**PROGRAM:**

#include<iostream>

using namespace std;

typedef struct Node

{

public:

int prn ;

char name[100];

struct Node \*next;

}node;

node \*head;

typedef struct Node1

{

public:

int prn1 ;

char name1[100];

struct Node1 \*next1;

}node1;

node1 \*head1;

class list:public Node,public Node1

{

public:

node \*temp,\*New,\*prev;

public :

node create()

{

char choice;

int val,flag=1;

temp=NULL;

do

{

New =new node;

New->next=NULL;

cout<<"\nenter PRN number\n";

cin>>New->prn;

cout<<"\nenter name \n";

cin>>New->name;

if(flag==1)

{

head=New;

temp=head;

flag=0;

}

else

{

temp->next=New;

temp=New;

}

cout<<"\ndo you want to add a new member?(y/N)\n";

cin>>choice;

}

while(choice=='Y' ||choice=='y');

}

void display()

{

temp=head;

while(temp!=NULL)

{

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

temp=temp->next;

}

}

void insert\_president()

{

New=new node;

cout<<"\nenter name of the president\n";

cin>>New->name;

cout<<"\nenter prn of president\n";

cin>>New->prn;

if(head==NULL)

{

head=New;

}

else

{

New->next=head;

head=New;

}

}

void insert\_secretary()

{

New=new node;

cout<<"\nenter the name of the secretary\n";

cin>>New->name;

cout<<"\nenter the prn number of secretary\n";

cin>>New->prn;

if(head==NULL)

{

head=New;

}

else

{

temp=head;

while(temp->next!=NULL)

{

temp=temp->next;

}

temp->next=New;

New->next=NULL;

}

}

void insert\_member(node \*head)

{

int key;

New=new node;

New->next=NULL;

cout<<"\nenter the prn of new member\n";

cin>>New->prn;

cout<<"\nenter the name of new member\n";

cin>>New->name;

if(head==NULL)

{

head=New;

}

else

cout<<"\nenter the prn after which you want to insert new member\n";

cin>>key;

temp=head;

do

{

if(temp->prn==key)

{

New->next=temp->next;

temp->next=New;

break;

}

else

{

temp=temp->next;

}

}while(temp!=NULL);

}

void delete\_president()

{

temp=head;

head=head->next;

delete temp;

cout<<"\nPresident removed...\n";

}

void delete\_secretary()

{

temp=head;

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

temp=temp->next;

delete temp->next;

temp->next=NULL;

cout<<"\nsecretary removed...\n";

}

void delete\_member()

{

int key;

prev=new node;

temp=head;

cout<<"\nenter the prn of member you want to remove\n";

cin>>key;

while(temp!=NULL)

{

if(temp->prn==key)

break;

prev=temp;

temp=temp->next;

}

if(temp==NULL)

cout<<"\nnode not found\n";

else

{

if(temp==head)

head=temp->next;

else

prev->next=temp->next;

delete temp;

cout<<"\nthe member is removed\n";

}

}

void reverse\_list(node \*head)

{

node \*curr;

curr=head;

if(curr==NULL)

return;

reverse\_list(curr->next);

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

}

int total\_members()

{

int count1=0;

temp=head;

while(temp!=NULL)

{

count1++;

temp=temp->next;

}

cout<<"\ntotal member in the pinnacle club are: "<<count1<<endl;

}

public:

node1 \*temp1,\*New1,\*prev1;

public :

node1 create1()

{

char choice1;

int val1,flag1=1;

temp1=NULL;

do

{

New1 =new node1;

New1->next1=NULL;

cout<<"\nenter PRN number\n";

cin>>New1->prn1;

cout<<"\nenter name \n";

cin>>New1->name1;

if(flag1==1)

{

head1=New1;

temp1=head1;

flag1=0;

}

else

{

temp1->next1=New1;

temp1=New1;

}

cout<<"\ndo you want to add a new member?(y/N)\n";

cin>>choice1;

}

while(choice1=='Y' ||choice1=='y');

}

void display1()

{

temp1=head1;

while(temp1!=NULL)

{

cout<<temp1->prn1<<"\t"<<temp1->name1<<endl;

temp1=temp1->next1;

}

}

void insert\_president1()

{

New1=new node1;

cout<<"\nenter name of the president\n";

cin>>New1->name1;

cout<<"\nenter prn of president\n";

cin>>New1->prn1;

if(head1==NULL)

{

head1=New1;

}

else

{

New1->next1=head1;

head1=New1;

}

}

void insert\_secretary1()

{

New1=new node1;

cout<<"\nenter the name of the secretary\n";

cin>>New1->name1;

cout<<"\nenter the prn number of secretary\n";

cin>>New1->prn1;

if(head1==NULL)

{

head1=New1;

}

else

{

temp1=head1;

while(temp1->next1!=NULL)

{

temp1=temp1->next1;

}

temp1->next1=New1;

New1->next1=NULL;

}

}

void insert\_member1(node1 \*head1)

{

int key1;

New1=new node1;

New1->next1=NULL;

cout<<"\nenter the prn of new member\n";

cin>>New1->prn1;

cout<<"\nenter the name of new member\n";

cin>>New1->name1;

if(head1==NULL)

{

head1=New1;

}

else

cout<<"\nenter the prn after which you want to insert new member\n";

cin>>key1;

temp1=head1;

do

{

if(temp1->prn1==key1)

{

New1->next1=temp1->next1;

temp1->next1=New1;

break;

}

else

{

temp1=temp1->next1;

}

}while(temp1!=NULL);

}

void delete\_president1()

{

temp1=head1;

head1=head1->next1;

delete temp1;

cout<<"\nPresident removed...\n";

}

void delete\_secretary1()

{

temp1=head1;

while(temp1->next1->next1!=NULL)

temp1=temp1->next1;

delete temp1->next1;

temp1->next1=NULL;

cout<<"\nsecretary removed...\n";

}

void delete\_member1()

{

int key1;

prev1=new node1;

temp1=head1;

cout<<"\nenter the prn of member you want to remove\n";

cin>>key1;

while(temp1!=NULL)

{

if(temp1->prn1==key1)

break;

prev1=temp1;

temp1=temp1->next1;

}

if(temp1==NULL)

cout<<"\nnode not found\n";

else

{

if(temp1==head1)

head1=temp1->next1;

else

prev1->next1=temp1->next1;

delete temp1;

cout<<"\nthe member is removed\n";

}

}

int total\_members1()

{

int count11=0;

temp1=head1;

while(temp1!=NULL)

{

count11++;

temp1=temp1->next1;

}

cout<<"\ntotal member in the pinnacle club are: "<<count11<<endl;

}

void reverse\_list1(node1 \*head1)

{

node1 \*curr1;

curr1=head1;

if(curr1==NULL)

return;

reverse\_list1(curr1->next1);

cout<<curr1->prn1<<"\t\t\t"<<curr1->name1<<endl;

}

/\*

void concat()

{

node \*temp;

temp=head;

node1 \*curr;

curr=head1;

while(temp->next!=NULL )

{

temp=temp->next;

}

temp->next=curr;

}

\*/

};

int main()

{

cout<<"\n\nWELCOME TO PINNACLE CLUB OF COMPUTER DEPARTMENT\n\n";

list obj;

int ans,ans1;

char a,a1,a2;

cout<<"\nenter the mebers of A division\n";

obj.create();

cout<<"\nenter members of B division\n";

obj.create1();

cout<<"\n\nedit division A\n\n";

do

{

cout<<"\npress 1 to make a new president\npress 2 to make a new secretary\npress 3 to add a new member in the list\npress 4 to delete president\npress 5 to delete secrertary\npress 6 to delete a member\n";

cout<<"press 7 to reverse the list\npress 8 to display total number of members\npress 9 to display student list\n";

cin>>ans;

switch(ans)

{

case 1:obj.insert\_president();break;

case 2:obj.insert\_secretary();break;

case 3:obj.insert\_member(head);break;

case 4:obj.delete\_president();break;

case 5:obj.delete\_secretary();break;

case 6:obj.delete\_member();break;

case 7:obj.reverse\_list(head);break;

case 8:obj.total\_members();break;

case 9:obj.display();break;

default :cout<<"\ntry again....invalid choice:\n";

}

cout<<"\ndo you want to continue?(y/n)\n";

cin>>a;

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

cout<<"\n\nedit division B\n\n";

do

{

cout<<"\npress 1 to make a new president\npress 2 to make a new secretary\npress 3 to add a new member in the list\npress 4 to delete president\npress 5 to delete secrertary\npress 6 to delete a member\n";

cout<<"press 7 to reverse the list\npress 8 to display total number of members\npress 9 to display student list\n";

cin>>ans1;

switch(ans1)

{

case 1:obj.insert\_president1();break;

case 2:obj.insert\_secretary1();break;

case 3:obj.insert\_member1(head1);break;

case 4:obj.delete\_president1();break;

case 5:obj.delete\_secretary1();break;

case 6:obj.delete\_member1();break;

case 7:obj.reverse\_list1(head1);break;

case 8:obj.total\_members1();break;

case 9:obj.display1();break;

default :cout<<"\ntry again....invalid choice:\n";

}

cout<<"\ndo you want to continue?(y/n)\n";

cin>>a1;

}while(a1=='y' || a1=='Y');

cout<<"\ndo you want to combine both the divisions?(y/n)\n";

cin>>a2;

if(a2=='y'|| a2=='Y')

{

//obj.concat();

obj.display();

obj.display1();

}

else

cout<<"\n\nTHANK YOU FOR VISITING THE PINNACLE CLUB OF COMPUTER DEPARTMENT!!\n";

return 0;

}

**OUTPUT:**

WELCOME TO PINNACLE CLUB OF COMPUTER DEPARTMENT

enter the mebers of A division

enter PRN number

1

enter name

ria

do you want to add a new member?(y/N)

y

enter PRN number

2

enter name

ankita

do you want to add a new member?(y/N)

y

enter PRN number

3

enter name

rakhi

do you want to add a new member?(y/N)

n

enter members of B division

enter PRN number

1

enter name

pranav

do you want to add a new member?(y/N)

y

enter PRN number

2

enter name

shri

do you want to add a new member?(y/N)

y

enter PRN number

3

enter name

rohit

do you want to add a new member?(y/N)

y

enter PRN number

4

enter name

honey

do you want to add a new member?(y/N)

n

edit division A

press 1 to make a new president

press 2 to make a new secretary

press 3 to add a new member in the list

press 4 to delete president

press 5 to delete secrertary

press 6 to delete a member

press 7 to reverse the list

press 8 to display total number of members

press 9 to display student list

3

enter the prn of new member

4

enter the name of new member

arya

enter the prn after which you want to insert new member

3

do you want to continue?(y/n)

y

press 1 to make a new president

press 2 to make a new secretary

press 3 to add a new member in the list

press 4 to delete president

press 5 to delete secrertary

press 6 to delete a member

press 7 to reverse the list

press 8 to display total number of members

press 9 to display student list

1

enter name of the president

president

enter prn of president

0

do you want to continue?(y/n)

n

edit division B

press 1 to make a new president

press 2 to make a new secretary

press 3 to add a new member in the list

press 4 to delete president

press 5 to delete secrertary

press 6 to delete a member

press 7 to reverse the list

press 8 to display total number of members

press 9 to display student list

2

enter the name of the secretary

secretary

enter the prn number of secretary

100

do you want to continue?(y/n)

y

press 1 to make a new president

press 2 to make a new secretary

press 3 to add a new member in the list

press 4 to delete president

press 5 to delete secrertary

press 6 to delete a member

press 7 to reverse the list

press 8 to display total number of members

press 9 to display student list

9

1 pranav

2 shri

3 rohit

4 honey

100 secretary

do you want to continue?(y/n)

y

press 1 to make a new president

press 2 to make a new secretary

press 3 to add a new member in the list

press 4 to delete president

press 5 to delete secrertary

press 6 to delete a member

press 7 to reverse the list

press 8 to display total number of members

press 9 to display student list

7

100 secretary

4 honey

3 rohit

2 shri

1 pranav

do you want to continue?(y/n)

y

press 1 to make a new president

press 2 to make a new secretary

press 3 to add a new member in the list

press 4 to delete president

press 5 to delete secrertary

press 6 to delete a member

press 7 to reverse the list

press 8 to display total number of members

press 9 to display student list

5

secretary removed...

do you want to continue?(y/n)

y

press 1 to make a new president

press 2 to make a new secretary

press 3 to add a new member in the list

press 4 to delete president

press 5 to delete secrertary

press 6 to delete a member

press 7 to reverse the list

press 8 to display total number of members

press 9 to display student list

9

1 pranav

2 shri

3 rohit

4 honey

do you want to continue?(y/n)

n

do you want to combine both the divisions?(y/n)

y

0 president

1 ria

2 ankita

3 rakhi

4 arya

1 pranav

2 shri

3 rohit

4 honey