

//Created By Ritwik Pandey on 27th Sep 2021  
//Creation, Insertion and In-order traversal

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#include<stdio.h>
#include<stdlib.h>
struct node {
    int data;
    struct node *left, *right;
};

typedef struct node *BSTNODE;

BSTNODE newNodeInBST(int item) {
    BSTNODE temp = (BSTNODE)malloc(sizeof(struct node));
    temp->data = item;
    temp->left = temp->right = NULL;
    return temp;
}

void inorderInBST(BSTNODE root) {
    if(root==NULL) return;
    inorderInBST(root->left);
    printf("%d ",root->data);
    inorderInBST(root->right);
}

BSTNODE insertNodeInBST(BSTNODE node, int ele) {
    if(node==NULL){
        printf("Successfully inserted.\n");
        return newNodeInBST(ele);
    }
    if(ele < node->data){
        node->left = insertNodeInBST(node->left,ele);
    }else if(ele> node->data){
        node->right = insertNodeInBST(node->right,ele);
    }
    else
```

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        printf("Element already exists in BST.\n");
        return node;
    }

void main() {
    int x, op;
    BSTNODE root = NULL;
    while(1)
    {
        printf("1.Insert 2.Inorder Traversal 3.Exit\n");
        printf("Enter your option : ");
        scanf("%d", &op);
        switch(op) {
            case 1:printf("Enter an element to be inserted : ");
                    scanf("%d", &x);
                    root = insertNodeInBST(root,x);
                    break;

            case 2:
                    if(root == NULL) {
                        printf("Binary Search Tree is empty.\n");
                    }
                    else {
                        printf("Elements of the tree (in-order traversal): ");
                        inorderInBST(root);
                        printf("\n");
                    }
                    break;

            case 3:
                    exit(0);
        }
    }
}

```