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Roll No.: 64

**Code:**

#include<iostream>

#include<string.h>

using namespace std;

struct node{

    string label;

    int ch\_count;

    struct node\* child[10];

}\*root;

class GT{

    public:

        GT(){

            root = NULL;

        }

        string lbel;

        int count;

        void create(){

                root = new node;

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

                cin>>root->label;

                cout<<"Enter No. of Chapters: ";

                cin>>root->ch\_count;

                for(int i=0;i<root->ch\_count;i++){

                    root->child[i] = new node;

                    cout<<"Enter the "<< i+1 <<" Name of Chapter: ";

                    cin>>root->child[i]->label;

                    cout<<"Enter the No of Sections: ";

                    cin>>root->child[i]->ch\_count;

                    for(int j=0;j<root->child[i]->ch\_count;j++){

                        root->child[i]->child[j] = new node;

                        cout<<"Enter the "<< i+1 <<" - "<< j+1<< " Name of Sections: ";

                        cin>>root->child[i]->child[j]->label;

                        cout<<"Enter the No of Sub-Section: ";

                        cin>>root->child[i]->child[j]->ch\_count;

                        for(int k=0;k<root->child[i]->child[j]->ch\_count;k++){

                            root->child[i]->child[j]->child[k] = new node;

                            cout<<"Enter the "<< i+1 <<" - "<< j+1<< " - "<< k+1<< " Name of Sub Section: ";

                            cin>>root->child[i]->child[j]->label;

                        }

                    }

                }

        }

        void display(node \* r){

                cout<<"\nName of Book: ";

                cout<<root->label<<endl;

                cout<<"No. of Chapters: ";

                cout<<root->ch\_count<<endl;

                for(int i=0;i<root->ch\_count;i++){

                        cout<<"\n Name of Chapter: ";

                        cout<<root->child[i]->label<<endl;

                        cout<<" No of Sections: ";

                        cout<<root->child[i]->ch\_count<<endl;

                        for(int j=0;j<root->child[i]->ch\_count;j++){

                            cout<<"\t\t"<< i+1 <<" - "<< j+1<< " Name of Sections: ";

                            cout<<root->child[i]->child[j]->label<<endl;

                            cout<<"\t\tNo of Sub-Section: ";

                            cout<<root->child[i]->child[j]->ch\_count<<endl;

                            for(int k=0;k<root->child[i]->child[j]->ch\_count;k++){

                                cout<<"\t\t\t"<< i+1 <<" - "<< j+1<< " - "<< k+1<< " Name of Sub Section: ";

                                cout<<root->child[i]->child[j]->label<<endl;

                            }

                        }

            }

        }

};

int main(){

    GT g;

    while(1){

        cout<<"\*\*\*\*\*\*\* Book Information \*\*\*\*\*\*\*"<<endl;

        cout<<"1. Add Book Info."<<endl;

        cout<<"2. Display."<<endl;

        cout<<"3. Exit"<<endl;

        cout<<"Enter Choice: ";

        int ch;

        cin>>ch;

        switch(ch){

            case 1:

                g.create();

                break;

            case 2:

                g.display(root);

                break;

            case 3:

                exit(0);

                break;

            default:

                cout<<"Invalid Choice....";

                break;

        }

    }

}

**Output:**

\*\*\*\*\*\*\* Book Information \*\*\*\*\*\*\*

1. Add Book Info.

2. Display.

3. Exit

Enter Choice: 1

Enter the Name of Book: JAVA

Enter No. of Chapters: 3

Enter the 1 Name of Chapter: introduction

Enter the No of Sections: 3

Enter the 1 - 1 Name of Sections: history

Enter the No of Sub-Section: 0

Enter the 1 - 2 Name of Sections: features

Enter the No of Sub-Section: 0

Enter the 1 - 3 Name of Sections: datatypes

Enter the No of Sub-Section: 0

Enter the 2 Name of Chapter: searching

Enter the No of Sections: 3

Enter the 2 - 1 Name of Sections: binarysearch

Enter the No of Sub-Section: 0

Enter the 2 - 2 Name of Sections: fibonnacisearch

Enter the No of Sub-Section: 0

Enter the 2 - 3 Name of Sections: linear\_search

Enter the No of Sub-Section: 0

Enter the 3 Name of Chapter: arrays

Enter the No of Sections: 0

\*\*\*\*\*\*\* Book Information \*\*\*\*\*\*\*

1. Add Book Info.

2. Display.

3. Exit

Enter Choice: 2

Name of Book: JAVA

No. of Chapters: 3

Name of Chapter: introduction

No of Sections: 3

1 - 1 Name of Sections: history

No of Sub-Section: 0

1 - 2 Name of Sections: features

No of Sub-Section: 0

1 - 3 Name of Sections: datatypes

No of Sub-Section: 0

Name of Chapter: searching

No of Sections: 3

2 - 1 Name of Sections: binarysearch

No of Sub-Section: 0

2 - 2 Name of Sections: fibonnacisearch

No of Sub-Section: 0

2 - 3 Name of Sections: linear\_search

No of Sub-Section: 0

Name of Chapter: arrays

No of Sections: 0

\*\*\*\*\*\*\* Book Information \*\*\*\*\*\*\*

1. Add Book Info.

2. Display.

3. Exit

Enter Choice: 3

Thank You…