

21/12/20

Binary Search Tree

```
typedef struct BST {
    int data;
    struct BST* right;
    struct BST* left;
} 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;
    }
    else {
        if (root->right != NULL)
            insert (root->right, temp);
        else
            root->right = temp;
    }
}
```



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

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