  
    }  
}
```

### Output Screenshot:



```
C:\WINDOWS\system32\cmd. X + -  
C:\Users\sam45\OneDrive\Desktop>javac BST.java  
C:\Users\sam45\OneDrive\Desktop>java BST  
Preorder:  
50 40 10 20 80 60  
C:\Users\sam45\OneDrive\Desktop>|
```