#include <iostream> #include <stdlib.h> #include <string.h>

using namespace std; struct node

{

char name[20]; node \*next; node \*down; int flag;

};

class Gll

{

char ch[20]; int n, i;

node \*head = NULL, \*temp = NULL, \*t1 = NULL, \*t2 = NULL;

public:

node \*create(); void insertb(); void insertc(); void inserts(); void insertss(); void displayb();

};

node \*Gll::create()

{

node \*p = new (struct node); p->next = NULL;

p->down = NULL; p->flag = 0;

cout << "\n Enter the name:"; cin >> p->name;

return p;

}

void Gll::insertb()

{

if (head == NULL)

{

t1 = create(); head = t1;

}

else

{

cout << "\n Book exist";

}

}

void Gll::insertc()

{

if (head == NULL)

{

cout << "\n there is no book";

}

else

{

cout << "\n how many chapters you want to insert:"; cin >> n;

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

{

t1 = create();

if (head->flag == 0) // head node not created chapter

{

head->down = t1; head->flag = 1;

}

else

{

temp = head;

temp = temp->down;

while (temp->next != NULL) next!=NULL temp = temp->next;

temp->next = t1;

}

}

}

}

void Gll::inserts()

{

if (head == NULL)

{

cout << "\n there is no book";

}

else

{

cout << "\n Enter the name of chapter on which you want to enter the section:"; cin >> ch;

temp = head;

if (temp->flag == 0)

{

cout << "\n Their are no chapters on in book";

}

else

{

temp = temp->down; while (temp != NULL)

{

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

{

cout << "\n How many sections you want to enter:"; cin >> n;

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

{

t1 = create();

if (temp->flag == 0)

{

temp->down = t1; temp->flag = 1; cout << "\n\*\*\*\*\*\*"; t2 = temp->down;

}

else

{

cout << "\n#####";

while (t2->next != NULL)

{

t2 = t2->next;

}

t2->next = t1;

}

}

break;

}

temp = temp->next;

}

}

}

} // function

void Gll::insertss()

{

if (head == NULL)

{

cout << "\n There is no book";

}

else

{

cout << "\n Enter the name of chapter on which you want to enter the section:"; // ask for chapter

cin >> ch; temp = head;

if (temp->flag == 0)

{

cout << "\n There are no chapters in book";

}

else // if flag=1 i.e. chapter is available

{

temp = temp->down; while (temp != NULL)

{

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

{

cout << "\n Enter name of section in which you want to enter the sub section:"; cin >> ch; // ask for section name

if (temp->flag == 0)

{

cout << "\n There are no sections ";

}

else

{

temp = temp->down; while (temp != NULL)

{

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

{

cout << "\n How many subsections you want to enter:"; cin >> n;

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

{

t1 = create();

if (temp->flag == 0)

{

temp->down = t1; temp->flag = 1; cout << "\n\*\*\*\*\*\*"; t2 = temp->down;

}

else // already subsections is available

{

cout << "\n#####";

while (t2->next != NULL)

{

t2 = t2->next;

}

t2->next = t1;

}

}

break;

}

temp = temp->next;

}

}

}

temp = temp->next;

}

}

}

}

void Gll::displayb()

{

if (head == NULL)

{

cout << "\n Book not exist";

}

else

{

temp = head;

cout << "\n NAME OF BOOK: " << temp->name; if (temp->flag == 1)

{

temp = temp->down;

while (temp != NULL)

{

cout << "\n\t\tNAME OF CHAPTER: " << temp->name; t1 = temp;

if (t1->flag == 1)

{

t1 = t1->down;

while (t1 != NULL)

{

cout << "\n\t\t\t\tNAME OF SECTION: " << t1->name; t2 = t1;

if (t2->flag == 1)

{

t2 = t2->down; while (t2 != NULL)

{

cout << "\n\t\t\t\t\t\tNAME OF SUBSECTION: " << t2->name; t2 = t2->next;

}

}

t1 = t1->next;

}

}

temp = temp->next;

}

}

}

}

int main()

{

Gll g; int x;

while (1)

{

cout << "\n\n enter your choice"; cout << "\n 1.Insert book";

cout << "\n 2.Insert chapter"; cout << "\n 3.Insert section";

cout << "\n 4.Insert subsection"; cout << "\n 5.Display book"; cout << "\n 6.Exit";

cin >> x; switch (x)

{

case 1:

g.insertb(); break;

case 2:

g.insertc(); break;

case 3:

g.inserts(); break;

case 4:

g.insertss(); break;

case 5:

g.displayb(); break;

case 6:

exit(0);

}

}

return 0;

}