**#include <iostream>**

**#include <cstring>**

**using namespace std;**

**struct Node {**

**char name[20];**

**Node \*next, \*down;**

**int flag;**

**};**

**class Gll {**

**Node \*head = nullptr;**

**public:**

**Node \*create();**

**void insertb();**

**void insert(char type);**

**void display();**

**};**

**Node\* Gll::create() {**

**Node \*p = new Node;**

**p->next = p->down = nullptr;**

**p->flag = 0;**

**cout << "\nEnter the name: ";**

**cin >> p->name;**

**return p;**

**}**

**void Gll::insertb() {**

**if (!head) head = create();**

**else cout << "\nBook already exists";**

**}**

**void Gll::insert(char type) {**

**if (!head) cout << "\nThere is no book";**

**else {**

**cout << "\nEnter the name of " << ((type == 'c') ? "chapter" : "section") << ": ";**

**char name[20];**

**cin >> name;**

**Node \*temp = head;**

**while (temp) {**

**if (temp->flag) {**

**temp = (type == 'c') ? temp->down : temp->next;**

**continue;**

**}**

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

**Node \*newNode = create();**

**Node \*current = (type == 'c') ? temp->down : temp->next;**

**if (!current) temp->down = newNode;**

**else {**

**while (current->next) current = current->next;**

**current->next = newNode;**

**}**

**temp->flag = 1;**

**break;**

**}**

**temp = temp->next;**

**}**

**if (!temp) cout << "\nNo such " << ((type == 'c') ? "chapter" : "section") << " found";**

**}**

**}**

**void Gll::display() {**

**if (!head) cout << "\nBook does not exist";**

**else {**

**Node \*temp = head;**

**cout << "\nBOOK: " << temp->name;**

**temp = temp->down;**

**while (temp) {**

**cout << "\n\tCHAPTER: " << temp->name;**

**Node \*current = temp->down;**

**while (current) {**

**cout << "\n\t\tSECTION: " << current->name;**

**current = current->next;**

**}**

**temp = temp->next;**

**}**

**}**

**}**

**int main() {**

**Gll g;**

**while (true) {**

**cout << "\n\nMenu:";**

**cout << "\n1. Insert book";**

**cout << "\n2. Insert chapter";**

**cout << "\n3. Insert section";**

**cout << "\n4. Display book";**

**cout << "\n5. Exit";**

**cout << "\nEnter your choice: ";**

**int choice;**

**cin >> choice;**

**switch (choice) {**

**case 1: g.insertb(); break;**

**case 2: g.insert('c'); break;**

**case 3: g.insert('s'); break;**

**case 4: g.display(); break;**

**case 5: exit(0);**

**default: cout << "\nInvalid choice!";**

**}**

**}**

**return 0;**

**}**