Name: Khushal Patil Class: SE-II (R-Batch)

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…