**Assignment No.5(Pinnacle club).**

#include <iostream>

#include<string>

#include<cstdlib>

using namespace std;

typedef struct pinnacle{

int prn;

string name;

struct pinnacle\* next;

}pinclub;

pinnacle\* create(pinnacle \*p){

struct pinnacle \*head;

int cnt=0,pn=0;

string name;

head=p;

cout<<endl<<"Enter count of students in club except counting secretory and president:";

cin>>cnt;

for(int i=0;i<cnt;i++){

p->next=new pinnacle;

p=p->next;

cout<<endl<<"Enter name of student:";

cin>>name;

p->name=name;

cout<<endl<<"Enter Rollno of student:";

cin>>pn;

p->prn=pn;

p->next=NULL; }

p->next=new pinnacle;

p=p->next;

cout<<endl<<"Enter name of secretory:";

cin>>name;

cout<<endl<<"Enter Rollno of secretory:";

cin>>pn;

p->name=name;

p->prn=pn;

p->next=NULL;

return head;

}

int display(pinnacle \*p){

int county=0;

cout<<endl<<"President of the Pinnacle club:"<<endl<<p->name<<"\t"<<p->prn;

p=p->next;

cout<<endl<<"Member name\tPRN:";

while(p->next!=NULL){

cout<<endl<<p->name<<"\t"<<p->prn;

county++;

p=p->next;}

cout<<endl<<"Secretory of the Pinnacle club:"<<endl<<p->name<<"\t"<<p->prn;

return county;

}

pinnacle \*add(pinnacle \*h){

pinnacle \*head,\*p,\*q;

char ch;

head=h;

p=head;

string name;

int roll,loc;

cout<<endl<<"Do you want to update president information(y/n):";

cin>>ch;

if(ch=='Y' || ch=='y'){

cout<<endl<<"Enter name of student:";

cin>>name;

p->name=name;

cout<<endl<<"Enter Rollno of student:";

cin>>roll;

p->prn=roll;

return head;

}else{

cout<<endl<<"Enter Location:";

cin>>loc;

head=p;

for(int i=0;i<loc-1;i++){

p=p->next;}

q=new pinnacle;

q->next=NULL;

cout<<endl<<"Enter name of student:";

cin>>name;

q->name=name;

cout<<endl<<"Enter Rollno of student:";

cin>>roll;

q->prn=roll;

q->next=p->next;

p->next=q;

return head; }

}

void Reverse(pinnacle \*h){

if(h!=NULL){

Reverse(h->next);

cout<<endl<<h->name<<"\t\t"<<h->prn;}

}

void counts(pinnacle \*h){

int cnt=0;

while(h!=NULL){

cnt++;

h=h->next;}

cout<<cnt;

}

pinnacle \*concat(pinnacle \*a,pinnacle \*b){

pinnacle \*head=a,\*q;

q=a;

while(q->next!=NULL){

q=q->next;}

q->next=b;

return head;

}

int main(){

struct pinnacle \*head,\*head1;

string n;

int p,county=0,roll,ch;

cout<<endl<<"\*\*\*\*\*\*\*\*\*\*\*\*A DIVISION\*\*\*\*\*\*\*\*\*\*\*\*";

head=new pinnacle;

cout<<endl<<"Enter name of the president:";

cin>>n;

cout<<endl<<"Enter Rollno of president:";

cin>>roll;

head->name=n;

head->prn=roll;

head->next=NULL;

head=create(head);

cout<<endl<<"\*\*\*\*\*\*\*\*\*\*\*\*B DIVISION\*\*\*\*\*\*\*\*\*\*\*\*";

head1=new pinnacle;

cout<<endl<<"Enter name of the president:";

cin>>n;

cout<<endl<<"Enter Rollno of president:";

cin>>roll;

head1->name=n;

head1->prn=roll;

head1->next=NULL;

head1=create(head1);

do{

cout<<endl<<"1.add or delete members...\n2.Count members...\n3.display members...\n4.Display in reverse..\n5.Merge two clubs...\n6.Exit";

cout<<endl<<"Enter your choice:";

cin>>ch;

switch(ch){

case 1:

head=add(head);

head1=add(head1);

break;

case 2:

cout<<endl<<"Number of members in A division pinnacle club:";

counts(head);

cout<<endl<<"Number of members in B division pinnacle club:";

counts(head1);

break;

case 3:

cout<<endl<<"\*\*\*\*\*\*\*\*\*\*\*\*A DIVISION\*\*\*\*\*\*\*\*\*\*\*\*";

county=display(head);

cout<<endl<<"Number of members:"<<county;

cout<<endl<<"\*\*\*\*\*\*\*\*\*\*\*\*B DIVISION\*\*\*\*\*\*\*\*\*\*\*\*";

county=display(head1);

cout<<endl<<"Number of members:"<<county;

break;

case 4:

Reverse(head);

break;

case 5:

head=concat(head,head1);

display(head);

break;

case 6:

break;

default:

cout<<endl<<"Wrong choice entered...";

}

}while(ch!=6);

cout<<endl<<"Number of members:"<<county;

return 0;

}

**Output:**

\*\*\*\*\*\*\*\*\*\*\*\*A DIVISION\*\*\*\*\*\*\*\*\*\*\*\*

Enter name of the president:rohit

Enter Rollno of president:11

Enter count of students in club except counting secretory and president:3

Enter name of student:piyush

Enter Rollno of student:22

Enter name of student:sagar

Enter Rollno of student:33

Enter name of student:omkar

Enter Rollno of student:44

Enter name of secretory:akkie

Enter Rollno of secretory:55

\*\*\*\*\*\*\*\*\*\*\*\*B DIVISION\*\*\*\*\*\*\*\*\*\*\*\*

Enter name of the president:shivam

Enter Rollno of president:66

Enter count of students in club except counting secretory and president:2

Enter name of student:viju

Enter Rollno of student:77

Enter name of student:pritesh

Enter Rollno of student:88

Enter name of secretory:omi

Enter Rollno of secretory:99

1.add or delete members...

2.Count members...

3.display members...

4.Display in reverse..

5.Merge two clubs...

6.Exit

Enter your choice:1

Do you want to update president information(y/n):y

Enter name of student:omkar

Enter Rollno of student:90

1.add or delete members...

2.Count members...

3.display members...

4.Display in reverse..

5.Merge two clubs...

6.Exit

Enter your choice:2

Number of members in A division pinnacle club:5

Number of members in B division pinnacle club:4

1.add or delete members...

2.Count members...

3.display members...

4.Display in reverse..

5.Merge two clubs...

6.Exit

Enter your choice:3

\*\*\*\*\*\*\*\*\*\*\*\*A DIVISION\*\*\*\*\*\*\*\*\*\*\*\*

President of the Pinnacle club:

omkar 90

Member name PRN:

piyush 22

sagar 33

omkar 44

Secretory of the Pinnacle club:

akkie 55

Number of members:3

\*\*\*\*\*\*\*\*\*\*\*\*B DIVISION\*\*\*\*\*\*\*\*\*\*\*\*

President of the Pinnacle club:

shivam 66

Member name PRN:

viju 77

pritesh 88

Secretory of the Pinnacle club:

omi 99

Number of members:2

1.add or delete members...

2.Count members...

3.display members...

4.Display in reverse..

5.Merge two clubs...

6.Exit

Enter your choice:4

akkie 55

omkar 44

sagar 33

piyush 22

omkar 90

1.add or delete members...

2.Count members...

3.display members...

4.Display in reverse..

5.Merge two clubs...

6.Exit

Enter your choice:5

President of the Pinnacle club:

omkar 90

Member name PRN:

piyush 22

sagar 33

omkar 44

akkie 55

shivam 66

viju 77

pritesh 88

Secretory of the Pinnacle club:

omi 99

1.add or delete members...

2.Count members...

3.display members...

4.Display in reverse..

5.Merge two clubs...

6.Exit

Enter your choice:3

\*\*\*\*\*\*\*\*\*\*\*\*A DIVISION\*\*\*\*\*\*\*\*\*\*\*\*

President of the Pinnacle club:

omkar 90

Member name PRN:

piyush 22

sagar 33

omkar 44

akkie 55

shivam 66

viju 77

pritesh 88

Secretory of the Pinnacle club:

omi 99

Number of members:7