

Vallisha - M

IBM1915177

21-12-2020

Binary Search Tree

classmate

Date _____

Page _____

// node

```
typedef struct BST{
```

```
    int data;
```

```
    struct BST* right;
```

```
    struct BST* left;
```

```
}node;
```

// creating a node

```
node* create(int data){
```

```
    node* temp = (node*) malloc(sizeof(node));
```

```
    temp->data = data;
```

```
    temp->right = temp->left = NULL;
```

```
    return temp;
```

```
}
```

```
void insert (node* root, node* temp){
```

```
    if (temp->data < root->data){
```

```
        if (root->left != NULL)
```

```
            insert (root->left, temp);
```

```
        else
```

```
            root->left = temp;
```

```
    }
```

```
if
```

```
    else {
```

```
        if (root->right != NULL)
```

```
            insert (root->right, temp);
```

```
        else
```

```
            root->right = temp;
```

```
    }
```

```
}
```

// inorder display

```
void inorder (node * root) {
```

```
    if (root == NULL)
```

```
        return;
```

```
    inorder (root → left);
```

```
    printf ("%d ", root → data);
```

```
    inorder (root → right);
```

```
}
```

```
void preorder (node * root) {
```

```
    if (root == NULL)
```

```
        return;
```

```
    printf ("%d ", root → data);
```

```
    preorder (root → left);
```

```
    preorder (root → right);
```

```
}
```

```
void postorder (node * root) {
```

```
    if (root == NULL)
```

```
        return;
```

```
    postorder (root → left);
```

```
    postorder (root → right);
```

```
    post printf ("%d ", root → data);
```

```
}
```