

ASSIGNMENT 5

PROGRAM:-

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#include<iostream>

using namespace std;

int cnt=0;

struct node{
    int chcnt,scnt;
    string bname,cname,sname;
    struct node *broot[10];
}*root=NULL;

class book{
    int i,j,k;
    public:
        void create();
        void display(node *r);
};

void book::create()
{
    root=new node();
    cout<<"ENTER NAME OF BOOK :- ";
    cin.ignore();
    getline(cin,root->bname);
    cnt+=1;
    cout<<"ENTER HOW MANY CHAPTERS ARE THERE IN BOOK "<<root->bname<<" :-
";

    cin>>root->chcnt;
    cin.ignore();
```

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cnt+=1;
for(i=0;i<root->chcnt;i++){
    root->broot[i]=new node();
    cout<<"ENTER NAME OF CHAPTER "<<(i)+1<<" :- ";
    getline(cin,root->broot[i]->chname);
    cout<<"ENTER HOW MANY SECTIONS ARE THERE IN "<<root->broot[i]-
>chname<<" :- ";
    cin>>root->scnt;
    cin.ignore();
    cnt+=root->chcnt;
    for(j=0;j<root->scnt;j++){
        root->broot[i]->broot[j]=new node();
        cout<<"ENTER NAME OF THE SECTION "<<j+1<<" :- ";
        getline(cin,root->broot[i]->broot[j]->sname);
        cnt+=root->scnt;
    }
}
}
}

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void book::display(node *r){
    cout<<"\n\tNAME OF BOOK IS :- "<<root->bname;
    cnt+=1;
    for(i=0;i<root->chcnt;i++){
        cout<<"\n\tNAME OF CHAPTER IS :- "<<root->broot[i]->chname;
        cnt+=1;
        cout<<"\n\tSECTION IN CHAPTER IS :-      "<<root->broot[i]->chname;
        cnt+=1;
        for(j=0;j<root->scnt;j++){

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        cout<<"\n\tNAME OF THE SECTION IS :- "<<j+1<<"\t"<<root->broot[i]->broot[j]->sname;

        cnt+=root->scnt;

    }

}

}

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int main(){

    book b;

    int ch;

    char ans;

    do

    {

        cout<<"WELCOME TO BOOK MANAGEMENT SYSTEM";

        cout<<"\nENTER 1 FOR INSERTING RECORDS ";

        cout<<"\nENTER 2 FOR DISPLAY ";

        cout<<"\nENTER YOUR CHOICE :-";

        cin>>ch;

        switch(ch){

            case 1:

                b.create();

                break;

            case 2:

                b.display(root);

                cout<<"\n\tTIME COMPLEXITY OF PROGRAM IS O("<<cnt<<")";

                break;

            case 3:

                break;

        }

    }
}

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        cout<<"\n DO YOU WANT TO CONTINUE (Y/N)";

        cin>>ans;

        }while(ans=='y' || ans=='Y');

        return 0;

}

```

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C:\Users\Shree\OneDrive\Desktop\MY PROGRAMS\DSA ASSIGNMENT\ASSIGNMENT 3\newtree.exe
WELCOME TO BOOK MANAGEMENT SYSTEM
ENTER 1 FOR INSERTING RECORDS
ENTER 2 FOR DISPLAY
ENTER YOUR CHOICE :-1
ENTER NAME OF BOOK :- Java
ENTER HOW MANY CHAPTERS ARE THERE IN BOOK Java :- 2
ENTER NAME OF CHAPTER 1 :- Object
ENTER HOW MANY SECTIONS ARE THERE IN Object :- 2
ENTER NAME OF THE SECTION 1 :- Creating Objects
ENTER NAME OF THE SECTION 2 :- Structre of objects
ENTER NAME OF CHAPTER 2 :- Class
ENTER HOW MANY SECTIONS ARE THERE IN Class :- 2
ENTER NAME OF THE SECTION 1 :- Class creation
ENTER NAME OF THE SECTION 2 :- calling class

DO YOU WANT TO CONTINUE (Y/N)y
WELCOME TO BOOK MANAGEMENT SYSTEM
ENTER 1 FOR INSERTING RECORDS
ENTER 2 FOR DISPLAY
ENTER YOUR CHOICE :-2

NAME OF BOOK IS :- Java
NAME OF CHAPTER IS :- Object
SECTION IN CHAPTER IS :-      Object
NAME OF THE SECTION IS :- 1    Creating Objects
NAME OF THE SECTION IS :- 2    Structre of objects
NAME OF CHAPTER IS :- Class
SECTION IN CHAPTER IS :-      Class
NAME OF THE SECTION IS :- 1    Class creation
NAME OF THE SECTION IS :- 2    calling class
TIME COMPLEXITY OF PROGRAM IS O(27)
DO YOU WANT TO CONTINUE (Y/N)N

-----
Process exited after 108.7 seconds with return value 0
Press any key to continue . . .

```