# PHONEBOOK MANAGEMENT SYSTEM

**Group member details-**

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**Introduction:**

→We have created a program for phonebook management in c++ which will allow you to perform simple Phonebook operations. For this purpose, we have used the concept of <u>file handling, classes, OOPS, UML, functions, strings</u> and so on.
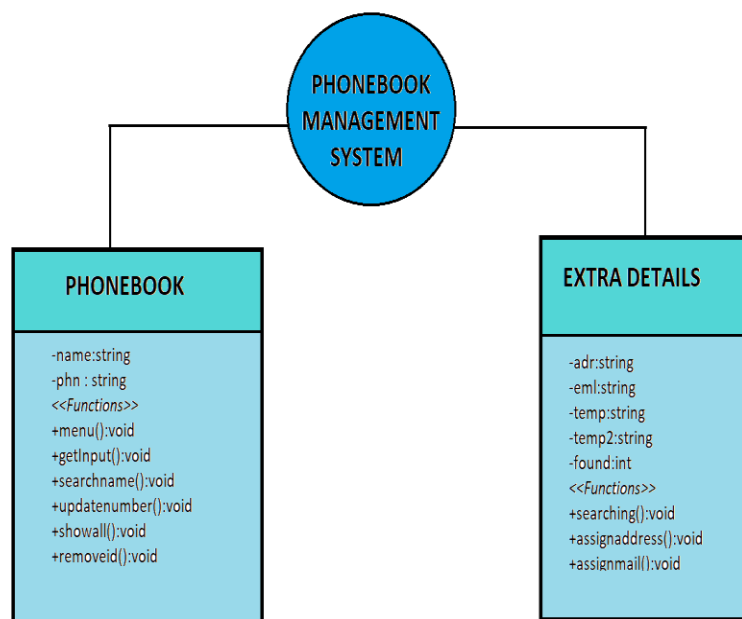
**Objective:**

→In this phonebook management system project, users can add a new phone record, display existing phone records, search a particular phone record and delete phone records or add more records.

→In the beginning of the code, we have added <u>signup/login</u> section for user's security purpose.

→Some main functions in our code that guides the project-

1) <u>void menu ()</u> – This function is used to display the main menu which will include functions sort of to add, search, update, display, delete contacts and so on for the user to choose.
2) <u>void getinput()-</u>This function is used to get input for the contact that is for the user to enter name and phone number.
3) <u>void searchname()-</u>This function is used to search the name of the contact saved in the phonebook.
4) <u>void updatenumber()-</u>This function is used to change your previous phone number and update it in the phonebook .
5) <u>void showAll()-</u>This function is used to display all the contacts with their details of phonebook.
6) <u>void removeid()-</u>This function is used to remove contact the user no longer need.

**Class Diagram:**

PHONEBOOK
MANAGEMENT
SYSTEM

PHONEBOOK

-name:string
-phn : string
<<Functions>>
+menu():void
+getInput():void
+searchname():void
+updatenumber():void
+showall():void
+removeid():void

EXTRA DETAILS

-adr:string
-eml:string
-temp:string
-temp2:string
-found:int
<<Functions>>
+searching():void
+assignaddress():void
+assignmail():void

**Code:**

```
#include <iostream>

#include<fstream>

#include <windows.h>
```

```cpp
#include <conio.h>

#include <stdlib.h>

#include<string>

using namespace std;


class Phonebook

{

private:

    string name;

    string phn;

public:


    void menu();

    void getInput();

    void searchname();

    void updatenumber();

    void showAll();

    void removeid();

};

class ExtraDetails

{

private:

    string adr;

    string eml;

    string temp, temp2="*";

    int found = 0;
```

```cpp
    public :

        void searching();

        void assignaddress();

        void assignemail();

};

void ExtraDetails::searching()

{

    cout<<endl<<"    PHONEBOOK MANAGEMENT SYSTEM"<<endl;

        cout<<"_____"<<endl;

        cout<<"Enter Name : ";

        cin>>temp;

        ifstream in (temp+".txt",ios::app) ;

        in>>temp2;

        if(temp2!="*")

        {

            cout<<endl<<"Contact Found : "<<endl;

            found++;

        }

}

void ExtraDetails ::assignaddress()

{

    searching();

        if(!found)

        {

            cout << "Contact Not Found"<<endl;
```

```cpp
      cout<<"Press Enter....:) ";
     getch();
     system("cls");
    }
    else
    {
     fstream addresses;
     addresses.open(temp+" address.txt",ios::out);
     cout << "Enter Address :"<<endl;
     cin>>adr;
     addresses << adr;
     cout<<"Press Enter....:) ";
     getch();
     system("cls");
    }
}
void ExtraDetails::assignemail()
{
    searching();
        if(!found)
        {
          cout << "Contact Not Found"<<endl;
          cout<<"Press Enter....:) ";
         getch();
         system("cls");
        }
```

```cpp
            else
            {
             fstream addresses;
             addresses.open(temp+" email.txt",ios::out);
             cout << "Enter Email :"<<endl;
             cin>>eml;
             addresses << eml;
             cout<<"Press Enter....:) ";
             getch();
             system("cls");
            }
        }
        void Phonebook::menu()  //TO SHOW MENU
          {
             cout<<endl<<"MENU:)";
cout<<endl<<"_____"<<endl;
cout<<endl<<"   1.Add a Contact     "<<endl
        <<"   2.Search            "<<endl
        <<"   3.Update a Contact   "<<endl
        <<"   4.All Contacts      "<<endl
        <<"   5.Delete Account     "<<endl
        <<"   6.Add Extra Details  "<<endl
        <<"   7.Exit            "<<endl
        <<"   0.LogOut           "<<endl;
        cout<<"_____";
          }
```

```cpp
void Phonebook::getInput() //TO TAKE INPUT OF CONTACT NAME AND
NUMBER
  {
  system("cls");
  cout<<endl<<"    PHONEBOOK MANAGEMENT SYSTEM"<<endl;
  cout<<"_____"<<endl;
  cout<<"ENTER NAME : ";
  cin>>name;
  cout<<"ENTER NUMBER : ";
  cin>>phn;
  ofstream out (name+".txt");
  out<<phn;
  out.close();
  ofstream out1 ("All.txt", ios::app);
  out1<<name;
  out1<<endl;
  out1.close();
  int count=0;
  ifstream ina("Total.txt");
  ina>>count;
  ina.close();
  ofstream inb("Total.txt");
  inb<<(count+1);
  inb.close();
   cout<<endl<<endl<<"Contact Added ;)"<<endl;
```

```cpp
            cout<<"_____"<<endl;
            cout<<"Press Enter....:) ";
        getch();
        system("cls");
    }



void Phonebook::searchname() //TO SEARCH CONTACT
    {
        system("cls");
        cout<<endl<<"     PHONEBOOK MANAGEMENT SYSTEM"<<endl;
        cout<<"_____"<<endl;
        string temp, temp2="*",ad_temp,eml_temp;
        char choice3;
        cout<<"Enter Name : ";
        cin>>temp;
        ifstream in (temp+".txt",ios::app) ;
        ifstream ad_in (temp+" address.txt");
        ifstream eml_in (temp+" email.txt");
        in>>temp2;
        if(temp2!="*")
        {
            cout<<endl<<"Contact Found : "<<endl;
            cout<<"_____"<<endl;
            cout<<temp<<"\t"<<temp2<<endl;
            cout<<"Address : ";
```

```cpp
            ad_in>>ad_temp;

            cout<<ad_temp<<endl;

            cout<<"Email : ";

            eml_in>>eml_temp;

            cout<<eml_temp<<endl;

            cout<<"_____"<<endl;

cout<<endl<<"Do you want to edit this number? y/n : ";

cin>>choice3;

switch(choice3)

{

case 'y':

    updatenumber();

    break;

case 'n':

    cout<<endl<<endl<<"Alright!! :)"<<endl;

        cout<<"_____"<<endl;

        cout<<"Press Enter....:) ";

    getch();

    system("cls");

    break;


default:

    cout<<"Oops!!Invalid Input"<<endl;

}


}
```

```cpp
        else
        {

            cout<<"SORRY:( Contact not found!"<<endl;
            cout<<"_____"<<endl;
            cout<<"Press Enter....:) ";
            getch();
            system("cls");
        }
        in.close();
        eml_in.close();
        ad_in.close();
         }
    void Phonebook::updatenumber() //TO UPDATE A CONTACT
      {
        system("cls");
         cout<<endl<<"     PHONEBOOK MANAGEMENT SYSTEM"<<endl;
        cout<<"_____"<<endl;
        string temp, temp1="*", temp2;
        cout<<"Enter CONTACT NAME to be updated : ";
        cin>>temp;
        ifstream inin(temp+".txt");
        inin>>temp1;
        if(temp1!="a")
        {
            cout<<"The Previous Number is : "<<temp1<<endl;
```

```cpp
        inin.close();

        cout<<"Please Enter the New Number : ";

        cin>>temp2;

        ofstream outout(temp+".txt");

        outout<<temp2;

        outout.close();

        cout<<endl<<endl<<"Contact Updated :)"<<endl;

            cout<<"_____"<<endl;

            cout<<"Press Enter....:) ";

            getch();

             system("cls");

        }
        else
        {

          cout<<"SORRY :( Number is not present"<<endl;

          cout<<"_____"<<endl;

            cout<<"Press Enter....:) ";

            getch();

             system("cls");

        }


   }
 void Phonebook :: showAll()//TO SHOW ALL CONTACTS
   {

      cout<<"     PHONEBOOK MANAGEMENT SYSTEM"<<endl;

      cout<<"_____"<<endl;
```

```cpp
        int count, num;
        string temp, temp2;
        ifstream ins("Total.txt");
        ins>>count;
        ins.close();
        ifstream osd("All.txt");
        for(int i=1;i<=count;i++)
        {
            osd>>temp;
            ifstream qwe(temp+".txt");
            qwe>>temp2;
            cout<<temp<<"\t"<<temp2<<endl;
        }
        ifstream no("Total.txt");
        no>>num;
        cout<<"_____"<<endl;
        cout<<endl<<"Total number of contacts are : " <<num<<endl;
        cout<<"_____"<<endl;
            cout<<"Press Enter....:) ";
        getch();
        system("cls");
    }
void Phonebook :: removeid() //TO DELETE ACCOUNT
{
    string naam,temp="*",temp2,fav,temp3;
    cout<<"Enter username : ";
```

```cpp
cin>>naam;
ifstream m(naam+".txt" ,ios::app);
m>>temp;
m>>temp2;
m.close();
if(temp!="*")
{
   cout<<"Answer to you security question to delete."<<endl;
   cout<<endl<<"YOUR FAVORITE COLOUR??? : ";
   cin>>fav;
   ifstream s(fav+".txt" ,ios::app);
   s>>temp3;
   s.close();
if(temp3 !="*")
{
    if(fav==temp3)
  {
     system("cls");
     cout<<endl<<"Alright!!"<<endl;
     int count;
string te,tm,temp1, temp4="1",temp_address,temp_email;
ifstream tu("Total.txt");
tu>>count;
tu.close();
ifstream t("All.txt");
for(int i=0;i<=count;i++)
```

```cpp
{
    t>>temp;

    temp1=temp+".txt";
    temp_address=temp+" address.txt";
    temp_email=temp+" email.txt";
    remove(temp1.c_str());
    remove(temp_address.c_str());
    remove(temp_email.c_str());
}
t.close();
string temp3="All.txt";
remove(temp3.c_str());



ofstream tus("Total.txt");
tus<<0;
tus.close();
remove("Total.txt");

ofstream tush("SoL.txt");
tush<<1;
tush.close();
remove("SoL.txt");
te=naam+".txt";
remove(te.c_str());
```

```cpp
        tm=fav+".txt";

        remove(tm.c_str());


        cout<<"DELETED SUCCESSFULLY"<<endl;

        getch();

        system("cls");



          }




        }

        else

        {

        cout<<endl<<"Wrong answer to security question!!"<<endl;

        cout<<endl<<" Can't Delete!!"<<endl;

        getch();

        system("cls");

        }






        }
    else

        {

        cout<<"WRONG USERNAME ENTERED"<<endl;
```

```cpp
        cout<<endl<<"Can't Delete!!"<<endl;

        getch();

        system("cls");



    }

    return;

}


int registerid() //FUNCTION TO REGISTER
    {
    string username;

    string password;

    string security;

    cout<<endl<<"----------------"

    <<"SIGNUP;)";

    cout<<"----------------"<<endl;

    cout<<"Enter USERNAME : ";

    cin>>username;

    cout<<"Set PASSWORD : ";

    cin>>password;

    cout<<"PLEASE ANSWER A SECURITY QUESTION"<<endl;

    cout<<"YOUR FAVORITE COLOUR? : ";

    cin>>security;


    ofstream obj3(username+".txt");
```

```cpp
        obj3<<username;

        obj3<<endl;

        obj3<<password;

        obj3.close();

        ofstream s(security+".txt");

        s<<security;

        s.close();

        cout<<endl<<"Your Are Successfully Signed Up:)"<<endl;

        ofstream w("SoL.txt");

        w<<2;

        getch();

        system("cls");

        return 2;

        }


int forgot() //TO RESET THE PASSWORD

{

    system("cls");

    string name;

    string pass;

    string temp2;

    string temp3="*";

    string temp="*";

    string fav;

    cout<<"RESETING PASSWORD "<<endl;

    cout<<endl<<"Enter Username:";
```

```cpp
    cin>>name;

    ifstream m(name+".txt" ,ios::app);

    m>>temp;

    m>>temp2;
if(temp!="*")
  {
     cout<<"Answer to you security question to reset password..."<<endl;

     cout<<endl<<"YOUR FAVORITE COLOUR??? : ";

     cin>>fav;

     ifstream s(fav+".txt" ,ios::app);

     s>>temp3;

     if(temp3 !="*")
     {
          system("cls");

          cout<<endl<<"Alright!!"<<endl;

          cout<<endl<<"Hy "<<temp<<" Remember your password this time
;)"<<endl;

          cout<<endl<<"ENTER NEW PASSWORD:";

          cin>>pass;

          ofstream o(name+".txt");

          o<<name;

          o<<endl;

          o<<pass;

          /*ofstream out1 ("All.txt", ios::app);

          out1<<name;

          out1<<endl;

          out1.close();*/
```

```cpp
            cout<<"PASSWORD CHANGE SUCCESSFULLY"<<endl;

            cout<<"_____"<<endl;

            cout<<"Press Enter....:) ";

            getch();

            system("cls");


            return 1;

        }

        else

          {

            cout<<endl<<"Wrong answer to security question!!"<<endl;

            cout<<endl<<"SUSPICIOUS LOGIN ATTEMPT!!"<<endl;

            getch();

            system("cls");

            return 2;

          }

      }

    else

        {

        cout<<"WRONG USERNAME ENTERED"<<endl;

        cout<<endl<<"SUSPICIOUS LOGIN ATTEMPT!!"<<endl;

        getch();

        system("cls");

        return 3;


        }
```

```cpp
}
int main()
{
    system("Color 02");
    Phonebook ph;
    ExtraDetails E;
    int SorL=1;
    cout<<endl;
    cout<<"    PHONEBOOK MANAGEMENT SYSTEM"<<endl;
    cout<<"_____"<<endl;

        ifstream q("SoL.txt");
        q>>SorL;
        q.close();
        if(SorL == 1)
        {
            SorL=registerid();
            system("cls");
        }
        if(SorL == 2)
        {
            START:
            string name,password;
            char pass[32];
            char a;
```

```cpp
        int i=0;

        string checkname,checkpass;

        int num;

        int choice,choice2;

        int x;


        cout<<endl<<"----------------"
        <<"LOGIN;)";
        cout<<"----------------"<<endl;


        cout<<"Enter USERNAME : ";

        cin>>name;

        cout<<"Enter PASSWORD : ";

        for(i=0;;)

        {

           a=getch();

if((a>='a'&&a<='z')||(a>='A'&&a<='Z')||(a>='0'&&a<='9')||(a=='#')||(a=='@'))

            {

               pass[i]=a;

               ++i;

               cout<<"*";

            }

            if(a=='\b')

            {

               while(i>0)

               {
```

```cpp
            cout<<"\b \b";
            --i;
            break;


        }


    }
    if(a=='\r')
    {
        pass[i]='\0';
        break;
    }


}
ifstream s(name+".txt");
s>>checkname;
s>>checkpass;
s.close();
if(checkname==name && checkpass==pass)
{
    cout<<endl<<endl<<"You Are Successfully Logged In :)"<<endl;
    cout<<"_____"<<endl;
    cout<<"Press Enter....:) ";
    getch();
    system("cls");
```

```cpp
do
{
  cout<<"      PHONEBOOK MANAGEMENT SYSTEM"<<endl;
  cout<<"_____"<<endl;

    ifstream no("Total.txt");
    no>>num;
    no.close();
    cout<<endl<<"TOTAL CONTACTS : " <<num<<endl;
    ph.menu();
    cout<<endl<<endl<<"ENTER YOUR CHOICE : ";
    cin>>choice;
    system("cls");
    if(choice ==0)
    {
      goto START;
    }
    switch(choice)
    {
      case 1:
        ph.getInput();
        break;
      case 2:
        ph.searchname();
        break;
      case 3:
```

```cpp
                    ph.updatenumber();
                    break;


            case 4:
                ph.showAll();
                break;
            case 5:
                ph.removeid();
                break;
            case 6:
                system("cls");
                int ch;
                cout<<"    PHONEBOOK MANAGEMENT SYSTEM"<<endl;

cout<<"_____"<<endl;
                cout<<"   1.Add address   "<<endl;
                cout<<"   2.Add email     "<<endl;
                cin>>ch;
                switch(ch)
                {
                  case 1 : E.assignaddress();
                  break;
                  case 2 : E.assignemail();
                  break;
                  default : cout << "Invalid Input";
                }
                break;
```

```cpp
            case 7:
                exit(0);
                return 0;
            default:
            cout<<"Invalid Choice"<<endl;
        }
    }while (choice != 0 && choice != 5);

}
else
{
    system("cls");
    cout<<endl<<"OOPS!!!Username or Password is Incorrect :( "<<endl;
    do
    {
    cout<<endl<<"PRESS 1 LOGIN AGAIN"<<endl;
    cout<<"PRESS 2 RESET PASSWORD!"<<endl;
    cin>>choice2;
    switch(choice2)
    {
     case 1:
        system("cls");
    goto START;
    break;
    case 2:
```

```cpp
                x=forgot();
                if(x==1 || x==2 || x==3)
                {
                    goto START;
                }


                break;
                default:
                    cout<<"INVALID CHOICE"<<endl;
                    system("cls");
                }
                } while(choice2!=1 && choice2 !=2);



            }
        }
    return 0;
}
```

**Results and Discussions:**

```
"C:\Users\Arushi Sharma\Documents\lk;kf.exe"

        PHONEBOOK MANAGEMENT SYSTEM
_____

----------------SIGNUP;)----------------
Enter USERNAME : phonebook
Set PASSWORD : phone
PLEASE ANSWER A SECURITY QUESTION
YOUR FAVORITE COLOUR? : black

Your Are Successfully Signed Up:)
_
```



```
"C:\Users\Arushi Sharma\Documents\lk;kf.exe"

----------------LOGIN;)----------------
Enter USERNAME : arushi
Enter PASSWORD : ****_
```

```
"C:\Users\Arushi Sharma\Documents\lk;kf.exe"

OOPS!!!Username or Password is Incorrect :(


PRESS 1 LOGIN AGAIN
PRESS 2 RESET PASSWORD!
2_
```

```
"C:\Users\Arushi Sharma\Documents\lk;kf.exe"

RESETING PASSWORD

Enter Username:rush
WRONG USERNAME ENTERED


SUSPICIOUS LOGIN ATTEMPT!!
```

```
"C:\Users\Arushi Sharma\Documents\lk;kf.exe"

RESETING PASSWORD

Enter Username:phonebook
Answer to you security question to reset password...

YOUR FAVORITE COLOUR??? : black
```

```
 "C:\Users\Arushi Sharma\Documents\lk;kf.exe"

Alright!!

Hy phonebook Remember your password this time ;)

ENTER NEW PASSWORD:phone
PASSWORD CHANGE SUCCESSFULLY
_____

Press Enter....:)
```



```
 "C:\Users\Arushi Sharma\Documents\lk;kf.exe"

----------------LOGIN;)----------------
Enter USERNAME : phonebook
Enter PASSWORD : *****

You Are Successfully Logged In :)
_____

Press Enter....:)
```

```
        PHONEBOOK MANAGEMENT SYSTEM
_____

TOTAL CONTACTS : 1

MENU:)

_____

    1.Add a Contact
    2.Search
    3.Update a Contact
    4.All Contacts
    5.Delete Account
    6.Add Extra Details
    7.Exit
    0.LogOut

_____

ENTER YOUR CHOICE : 1
```

```
        PHONEBOOK MANAGEMENT SYSTEM
_____
ENTER NAME : arushi
ENTER NUMBER : 3452111


Contact Added ;)
_____

Press Enter....:) _
```

```
   "C:\Users\Arushi Sharma\Documents\drd.exe"

        PHONEBOOK MANAGEMENT SYSTEM
_____

TOTAL CONTACTS : 5

MENU:)
_____

    1.Add a Contact
    2.Search
    3.Update a Contact
    4.All Contacts
    5.Delete Account
    6.Add Extra Details
    7.Exit
    0.LogOut
_____

ENTER YOUR CHOICE : 6
```



```
   "C:\Users\Arushi Sharma\Documents\drd.exe"

        PHONEBOOK MANAGEMENT SYSTEM
_____
    1.Add address
    2.Add email
1

        PHONEBOOK MANAGEMENT SYSTEM
_____
Enter Name : arushi

Contact Found :
Enter Address :
alps
Press Enter....:)
```

```
        PHONEBOOK MANAGEMENT SYSTEM
_____

TOTAL CONTACTS : 5

MENU:)
_____


    1.Add a Contact
    2.Search
    3.Update a Contact
    4.All Contacts
    5.Delete Account
    6.Add Extra Details
    7.Exit
    0.LogOut
_____


ENTER YOUR CHOICE : 2
```

```
"C:\Users\Arushi Sharma\Documents\drd.exe"

        PHONEBOOK  MANAGEMENT  SYSTEM
_____
Enter Name : samarth

Contact Found :
_____
samarth 9809945
Address : delhi
Email : samarthbh
_____

Do you want to edit this number? y/n : y_
```



```
"C:\Users\Arushi Sharma\Documents\drd.exe"

        PHONEBOOK  MANAGEMENT  SYSTEM
_____
Enter CONTACT NAME to be updated : samarth
The Previous Number is : 9809945
Please Enter the New Number : 4344678


Contact Updated :)
_____
Press Enter....:) _
```

```
   "C:\Users\Arushi Sharma\Documents\drd.exe"

        PHONEBOOK MANAGEMENT SYSTEM
_____

TOTAL CONTACTS : 5

MENU:)
_____

    1.Add a Contact
    2.Search
    3.Update a Contact
    4.All Contacts
    5.Delete Account
    6.Add Extra Details
    7.Exit
    0.LogOut
_____


ENTER YOUR CHOICE : 3
```



```
   "C:\Users\Arushi Sharma\Documents\drd.exe"

        PHONEBOOK MANAGEMENT SYSTEM
_____
Enter CONTACT NAME to be updated : arushi
The Previous Number is : 3452111
Please Enter the New Number : 018373


Contact Updated :)
_____
Press Enter....:)
```

"C:\Users\Arushi Sharma\Documents\drd.exe"

```
        PHONEBOOK MANAGEMENT SYSTEM
_____

TOTAL CONTACTS : 5

MENU:)
_____


      1.Add a Contact
      2.Search
      3.Update a Contact
      4.All Contacts
      5.Delete Account
      6.Add Extra Details
      7.Exit
      0.LogOut
_____


ENTER YOUR CHOICE : 4_
```
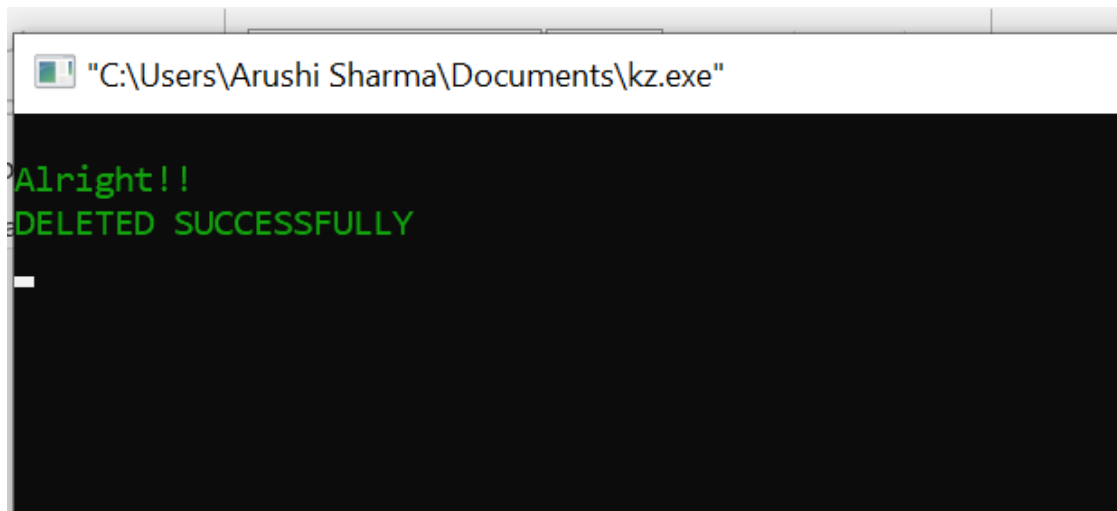
"C:\Users\Arushi Sharma\Documents\drd.exe"

```
        PHONEBOOK MANAGEMENT SYSTEM
_____
arushi  018373
arushi  018373
tushar  145677
samarth 4344678
pratishtha      647402
_____


Total number of contacts are : 5
_____

Press Enter....:) _
```

```
        PHONEBOOK MANAGEMENT SYSTEM
_____

TOTAL CONTACTS : 5

MENU:)
_____

    1.Add a Contact
    2.Search
    3.Update a Contact
    4.All Contacts
    5.Delete Account
    6.Add Extra Details
    7.Exit
    0.LogOut
_____

ENTER YOUR CHOICE : 5_
```

```
Enter username : phonebook
Answer to you security question to delete.

YOUR FAVORITE COLOUR??? : black_
```

**Conclusion:** This phonebook management project gave us greater insight in understanding file-handling, uml and various other topics used.

**Reference:** https://www.codewithc.com/mini-project-in-c-phonebook/