

21/12/2020

- WAP to (a) construct a binary search tree
(b) to traverse the tree using all methods
i.e. in-order, preorder & post order
(c) to display the elements in the tree

```
struct bst {  
    int data;  
    struct bst *left;  
    struct bst *right;  
};
```

```
struct bst *create() {  
    node *ptr;  
    printf("Enter data");  
    ptr = node struct bst * malloc (sizeof(node));  
    scanf("%d", &ptr->data);  
    ptr->left = ptr->right = NULL;  
    return ptr;  
}
```

```
void node insert(struct bst *root, struct node *ptr)  
{  
    if (ptr->data < root->data)  
    {  
        if (root->left != NULL)  
            insert(root->left, ptr);  
        else  
            root->left = ptr;  
    }  
    if (ptr->data > root->data)  
    {  
        if (root->right != NULL)  
            insert(root->right, ptr);  
        else  
            root->right = ptr;  
    }  
}
```

```

void inorder(struct bst *root)
{
    if (root != NULL)
    {
        inorder(root->left);
        printf("%d", root->data);
        inorder(root->right);
    }
}

```

```

void postorder(struct bst *root)
{
    if (root != NULL)
    {
        postorder(root->left);
        postorder(root->right);
        printf("%d", root->data) printf("%d", root->data);
    }
}

```

```

void preorder(struct bst *root)
{
    if (root != NULL)
    {
        printf("%d", root->data);
        preorder(root->left);
        preorder(root->right);
    }
}

```