**PRACTICAL NO: 09**

**PROGRAM CODE:**

#include<iostream>

#include<stdio.h>

#include<string.h>

using namespace std;

class Tree

{

typedef struct node

{

char key[10];

char meaning[10];

struct node \*left;

struct node \* right;

}btree;

public:

btree \*New,\*root;

Tree();

void create();

void insert(btree \*root,btree \*New);

void inorder();

void inorder\_rec(btree \*root);

void postorder();

void postorder\_rec(btree \*root);

};

Tree::Tree()

{

root=NULL;

}

void Tree::inorder()

{

inorder\_rec(root);

}

void Tree::inorder\_rec(btree \*root)

{

if(root!=NULL)

{

inorder\_rec(root->left);

cout<<"\n\t"<<root->key<<"\t"<<root->meaning;

inorder\_rec(root->right);

}

}

void Tree::postorder()

{

postorder\_rec(root);

}

void Tree::postorder\_rec(btree \*root)

{

if(root!=NULL)

{

postorder\_rec(root->right);

cout<<"\n\t"<<root->key<<"\t"<<root->meaning;

postorder\_rec(root->left);

}

}

void Tree::create()

{

New=new btree;

New->left=New->right=NULL;

cout<<"\n\tEnter the Keyword: ";

cin>>New->key;

cout<<"\n\tEnter the Meaning of "<<New->key<<" : ";

cin>>New->meaning;

if(root==NULL)

{

root=New;

}

else

{

insert(root,New);

}

}

void Tree::insert(btree \*root,btree \*New)

{

if(strcmp(root->key,New->key)>0)

{

if(root->left==NULL)

root->left=New;

else

insert(root->left,New);

}

else

{

if(root->right==NULL)

root->right=New;

else

insert(root->right,New);

}

}

main()

{

Tree tr;

int ch;

char ans;

do

{

cout<<"\n\t\*\*\*\*\* BST Operations \*\*\*\*\*";

cout<<"\n\t1. Create\n\t2. Display\n\t3. Exit";

cout<<"\n\t.....Enter Your Choice: ";

cin>>ch;

switch(ch)

{

case 1:

do

{

tr.create();

cout<<"......Do You Want To Continue: ";

cin>>ans;

}while(ans=='y'||ans=='Y');

break;

case 2: cout<<"\n\t\t1. Ascending\n\t\t2. Descending\n\t\t.....Enter Your Choice: ";

cin>>ch;

cout<<"\n\tKeyword\tMeaning";

switch(ch)

{

case 1:

tr.inorder();

break;

case 2:

tr.postorder();

break;

}

break;

case 3:

break;

}

cout<<"\n\t\t..... Do You Want to Continue: ";

cin>>ans;

}while(ans=='y'||ans=='Y');

}

**OUPUT:**

\*\*\*\*\* BST Operations \*\*\*\*\*

1. Create

2. Display

3. Exit

.....Enter Your Choice: 1

Enter the Keyword: int

Enter the Meaning of int : datatype

......Do You Want To Continue: y

Enter the Keyword: for

Enter the Meaning of for : loop

......Do You Want To Continue: y

Enter the Keyword: if

Enter the Meaning of if : condition

......Do You Want To Continue: y

Enter the Keyword: <

Enter the Meaning of < : lessthan

......Do You Want To Continue: y

Enter the Keyword: malloc

Enter the Meaning of malloc : memory

......Do You Want To Continue: y

Enter the Keyword: while

Enter the Meaning of while : loop

......Do You Want To Continue: n

..... Do You Want to Continue: y

\*\*\*\*\* BST Operations \*\*\*\*\*

1. Create

2. Display

3. Exit

.....Enter Your Choice: 2

1. Ascending

2. Descending

.....Enter Your Choice: 1

Keyword Meaning

< lessthan

for loop

if condition

int datatype

malloc memory

while loop

..... Do You Want to Continue: y

\*\*\*\*\* BST Operations \*\*\*\*\*

1. Create

2. Display

3. Exit

.....Enter Your Choice: 2

1. Ascending

2. Descending

.....Enter Your Choice: 2

Keyword Meaning

while loop

malloc memory

int datatype

if condition

for loop

< lessthan

..... Do You Want to Continue:

..... Do You Want to Continue: 1

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Process exited after 77.47 seconds with return value 0

Press any key to continue . . .