#include<iostream>

#include<string.h>

using namespace std;

struct Node{

char name[20];

Node\* next;

Node\* down;

int flag;

};

class Gll{

public:

Node\* head=NULL;

Node\* temp=NULL;

Node\* t1=NULL;

Node\* t2=NULL;

Node\* create();

void insertb();

void insertc();

void inserts();

void display();

};

Node\* Gll::create(){

Node\* head=new Node;

head->next=NULL;

head->down=NULL;

head->flag=0;

cout<<"Enter the name"<<"\n";

cin>>head->name;

cout<<endl;

//cout<<"Name fo book is"<<head->name;

return head;

}

void Gll::insertb(){

if(head==NULL){

t1=create();

head=t1;

}

else{

cout<<"Book already exist";

}

}

void Gll::insertc(){

if (head == NULL) {

cout << "No book is present" << "\n";

} else {

cout << "Enter the number of chapter you want to insert: ";

int n;

cin >> n;

for (int i = 0; i < n; i++) {

t1 = create();

if (head->flag == 0) {

head->down = t1;

head->flag = 1;

}

temp = head;

while (temp->next != NULL) {

temp = temp->next;

temp->next = t1;

}

}

}

}

void Gll::inserts(){

if(head==NULL){

cout<<"No book is present"<<"\n";

}

else{

temp=head;

if(temp->flag==0){

cout<<"No chapters are present"<<"\n";

}

else{

temp=temp->down;

while(temp!=NULL){

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

char ch[20];

cin>>ch;

if(!strcmp(ch,temp->name)){

cout<<"Enter the no of section required"<<"\n";

int n;

cin>>n;

for(int i=0;i<n;i++){

t1=create();

if(temp->flag==0){

temp->down=t1;

temp->flag=1;

t2=temp->down;

}

while(t2->next!=NULL){

t2=t2->next;

t2->next=t1;

}

}

break;

}

temp=temp->next;

}

}

}

}

void Gll::display() {

if (head == NULL) {

cout << "No book is present" << endl;

return;

}

cout << "Book: " << head->name << endl;

if (head->flag == 0) {

cout << "No chapters are present" << endl;

return;

}

temp = head->down;

while (temp != NULL) {

cout << "Chapter: " << temp->name << endl;

if (temp->flag == 0) {

cout << "No sections are present" << endl;

} else {

t1 = temp->down;

int sectionCount = 1;

while (t1 != NULL) {

cout << "Section " << sectionCount << ": " << t1->name << endl;

sectionCount++;

t1 = t1->next;

}

}

temp = temp->next;

}

}

int main(){

Node\* head;

int choice,ch;

Gll t;

do{

cout<<"1.create"<<"\n";

cout<<"2.book"<<"\n";

cout<<"3.chapter"<<"\n";

cout<<"4.section"<<"\n";

cout<<"5.display"<<"\n";

cin>>choice;

switch (choice)

{

case 1:

t.create();

break;

case 2:

t.insertb();

break;

case 3:

t.insertc();

break;

case 4:

t.inserts();

break;

case 5:

t.display();

}

cout<<"Do you want to continue"<<"\n";

cin>>ch;

}while(ch==6);

}