



North South University
Department of Electrical and Computer Engineering

Lab Project Report

Semester : NSU Fall 2022
Course Code : CSE 115L
Section : 12
Group Name : B1

Faculty : Rifat Ahmed Hassan (RIH)
Lab Instructor : A. S. M. Sabiqul Hassan

Project Topic : Phonebook Management System
GitHub Repo Link : <https://github.com/scarzero/SAT>
Submission Date : 05/12/2022

Student Information	GitHub Account Links
NSU ID: 2232924642 Student Name: Sifat Jaman NSU mail: sifat.jaman@northsouth.edu	https://github.com/scarzero (Using personal mail) https://github.com/sifat-jaman-13 (Using nsu mail)
NSU ID: 2231997642 Student Name: Fahmid Shahriar Alvee NSU mail: fahmid.alvee@northsouth.edu	https://github.com/FahmidShahriarAlvee
NSU ID: 2232397042 Student Name: Tanvir Rahaman Miraz NSU mail: tanvir.rahaman@northsouth.edu	https://github.com/Tanvir-Miraz

Operations information

`void addperson(FILE *fptr);` for adding contacts

`void delelteone(FILE *fptr);` for deleting one contact

`void update(FILE * fptr);` for Updating specified contacts and replace the old one

`void searchandprint(FILE *fptr);` for searching specified contact and showing the contact information

`int search(FILE *fptr,char name[]);` for searching input name in files

`void displayall(FILE * fptr);` for displaying all stored contacts

`void deleteall(FILE * fptr);` deleting the whole phone book

`int count(FILE *fptr);` for counting contacts number stored in phonebook

Header Files

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <windows.h>
#include <conio.h>
```

Special Mentions

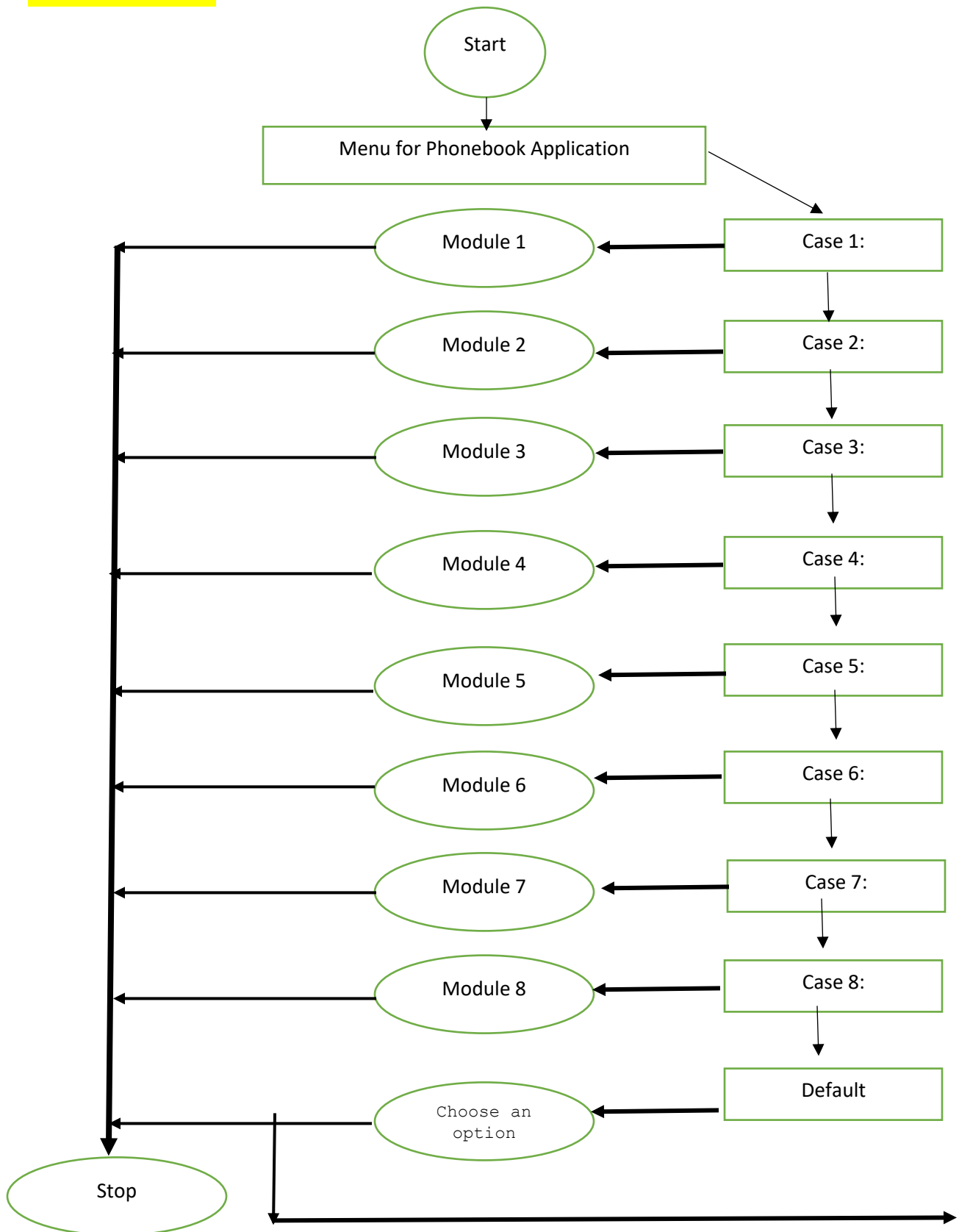
`system("cls")` for clearing screen

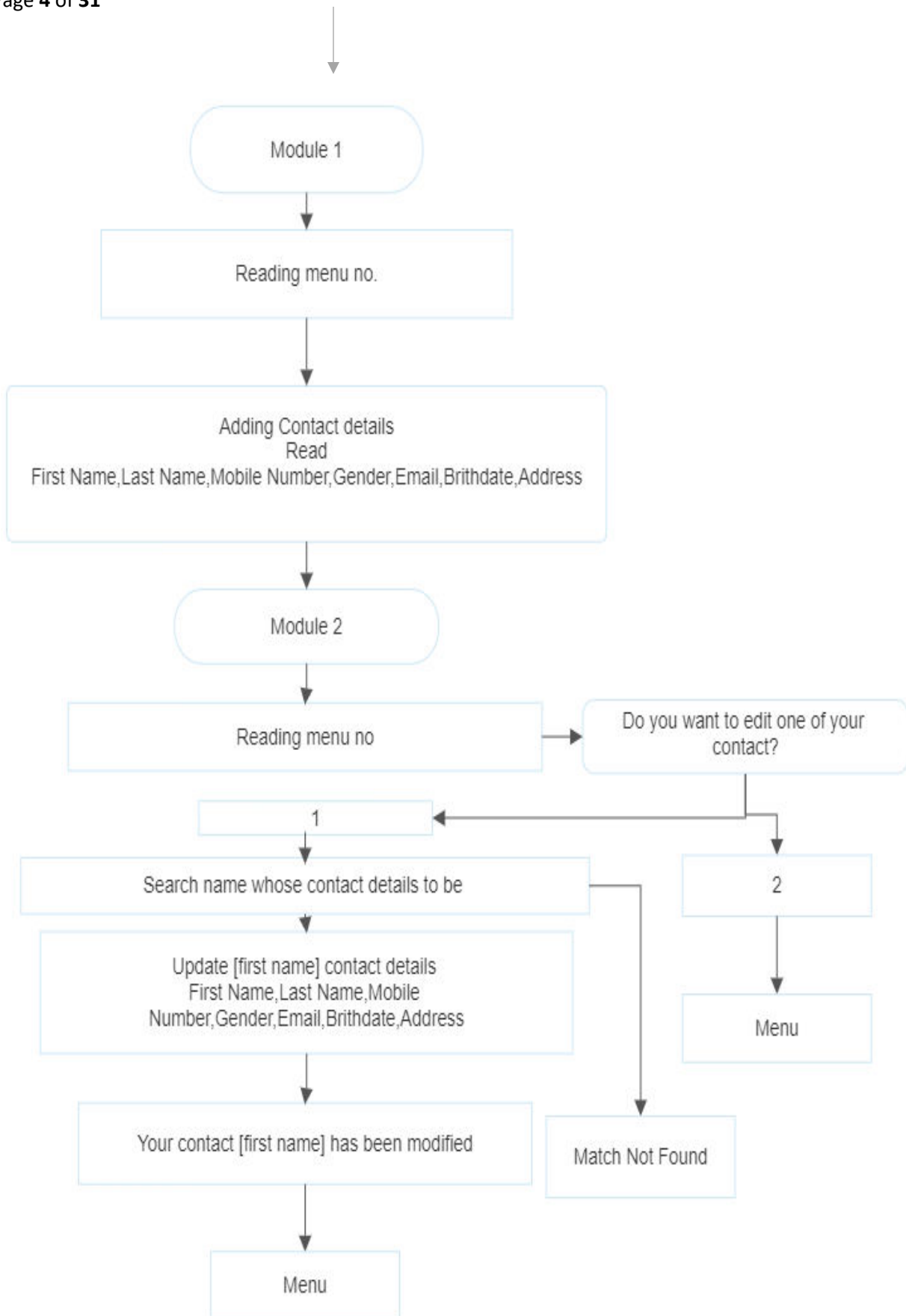
`fseek(?, ?);` taking pointer to the top position

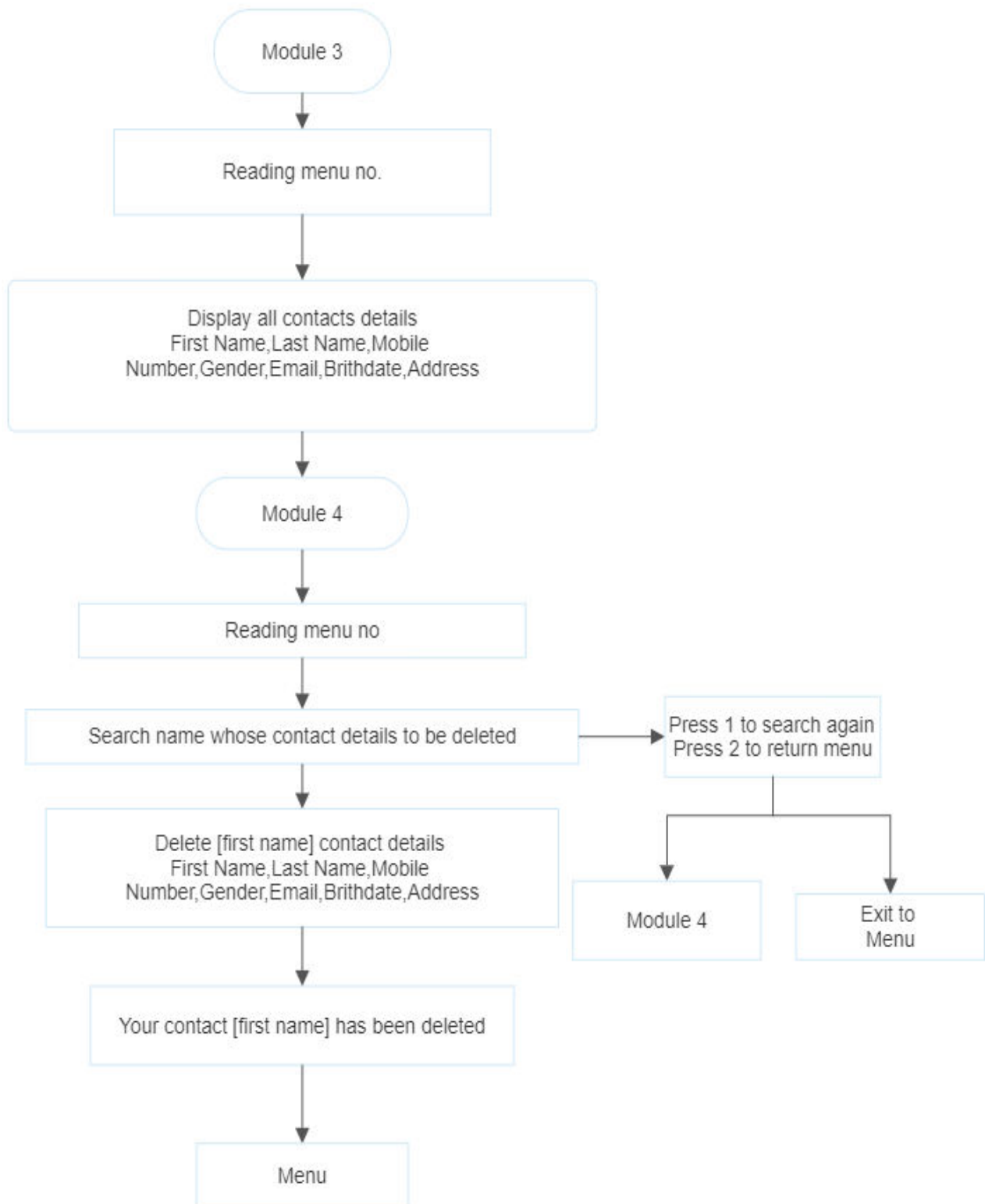
The `fseek()` function change the current file position that is associated with stream to a new location within the file.

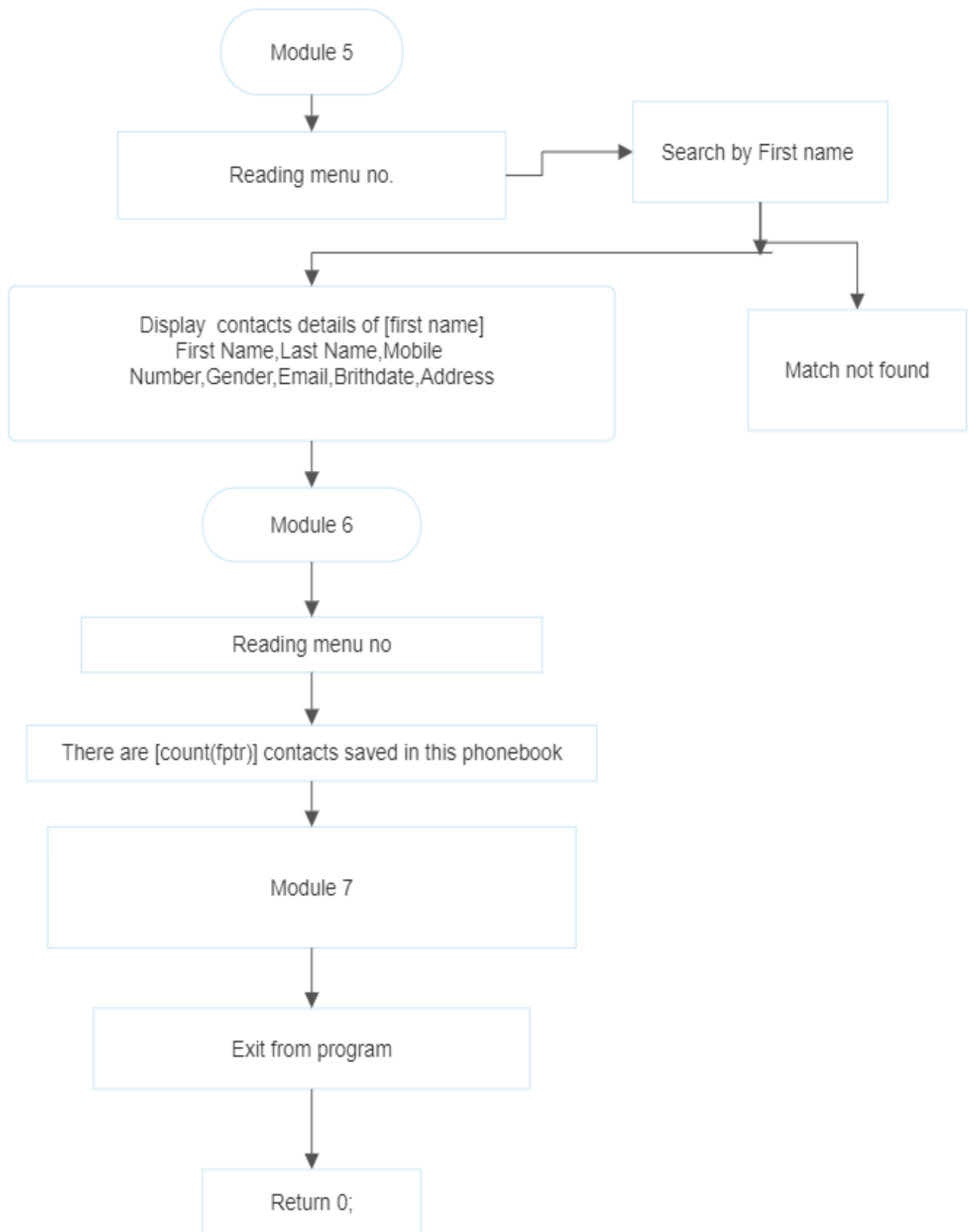
`rewind()` for taking pointer to the top

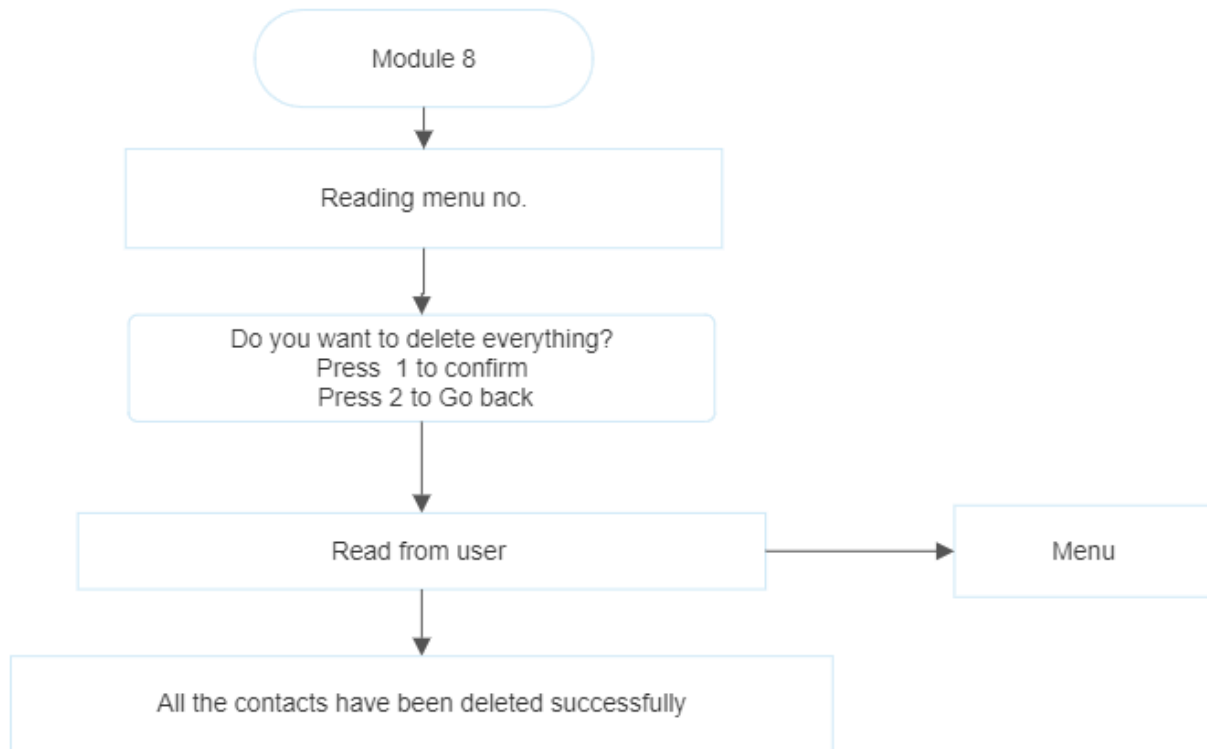
Flow Chart











Coding Part

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <windows.h>
#include <conio.h>

void addperson(FILE *fptr);
void delelteone(FILE *fptr);
void update(FILE * fptr);
void searchandprint(FILE *fptr);
int search(FILE *fptr, char name[]);
void displayall(FILE * fptr);
void deleteall(FILE * fptr);
int count(FILE *fptr);

struct
{
    char fname[256];
    char lname[256];
    char number[256];
    char gender[256];
    char email[256];
    char birthdate[256];
    char address[256];
} contact, temp;
```

```
int main()
{
    /* for color
    0 = Black      8 = Gray
    1 = Blue       9 = Light Blue
    2 = Green      A = Light Green
    3 = Aqua       B = Light Aqua
    4 = Red        C = Light Red
    5 = Purple     D = Light Purple
    6 = Yellow     E = Light Yellow
    7 = White      F = Bright White */
    //system("color E0");
    system("cls");
    FILE *fptr;
    fptr=fopen("phonebook.txt","r+");
    if(fptr==NULL)
    {
        fptr=fopen("phonebook.txt","w+");
        if(fptr==NULL)
        {
            printf("Error in opening File\n");
            exit(1);
        }
    }

    while(1) //defining menu
    {
        system("cls"); //clearing the console
```

```
printf("\t\t\t\t\t Phonebook management System written
in C\n\n");

printf("\t\t1.Add new contact\n");
printf("\t\t2.Update the contact details\n");
printf("\t\t3.Display all saved contacts\n");
printf("\t\t4.Delete a contact\n");
printf("\t\t5.Search for a Contact\n");
printf("\t\t6.See total number of contacts saved\n");
printf("\t\t7.Exit PhoneBook\n");
printf("\t\t8.Delete all the record\n\n\n\n");

printf("Choose an option  ");
fflush(stdin);
switch(getch())
{
case '1':
    addperson(fptr);
    break;
case '2':
    update(fptr);
    break;
case '3':
    displayall(fptr);
    break;
case '4':
    delelteone(fptr);
    break;
case '5':
    searchandprint(fptr);
```

```
        break;
    case '6':
        system("cls");
        printf("\n\nThere are %d contacts saved in this
phonebook\n",count(fptr));
        printf("\nPress Any key\n");
        break;
    case '7':
        fclose(fptr);
        exit(0);
        break;
    case '8':
        deleteall(fptr);
        break;

    default:
        printf("\nError input\n");
        system("cls");
        printf("Please Enter your choice correctly next
time(1 - 8 only)");

    }

    getch();

}
```

```
}
```

```
void addperson(FILE *fptr) //function for inputing the contact
from the user
{
    system("cls");
    fflush(stdin);
    fseek(fptr,0,2); //taking pointer to the top position
    /*The fseek() function change the current file position that
is associated with stream to a new location within the file.*/
    int c;
    printf("\nDo you want to add contact to your phonebook?\n");
    printf("Press 1 to confirm \n");
    printf("Press 2 to Go back to Main Menu\n");
    scanf("%d",&c);
    if(c==1)
    {
        system("cls");
        printf("\n1.First Name(Required):");
        fflush(stdin);
        gets(contact.fname);
        printf("\n2.Last Name:");
        fflush(stdin);
        gets(contact.lname);
        printf("\n3.Mobile Number:");
        fflush(stdin);
        gets(contact.number);
    }
}
```

```
while(1)
{
    if(strlen(contact.number)<=7 ||
strlen(contact.number)>=20)
    {
        printf("Invalid Phone Number");
        printf("\n3.Mobile Number:");
        fflush(stdin);
        gets(contact.number);
    }
    else
    {
        break;
    }

}

printf("\n4.Gender:");
fflush(stdin);
gets(contact.gender);
printf("\n5.Email:");
fflush(stdin);
gets(contact.email);
printf("\n6.Brithdate:");
fflush(stdin);
gets(contact.birthdate);
printf("\n7.Address:");
fflush(stdin);
gets(contact.address);
```

```

        fwrite(&contact,sizeof(contact),1,fptr); //writing the
data into file

```

```

        printf("\nYour contact has been saved\n");
        printf("\nPress Enter \n");
    }
else
{
    return;
}
}

```

```

void displayall(FILE *fptr)

```

```

{
    system("cls");
    rewind(fptr);

    while(fread(&contact,sizeof(contact),1,fptr)==1)
    {
        printf("\n*****\n");
        printf("Contact details of %s %s\n",contact.fname,contact.lname);
        printf("\n1.First Name:%s",contact.fname);
        printf("\n2.Last Name:%s",contact.lname);
        printf("\n3.Mobile Number:%s",contact.number);
        printf("\n4.Gender:%s",contact.gender);
        printf("\n5.Email:%s",contact.email);
        printf("\n6.Brithdate:%s",contact.birthdate);
        printf("\n7.Address:%s\n",contact.address);
        printf("\n*****\n");
    }
}

```

```
    }

}

void delelteone(FILE *fptr)
{

    system("cls");
    FILE *temporary;
    char name[100];

    printf("Enter the name whose contact details to be
deleted:");
    fflush(stdin);
    gets(name);
    if(search(fptr,name)==0)
    {
        /*printf("\nPress 1 to search again\n");
        printf("\nPress 2 to return to main menu\n");
        switch (getch())
        {
            case '1':
                delelteone(fptr);

                break;

            case '2':
                return;
                break;
```



```

        }*/
        return;
    }

    temporary=fopen("temporary.txt","a+");    //creating the temp
file for deleting the record

    if(temporary==NULL)
    {
        printf("Error in opening file\n");
        exit(0);
    }

    rewind(fptr);    //taking pointer to the top

while(fread(&contact,sizeof(contact),1,fptr)==1)
{
    if(strcmp(name,contact.fname)!=0)
    {
        fwrite(&contact,sizeof(contact),1,temporary);
        //writing the data on temp the file;

    }

}

fclose(fptr); //closing the file
fclose(temporary);
remove("phonebook.txt");
rename("temporary.txt","phonebook.txt");
//renaming the temp file with original file

```

```
    printf("Your contact %s has been deleted
successfully\n",name);

    fptr=fopen("phonebook.txt","a+");

}

void update(FILE *fptr)
{
    system("cls");
    char name[100];
    long size=sizeof(contact);
    fflush(stdin);
    int a;
    printf("Do you want to edit one of your contact?\n");
    printf("Press 1 to confirm \n");
    printf("Press 2 to Go back \n");
    scanf("%d",&a);

    if(a==1)
    {
        system("cls");
        printf("Enter the first name of the contact you want to
Update:");
        fflush(stdin);
        gets(name);
        if(search(fptr,name)==1)
        {
            fflush(stdin);
            printf("\n1.First Name:");
```

```
        fflush(stdin);
        gets(contact.fname);
        printf("\n2.Last Name:");
        fflush(stdin);
        gets(contact.lname);
        printf("\n3.Mobile Number:");
        fflush(stdin);
        gets(contact.number);
        printf("\n4.Gender:");
        fflush(stdin);
        gets(contact.gender);
        printf("\n5.Email:");
        fflush(stdin);
        gets(contact.email);
        printf("\n6.Brithdate:");
        fflush(stdin);
        gets(contact.birthdate);
        printf("\n7.Address:");
        fflush(stdin);
        gets(contact.address);
        printf("\n\nYour contact %s has been
modified\n\n",name);

    }
else
{
    printf("\nNo match found for %s\n",name);
}
```

```
        // fseek take 3 arguments //fseek(file
pointer,offset,position) //

        fseek(fptr,-size,1); //deleting the previous record

        fwrite(&contact,sizeof(contact),1,fptr); //writing the
new record


    }
    else
    {
        return;
    }
}

void searchandprint(FILE *fptr)//search the record of particular
person
{
    system("cls");
    char name[100];
    int flag=0;
    printf("Enter the first name you want to search: ");
    fflush(stdin);
    gets(name);
    rewind(fptr); //taking pointer to the top of file
    while(fread(&contact,sizeof(contact),1,fptr)==1)
    {
        if(strcmp(name,contact.fname)==0)
        {
```

```

        printf("\n*****\n");
        printf("Contact details of %s %s\n",contact.fname,contact.lname);
        printf("\n1.First Name:%s",contact.fname);
        printf("\n2.Last Name:%s",contact.lname);
        printf("\n3.Mobile Number:%s",contact.number);
        printf("\n4.Gender:%s",contact.gender);
        printf("\n5.Email:%s",contact.email);
        printf("\n6.Brithdate:%s",contact.birthdate);
        printf("\n7.Address:%s\n",contact.address);
        printf("\n*****\n");
        flag=1;
        break;
    }
}
if(flag==0)
{
    printf("\n\nMatch not found\n\n");
}
}

```

```

int search(FILE *fptr,char name[])
{
    int flag=0;

    rewind(fptr);
    while(fread(&contact,sizeof(contact),1,fptr)==1)

```

```
{
    if(strcmp(name,contact.fname)==0)
    {
        flag=1;

        break;
    }

}

if(flag==0)
{
    printf("\nMatch not found\n");
    printf("\nPress Any Key to Return to main menu\n");
}

return flag;
}

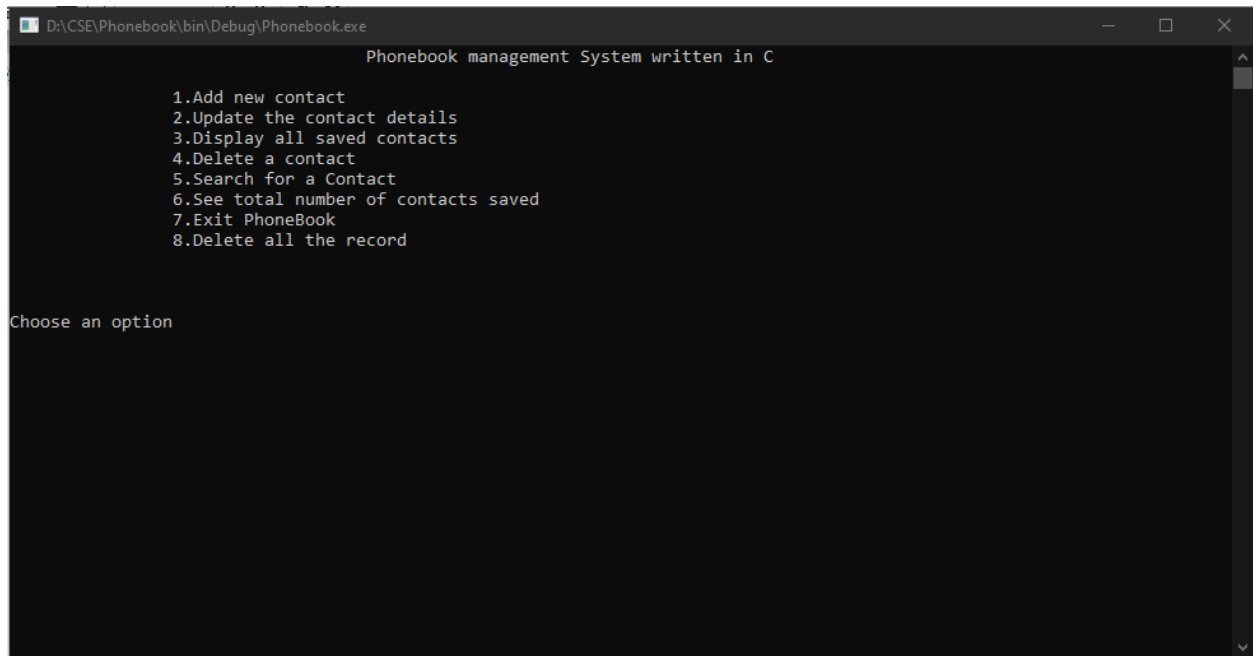
int count(FILE * fptr)    //count the number of records
{
    rewind(fptr);
    int count=0;
    while(fread(&contact,sizeof(contact),1,fptr)==1)
    {
        count++;
    }
    return count;
}
```

```
void deleteall(FILE *fptr)
{
    system("cls");
    printf("Do you want to delete everything ?\n");
    printf("Press 1 to confirm \n");
    printf("Enter Any to Go back \n");
    fflush(stdin);
    if(getch()=='1')
    {
        system("cls");
        printf("\n\nAll the contact deleted successfully\n\n");
        printf("\nPress Any to Go back \n");
        fptr=fopen("phonebook.txt", "w");

    }

    else
    {
        fflush(stdin);
        return;
    }
}
```

Screenshot

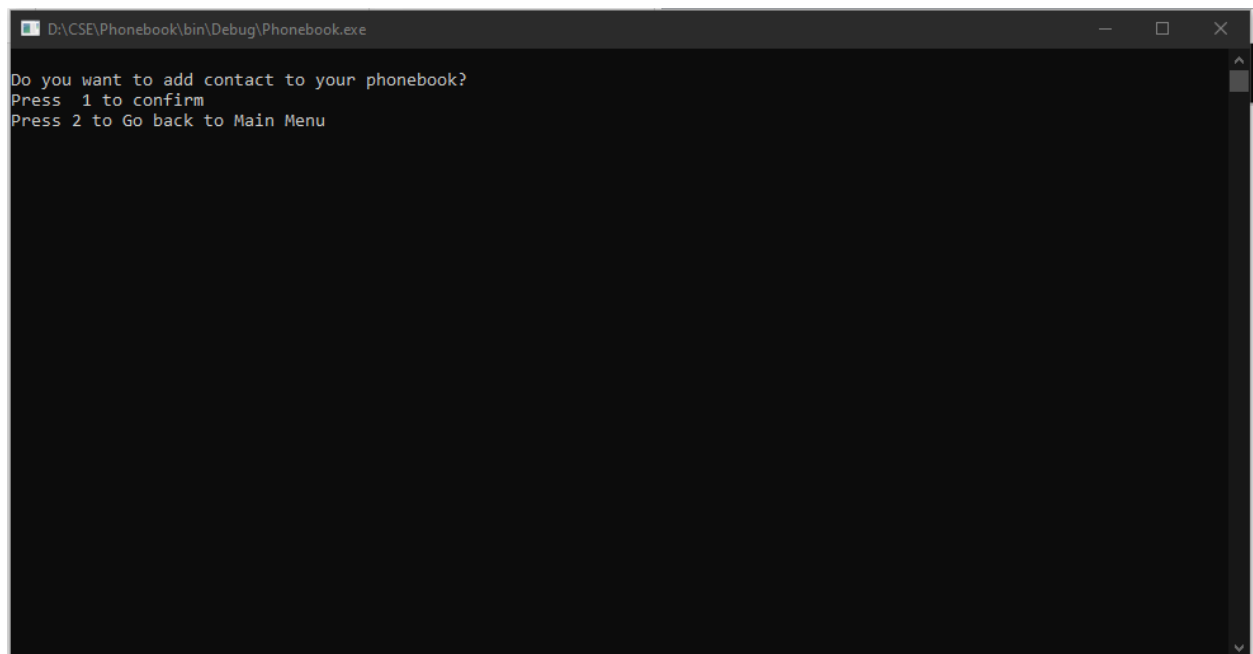


A screenshot of a Windows command prompt window titled "D:\CSE\Phonebook\bin\Debug\Phonebook.exe". The window displays the title "Phonebook management System written in C" and a list of eight options: 1.Add new contact, 2.Update the contact details, 3.Display all saved contacts, 4.Delete a contact, 5.Search for a Contact, 6.See total number of contacts saved, 7.Exit PhoneBook, and 8.Delete all the record. Below the list, it prompts the user to "Choose an option".

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
Phonebook management System written in C

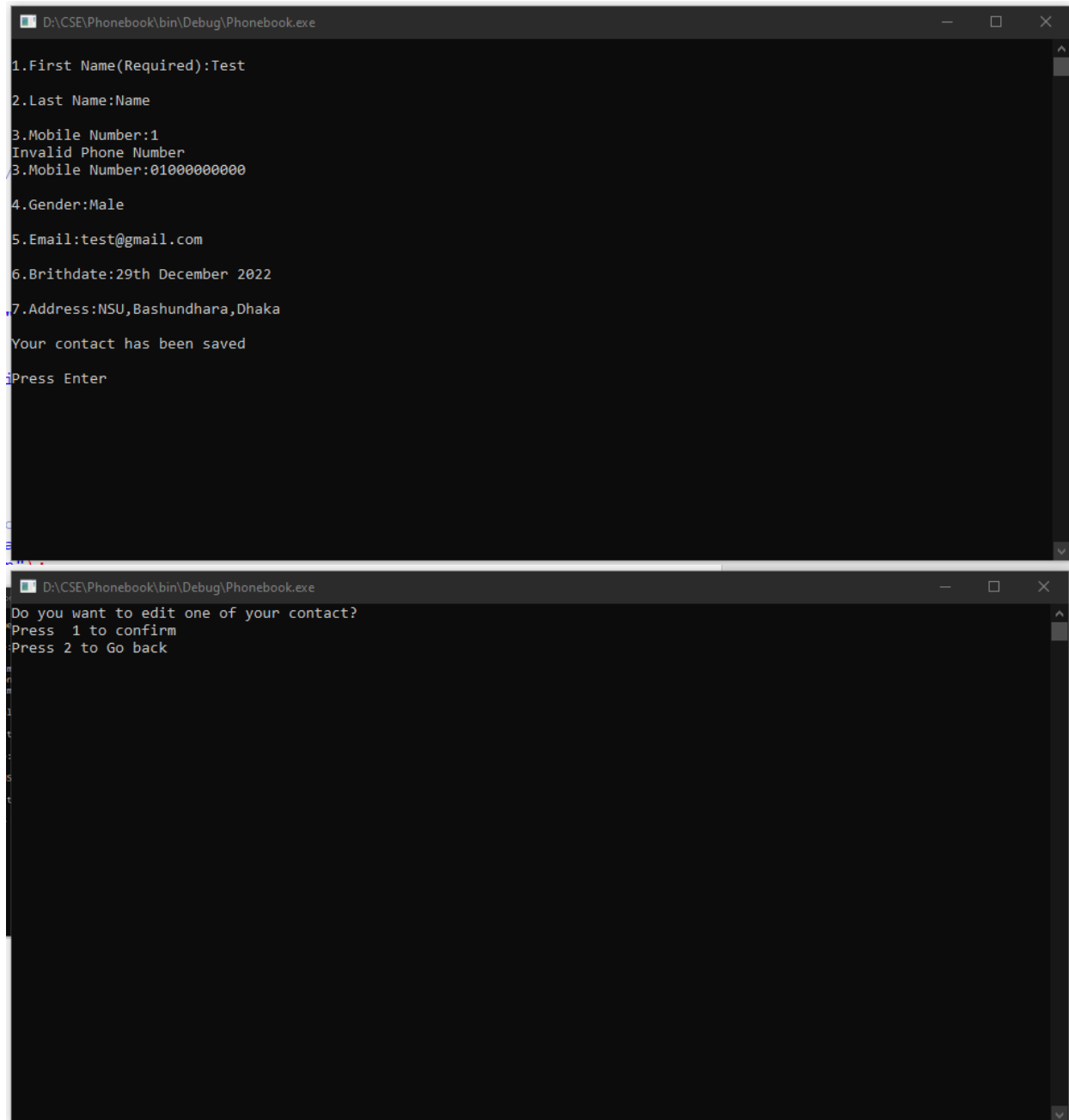
1.Add new contact
2.Update the contact details
3.Display all saved contacts
4.Delete a contact
5.Search for a Contact
6.See total number of contacts saved
7.Exit PhoneBook
8.Delete all the record

Choose an option
```



A screenshot of a Windows command prompt window titled "D:\CSE\Phonebook\bin\Debug\Phonebook.exe". The window displays the prompt "Do you want to add contact to your phonebook?" followed by instructions: "Press 1 to confirm" and "Press 2 to Go back to Main Menu".

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
Do you want to add contact to your phonebook?
Press 1 to confirm
Press 2 to Go back to Main Menu
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe

1.First Name(Required):Test
2.Last Name:Name
3.Mobile Number:1
Invalid Phone Number
3.Mobile Number:01000000000
4.Gender:Male
5.Email:test@gmail.com
6.Brithdate:29th December 2022
7.Address:NSU,Bashundhara,Dhaka
Your contact has been saved
Press Enter

Do you want to edit one of your contact?
Press 1 to confirm
Press 2 to Go back
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
Enter the first name of the contact you want to Update:Sifat
1.First Name:Sifat
2.Last Name:Jaman
3.Mobile Number:01927000000
4.Gender:Male
5.Email:sifat@gmail.com
6.Brithdate:11th September 2003
7.Address:Bashundhara
Your contact Sifat has been modified
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
*****
Contact details of Sifat Jaman
1.First Name:Sifat
2.Last Name:Jaman
3.Mobile Number:01927000000
4.Gender:Male
5.Email:sifat@gmail.com
6.Brithdate:11th September 2003
7.Address:Bashundhara
*****
*****
Contact details of Fahmid Shahriar Alvee
1.First Name:Fahmid
2.Last Name:Shahriar Alvee
3.Mobile Number:01900000000
4.Gender:Male
5.Email:fahmidalvee@gmail.com
6.Brithdate:28th November 2001
7.Address:Banashree
*****
*****
Contact details of Tanvir Miraz
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
5.Email:fahmidalvee@gmail.com
6.Brithdate:28th November 2001
7.Address:Banashree
*****
*****
Contact details of Tanvir Miraz
1.First Name:Tanvir
2.Last Name:Miraz
3.Mobile Number:01700000000
4.Gender:Male
5.Email:tanvir@gmail.com
6.Brithdate:1st July 2002
7.Address:Bashundhara Dhaka
*****
*****
Contact details of Test Name
1.First Name:Test
2.Last Name:Name
3.Mobile Number:01000000000
4.Gender:Male
5.Email:test@gmail.com
6.Brithdate:29th December 2022
7.Address:NSU,Bashundhara,Dhaka
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
Enter the name whose contact details to be deleted:t
Match not found
Press Any Key to Return to main menu
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
Enter the name whose contact details to be deleted:Test
Your contact Test has been deleted successfully
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
5.Email:fahmidalvee@gmail.com
6.Brithdate:28th November 2001
7.Address:Banashree
*****
*****
Contact details of Tanvir Miraz
1.First Name:Tanvir
2.Last Name:Miraz
3.Mobile Number:01700000000
4.Gender:Male
5.Email:tanvin@gmail.com
6.Brithdate:1st July 2002
7.Address:Bashundhara Dhaka
*****
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
Enter the first name you want to search: Sifat
*****
Contact details of Sifat Jaman
1.First Name:Sifat
2.Last Name:Jaman
3.Mobile Number:01927000000
4.Gender:Male
5.Email:sifat@gmail.com
6.Brithdate:11th September 2003
7.Address:Bashundhara
*****
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
There are 3 contacts saved in this phonebook
Press Any key
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
Phonebook management System written in C

1.Add new contact
2.Update the contact details
3.Display all saved contacts
4.Delete a contact
5.Search for a Contact
6.See total number of contacts saved
7.Exit PhoneBook
8.Delete all the record

Choose an option
Process returned 0 (0x0)   execution time : 322.599 s
Press any key to continue.
```

```
D:\CSE\Phonebook\bin\Debug\Phonebook.exe
Do you want to delete everything ?
Press 1 to confirm
Press 2 to Go back
```

Planned but could not finish

- Planned to add more features.
- Sorting
- Create a backup file for specific contacts