



Phone DIRECTORY PROGRAM IN CPP using linked list and FILE HANDLING

- >Save data in file**
- >add new number**
- >delete any number from current list**
- >search and modify**
- >see all list (reading from file)**
- >see current numbers added**

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Code:

//Phone directory program using linked list and file handling

```
#include<iostream>
```

```
#include<fstream>
```

```
#include<conio.h>
```

```
using namespace std;
```

```
fstream myfile;
```

```
struct clients
```

```
{
```

```
//parts of a node.
```

```
string name;
```

```
string number;
```

```
string cnic;
```

```
clients*link;
```

```
clients()
```

```
{
```

```
link=NULL;
```

```
}
```

```
};
```

```
class directory
```

```
{

//pointers to handle the linklist

clients *start,*cur,*temp;

public:

directory()

{

start=NULL;

}

//function to create nodes

creat_file (string n,string num,string cn)

{

//create 1st node...

if(start==NULL)

{

start=new clients;

start->link=NULL;

start->name=n;

start->number=num;

start->cnic=cn;
```

```
myfile.open ("directory.txt",ios::out | ios::app);

    myfile<<"Name_:_"<<start->name<<"__|__CNIC:_"<<start->cnic<<"__|__Phone
Number_:_"<<start->number<<endl;

    myfile.close();

}

//to create new node..

else

{

    cur=start;

    while(cur->link!=NULL)

    {

        cur=cur->link;

    }

    temp=new clients;

    temp->name=n;

    temp->number=num;

    temp->cnic=cn;

    temp->link=NULL;

    cur->link=temp;

    myfile.open ("directory.txt",ios::out | ios::app);
```

```
myfile<<"Name_:_"<<temp->name<<"__|__CNIC:_"<<temp->cnic<<"__|__Phone  
Number:_"<<temp->number<<endl;
```

```
myfile.close();
```

```
}
```

```
}
```

```
void terminating_file(string n)
```

```
{
```

```
cur=start;
```

```
if(start->name==n)
```

```
{
```

```
temp=start;
```

```
start=start->link;
```

```
delete temp;
```

```
}
```

```
else
```

```
{
```

```
while(cur->name!=n)
```

```
{
```

```
if(cur->link==NULL)
```

```
{
```

```
    cout<<"Any case of"<<n<<" does not exist"<<endl;

    return ;

}

temp=cur;

    cur=cur->link;

}

temp->link=cur->link;

delete cur;

}

}

//print data of the linklist.

void print_now()

{

    cur=start;

    int c;

    cout<<"Person #"<<" ---> Name   \tNumber   \tCNIC"<<endl;

    for(c=1;cur->link!=NULL;c++)

    {
```

```
    cout<<"Person "<<c<<" ---> "<<cur->name<<"\t"<<cur->number<<"\t"<<cur->cnic<<endl;

    cur=cur->link;

}

cout<<"Person "<<c<<" ---> "<<cur->name<<"\t"<<cur->number<<"\t"<<cur->cnic<<endl;
}

void search(string n)
{
    cur=start;

    while(cur!=NULL)
    {
        if(cur->name==n)
        {
            char mod;

            cout<<"\n\t_____DATA FOUND_____\\n\\n";

            cout<<"Name : "<<cur->name<<endl;

            cout<<"CNIC : "<<cur->cnic<<endl;

            cout<<"Phone # : "<<cur->number<<endl;

            cout<<"\nDo You want to modify Phone Number (y/n) : ";

            cin>>mod;

            if(mod=='y' || mod=='Y')
```

```
        {

            cout<<"Enter New Phone Number ";

            cin>>cur->number;

            cout<<"\n\t_____Data Updated_____"<<endl;

        }

        break;

    }

    cur=cur->link;

}

if(cur==NULL)

    cout<<"\n\t_____DATA NOT FOUND_____"<<\n\n";

}

void print()

{

    //this function reads the data from file

    string s;

    myfile.open("directory.txt",ios::in);

    while(!myfile.eof())

    {

        myfile>>s;
```



```
        cout<<s<<<endl;

    }

    myfile.close();

}

};

int main()

{

    directory l1;

    int nooffiles,i,p,ch;

    string n,nm,cnc;

    cout<<"\n\t=====
    =====\n\n";

    cout<<"\t\t\t PHONE DIRECTORY SYSTEM\n";

    cout<<"\n\t=====
    =====\n\n";

    cout<<"\n\t=====
    =====\n\n";

    cout<<"\n\t1- SAVE NUMBERS\n";

    cout<<"\n\t2- CAN SEARCH AND UPDATE THE NUMBER\n";
```

```
cout<<"\n\t3- WHEN A NUMBER IS OFF,,, YOU CAN DELETE IT FROM YOUR  
DIRECTORY\n";
```

```
cout<<"\n\t4-CAN SEE ALL THE LIST ANY TIME\n";
```

```
cout<<"\n\t=====
```

```
=====\\n\\n";
```

```
cout<<"\n\t=====SAVE  
NUMBERS=====\\n"<<endl;
```

```
//no. of files.
```

```
cout<<"\thow many numbers you want to save"<<endl;
```

```
cin>>nooffiles;
```

```
//create/save data of each memeber....function call pass data..
```

```
for(i=1;i<=nooffiles;i++)
```

```
{
```

```
cout<<"\n\tEnter Name \t";
```

```
//getline(cin,n);
```

```
cin>>n;
```

```
cout<<"\n\tEnter Phone number \t";
```

```
cin>>nm;
```

```
cout<<"\n\tEnter CNIC \t";
```

```
cin>>cnc;
```

```
l1.creat_file(n,nm,cnc);
```

```
}

    system("CLS");

do

{

    cout<<"\n\nWhat You want to do with your cases now"<<endl;

    cout<<"\n1-Save new phone number\n";

    cout<<"2-Delete any number"<<endl;

    cout<<"3-Search and Modify"<<endl;

    cout<<"4-See All list"<<endl;

    cout<<"5-Exit\n"<<endl;

    cin>>ch;

    system("CLS");

    switch(ch)

    {

        case 1:

            cout<<"\n\t=====SAVE NEW\nNUMBER=====\n\n";

            cout<<"Enter Data to insert new person's data"<<endl;

            cout<<"\n\nEnter Name \t";

            //getline(cin,n);
```

```
cin>>n;

cout<<"\nEnter Phone number \t";

cin>>nm;

cout<<"Enter CNIC \t";

cin>>cnc;

l1.creat_file(n,nm,cnc);

cout<<"Number of "<<n<<" has been Saved in your phone directory "<<endl;

break;

case 2:

    cout<<"\n\t=====DELETE
NUMBER=====\\n\\n";

    cout<<"\nEnter name of person whose number you want to delete\\n"<<endl;

    //getline(cin,n);

    cin>>n;

    l1.terminating_file(n);

    cout<<"\nNumber of "<<n<<" Has been removed from your list"<<endl;

    break;

case 3:

    cout<<"\n\t=====SEARCH AND UPDATE
NUMBER=====\\n\\n";

    cout<<"Enter NAME of Person to search it from list\\n";
```

```
        cin>>n;

        l1.search(n);

        break;

        case 4:

            cout<<"\n\t=====PRINTING ALL
LIST=====\\n\\n";

            l1.print();

            break;

        case 5:

            cout<<"\n\t=====LIST OF Numbers added
now=====\\n\\n";

            l1.print_now();

            break;

        default:

            cout<<"\t-----Invalid-----"<<endl;

    }

}

while(ch!=5);

cout<<"\nTHANK YOU"<<endl;

getch();

}
```

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