#include <iostream>

using namespace std;

struct node

{

char label[20];

int ch\_count;

struct node \*child[10];

}\*root;

class BST

{

public:

void create();

void display(node \*r1);

BST()

{

root=NULL;

}

};

void BST::create()

{

int i ,j, k, tchapters, tbook;

root=new node;

cout<<"Enter the name of the book "<<endl;

cin>>root->label;

cout<<"Enter the number of chapters the book contains ";

cin>>tchapters;

root->ch\_count=tchapters;

for(i=0; i<tchapters; i++)

{

root->child[i]=new node;

cout<<"Enter the name of the chapter ";

cin>>root->child[i]->label;

cout<<"Enter the number of sections in this chapter ";

cin>>root->child[i]->ch\_count;

for(j=0; j<root->child[i]->ch\_count; j++)

{

root->child[i]->child[j]=new node;

cout<<"Enter section head ";

cin>>root->child[i]->child[j]->label;

cout<<"Enter the number of sub-sections in this chapter ";

cin>>root->child[i]->child[j]->ch\_count;

for(k=0; k<root->child[i]->child[j]->ch\_count; k++)

{

root->child[i]->child[j]->child[k]=new node;

cout<<"Enter sub-section head ";

cin>>root->child[i]->child[j]->child[k]->label;

}

}

}

}

void BST::display(node \*r1)

{

int i,j,k,tchapters;

if (r1!=NULL)

{

cout<<"\n -----Book Hierarchy-----";

cout<<"\n BOOK TITLE: "<<r1->label;

tchapters=r1->ch\_count;

for(i=0; i<tchapters; i++)

{

cout<<"\n----------------"<<endl;

cout<<"\n CHAPTER: "<<i+1<<". ";

cout<<r1->child[i]->label<<endl;

for(j=0; j<r1->child[i]->ch\_count; j++)

{

cout<<"\n SECTION: ";

cout<<r1->child[i]->child[j]->label<<endl;

for(k=0; k<r1->child[i]->child[j]->ch\_count; k++)

{

cout<<"\n SUB-SECTION: ";

cout<<r1->child[i]->child[j]->child[k]->label<<endl;

}

}

}

}

}

int main()

{

int choice ;

BST bst;

while(1)

{

cout<<"\n\n--------------"<<endl;

cout<<"Book tree creation"<<endl;

cout<<"---------------"<<endl;

cout<<"1.Create "<<endl;

cout<<"2.Display "<<endl;

cout<<"3.Quit "<<endl;

cout<<"Enter your choice: ";

cin>>choice;

switch(choice )

{

case 1:

bst.create();

case 2:

bst.display(root);

break;

case 3:

exit(1);

default:

cout<<"Wrong choice "<<endl;

}

}

return 0;

}



