#include <iostream>

#include <string>

using namespace std;

struct Section{

string sectionName;

};

struct Chapter{

string chapterName;

int sectionCount;

Section Sections[10];

};

struct Book{

string bookName;

int chapterCount;

Chapter Chapters[10];

};

Book b;//Global instance of Book to be accessed by all functions.

void createBook(){

cout<<"Enter the Title of the Book : ";

cin>>b.bookName;

cout<<"Enter the Total number of Chapters : ";

cin>>b.chapterCount;

for(int i = 0;i<b.chapterCount;i++){

cout<<"Enter the Title of the Chapter : ";

cin>>b.Chapters[i].chapterName;

cout<<"Enter the total number of Sections in the Chapter "<<b.Chapters[i].chapterName;

cin>>b.Chapters[i].sectionCount;

for(int j = 0;j<b.Chapters[i].sectionCount;j++){

cout<<"Enter the title of the Section : ";

cin>>b.Chapters[i].Sections[j].sectionName;

}

}

}

void displayBook(){

cout<<"--- Book Structure ---"<<endl;

cout<<"Book:"<<b.bookName<<endl;

for(int i = 0;i<b.chapterCount;i++){

cout<<"Chapter "<<i+1<<" : "<<b.Chapters[i].chapterName<<endl;

cout<<"Sections : "<<endl;

for(int j = 0;j<b.Chapters[i].sectionCount;j++){

cout<<"Section "<<j+1<<b.Chapters[i].Sections[j].sectionName<<endl;

}

}

}

void traverseBook(){

cout<<"--- Preorder Traversal ---"<<endl;

cout<<b.bookName<<endl;

for(int i = 0;i<b.chapterCount;i++){

cout<<" -> "<<b.Chapters[i].chapterName<<endl;

for(int j = 0;j<b.Chapters[i].sectionCount;j++){

cout<<" -> "<<b.Chapters[i].Sections[j].sectionName<<endl;

}

}cout<<endl;

}

int main(){

char ch;

do{

cout<<"------------------\*Menu\*-------------------"<<endl;

cout<<"1.Create Book \n 2.Display Book \n 3.Traverse Book \n 4.Exit \n";

cout<<"Enter your choice : ";

cin>>ch;

if(ch=='1'){

createBook();

}

else if(ch=='2'){

displayBook();

}

else if(ch=='3'){

traverseBook();

}

else if(ch=='4'){

exit(0);

}

else{

cout<<"Invalid Choice"<<endl;

}

}while(ch!='4');

return 0;

}