

## Report about phonebook project

Done by

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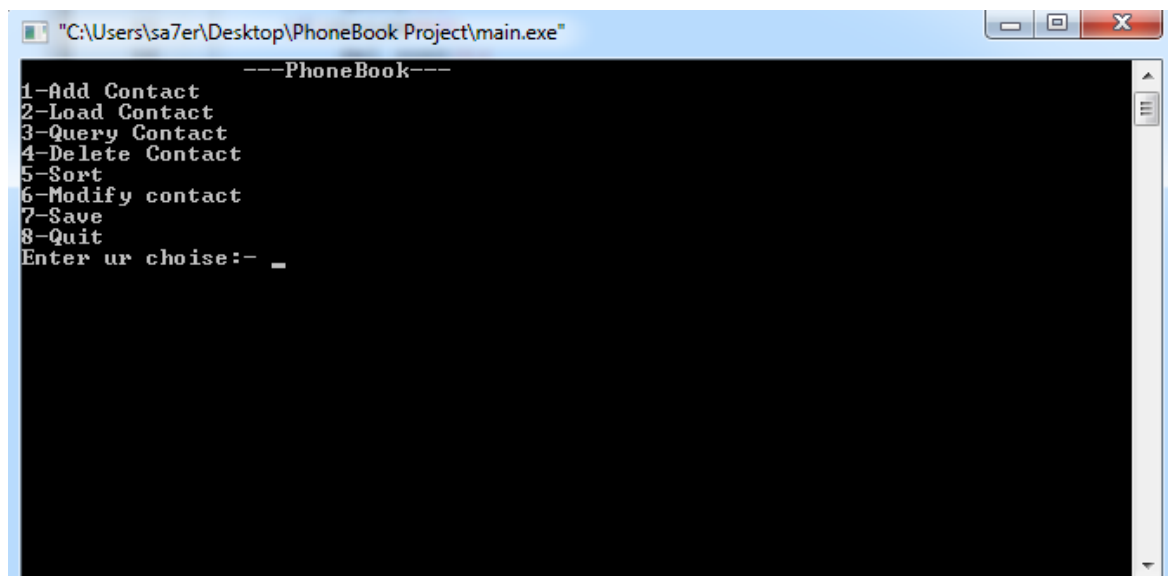
2019-2020

Firstly , starting with the structure , we declared a big structure by using ("typedef") it's tag is "Info" , we used ("typedef") in order to write the tag of structure directly , The fields of the structure are { fName ( first name ) , lName ( last name ) , number , add ( address ) , email } , then we also declared a small structure for birthdate using also ("typedef") it's tag is " DOB" , the fields of the small structure are { day , month , year } with a suitable size for each one , then we defined and declared global variables which are { info contact ( Array of structures ) , DOB contact ( Array of small structure for birth date ) } we used global variables in order to avoid passing the variables to the functions , which made the code more easier as said in" project notes"

### **Main function :**

In main function we used to print the menu choices which the user will be able to enter his choices according to it

Then we will ask the user for the choice he wants and store the choice in a variable then by applying if condition for all the cases in each case we will call the suitable function for the case

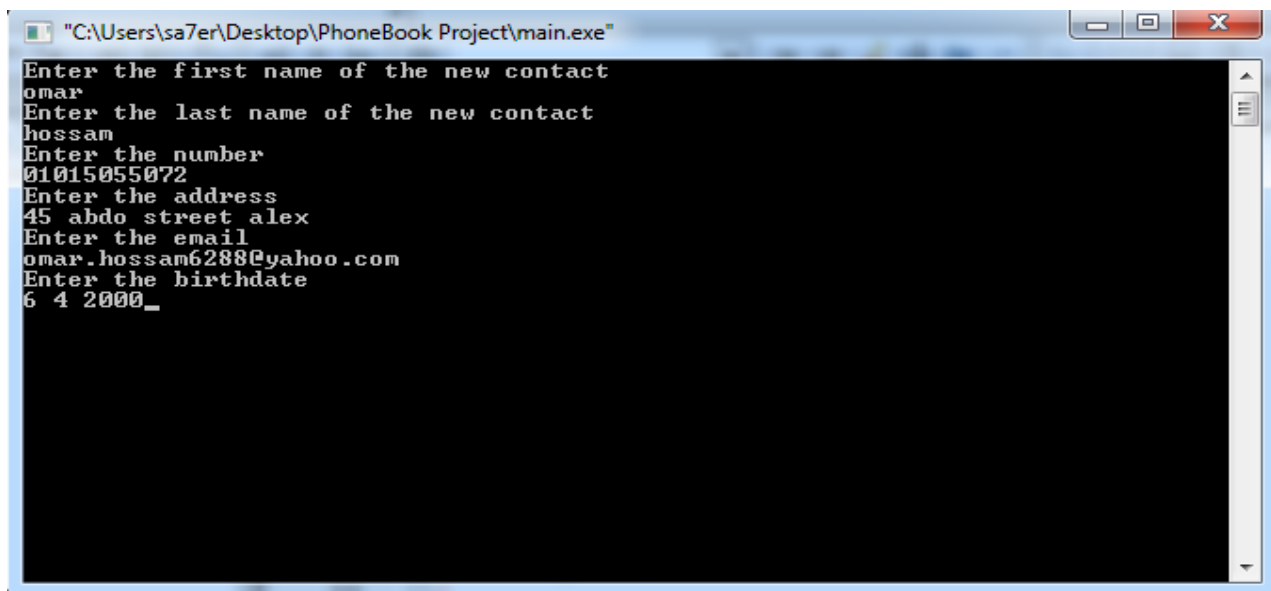


```
"C:\Users\sa7er\Desktop\PhoneBook Project\main.exe"
----PhoneBook----
1-Add Contact
2-Load Contact
3-Query Contact
4-Delete Contact
5-Sort
6-Modify contact
7-Save
8-Quit
Enter ur choise:- _
```

Note : in all the program we will use a standard function in library of " stdlib.h" called( system ("cls") ) it's job is to clear the output screen after the user entering a character .

### **Add function :**

We declared a function with tag ( add\_cont) in which it will allow the user to add new contacts he wants to do , firstly we used to create new file by using it's suitable function and will naming it by ( phone\_rec.txt) , after that we used if condition to ask the user about the fields he want to add , the condition of if will be that the pointer isn't at end of file ( EOF ) then by asking the user about the fields he wants to add and storing the added values in a structure using Arrow pointers to be ready to written and saved in the file

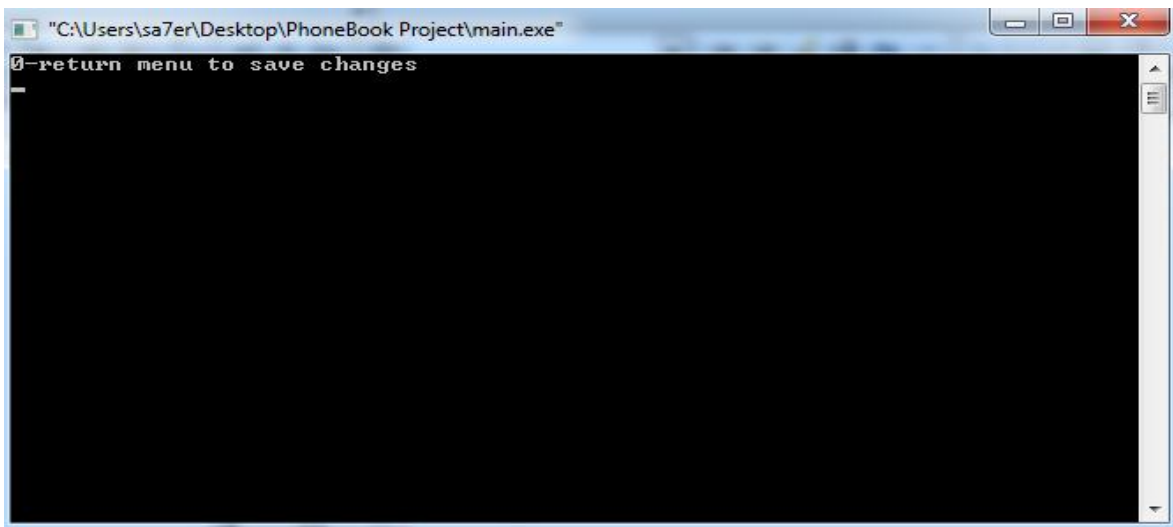


```
"C:\Users\sa7er\Desktop\PhoneBook Project\main.exe"
Enter the first name of the new contact
omar
Enter the last name of the new contact
hossam
Enter the number
01015055072
Enter the address
45 abdo street alex
Enter the email
omar.hossam6288@yahoo.com
Enter the birthdate
6 4 2000_
```

After we get the added fields from the user we wrote it in the file back using the pointer ( fp)

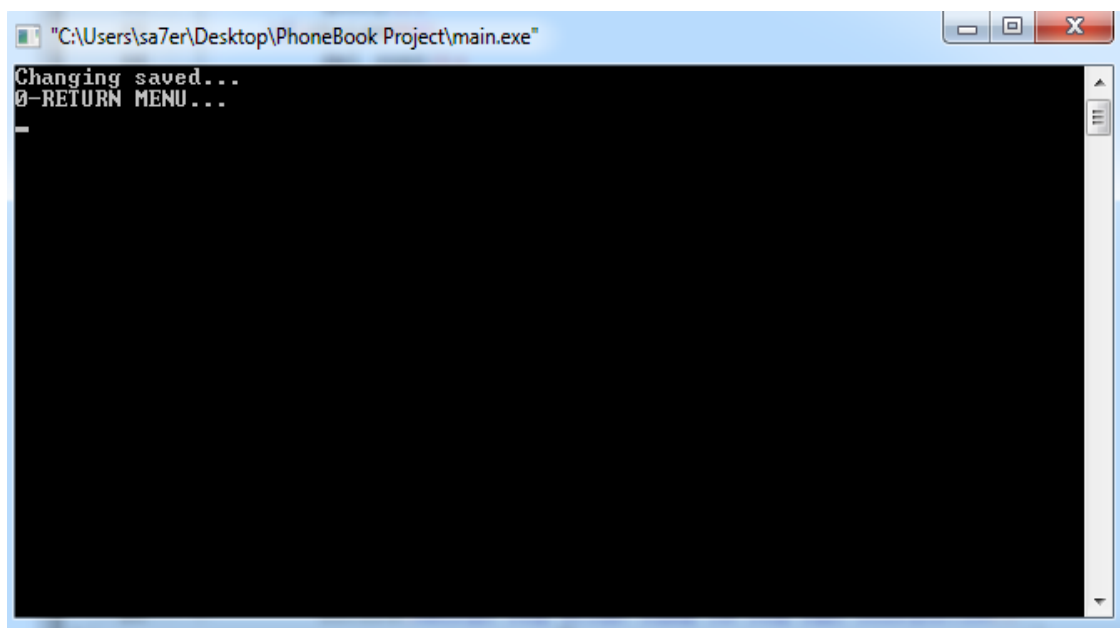
We have declared , after we wrote the data in the file we had to close the file using it's suitable function ( fclose ) in order to protect the data in the file from any eruption

We used (else) in case of there is no existing file , we will also print a warning message to the user telling him (" file not exist " ) , after all of that we will give the user an instruction to return back to the menu to save all the changes using the suitable choice .



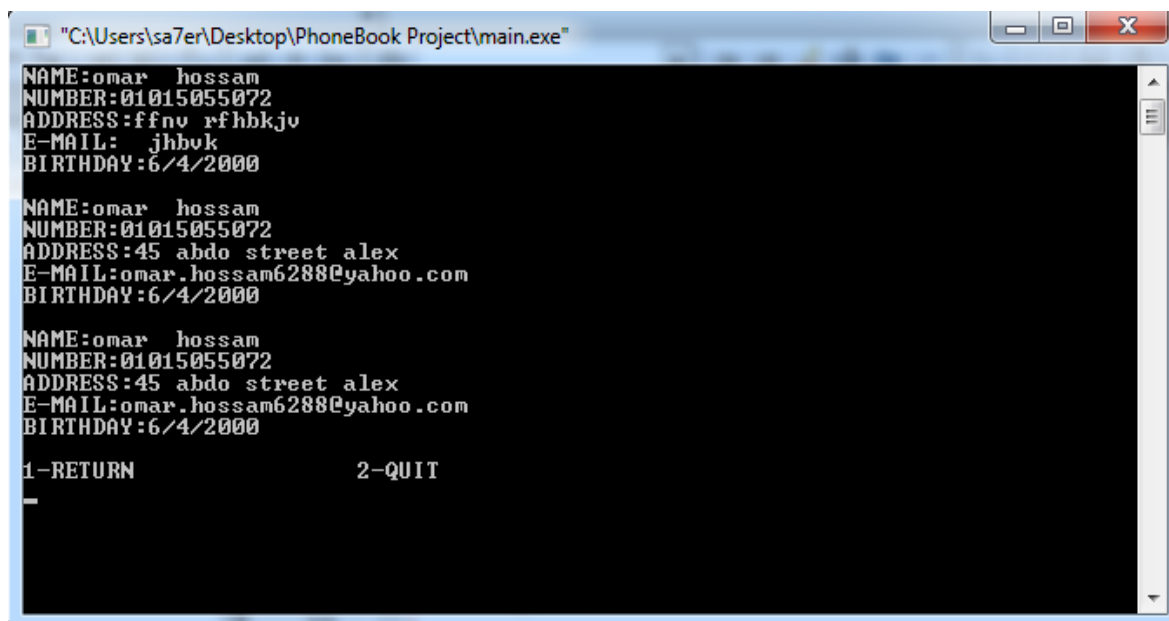
### Save function :

We used to declare a function with tag save in order to save all the changes we have done , in save function we had to create another file called ( phonebook.txt ) to save changes on it , by reading the data from the ( phone\_rec.txt) file and writing it on ( phone book ) file , we used if condition in side of it some algorithms in order to get the data from ( phone \_ rec ) file and used to put it on the another file using while loop , after that we used to display a message to user telling him to that changings is saved or not , after all we used to close the two files .



### Load function :

We used to declare function with tag ( load \_ cont ) in order to load the data and get it from the file then put it in array of structures , we used to open the file firstly that we saved data on by using for loop , we added a counter in order to check the case of file and the data on whether is empty or not , also we will use it in the condition of the loops , we used while loop in order to get the data from file and store it in array of structures then displaying and printing it in on the screen .



```
"C:\Users\sa7er\Desktop\PhoneBook Project\main.exe"
NAME:omar hossam
NUMBER:01015055072
ADDRESS:ffnv rfhhbkju
E-MAIL:jhbvk
BIRTHDAY:6/4/2000

NAME:omar hossam
NUMBER:01015055072
ADDRESS:45 abdo street alex
E-MAIL:omar.hossam6288@yahoo.com
BIRTHDAY:6/4/2000

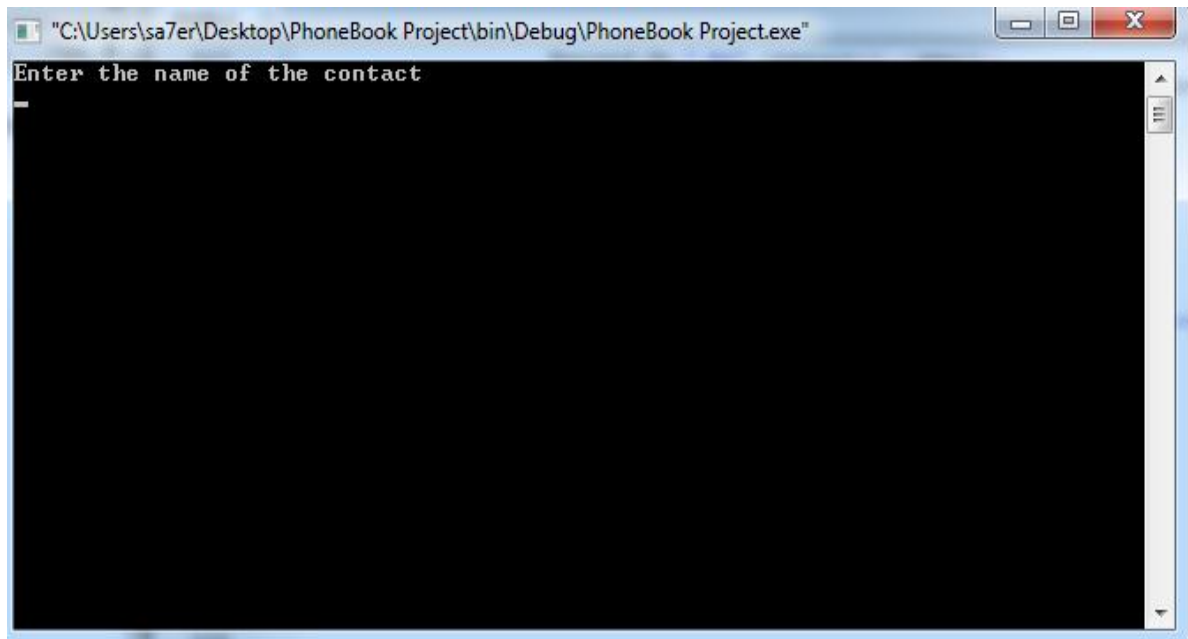
NAME:omar hossam
NUMBER:01015055072
ADDRESS:45 abdo street alex
E-MAIL:omar.hossam6288@yahoo.com
BIRTHDAY:6/4/2000

1-RETURN          2-QUIT
```

After that we must close the opened files , and allow choices to use if he wants to return back to menu or quit the program.

### Delete function :

We used to declare function with tag ( del\_cont) in order to delete some records , first has to open the file in which we are saving data on it , then we will apply a counter to check the case of file and the data inside it , also we will use it in other loops and conditions , then we used to get the data from the file and storing it in array of structures by using while loop , we will ask the user to enter the name of person he want to delete



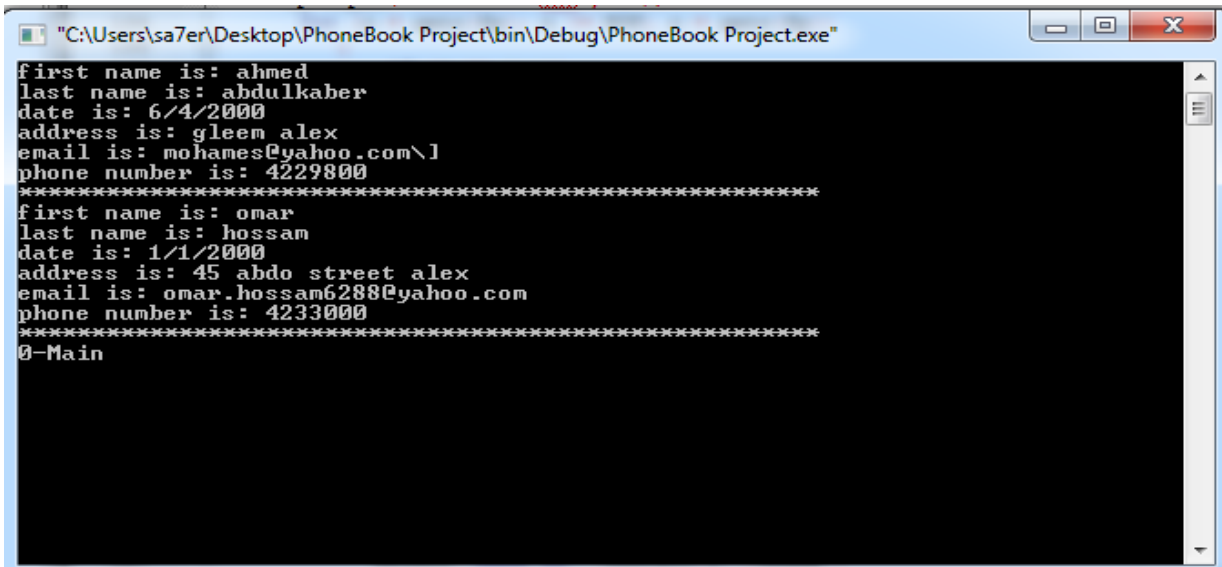
Note : we will ask the user to enter the full name of the contact , for that we will apply strcat function to put the two names beside each other , then we had to display all the fields to the user to make sure of it and to take the decision , then we will put NULL instead and in place of the deleted contacts that is the idea of deleting , then we need to shift and copy the below contacts these will appear clearly when we used for loop inside of if condition by taking the contacts below to be shifted by 1 , or by the number of the deleted contacts , in order to void leaving any gaps between contacts , after that we will display an instruction to user telling him that he must return to menu to save changes .

### **Quit function :**

We used quit function with tag ( quit ) in order to quit or exit from the program , we have to open the two files , and getting the data from one to other to save it by using while loop inside of it ( fputc ) and ( fgetc ) after that we use exit (1) to quit the whole program .

## Sort function :

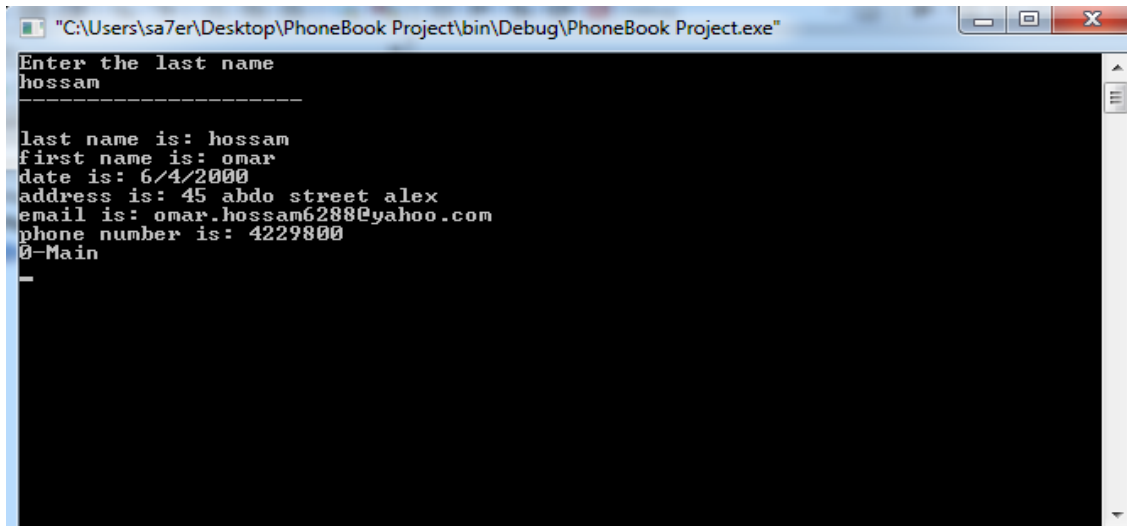
We used to declare a function with tag sort in order to print the contacts with sorting order according to the last name , we firstly open the file and obtain a counter to check the case of file and data on it , also we will use it in some loops and conditions we used to get and scan all the data from the file and put it on Array of structures , then we will use strcmp function inside the loop to compare between last name of the contacts , after doing the comparison we will display the sorted order of the contact , after that we will close the files and display a choice to the user to return to the menu .



```
"C:\Users\sa7er\Desktop\PhoneBook Project\bin\Debug\PhoneBook Project.exe"
first name is: ahmed
last name is: abdulkaber
date is: 6/4/2000
address is: gleem alex
email is: mohames@yahoo.com\l
phone number is: 4229800
*****
first name is: omar
last name is: hossam
date is: 1/1/2000
address is: 45 abdo street alex
email is: omar.hossam6288@yahoo.com
phone number is: 4233000
*****
0-Main
```

## Search function :

We used to declare function with tag ( query ) , in order to search and look for a contact by its last name , firstly we open the file and obtain a counter to check the case of file and data , also we will use it in some loops and conditions , we used to get all the data from the file and store it in an array of structures , we will ask the user for the last name of the contact he wants to search for , and by using `strcasestr` inside if condition to compare between the last name of the contact entered by the user and the last name of all contacts existing , inside the for loop we used to display the identical data on the screen , after that we used if condition to print a warning message if there is no data , then we will close the file , and apply choice to user to return to main .



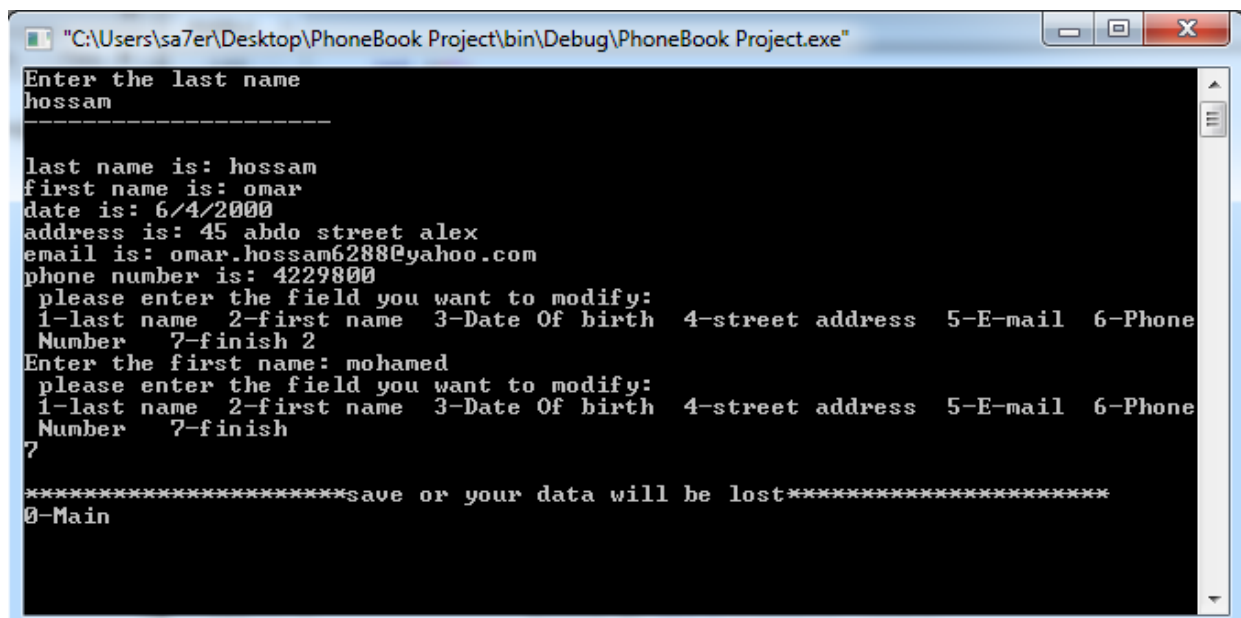
```
"C:\Users\sa7er\Desktop\PhoneBook Project\bin\Debug\PhoneBook Project.exe"
Enter the last name
hossam
-----
last name is: hossam
first name is: omar
date is: 6/4/2000
address is: 45 abdo street alex
email is: omar.hossam6288@yahoo.com
phone number is: 4229800
0-Main
_
```

Note : we used `strcasestr` in most of the functions instead of `strstr` in order to neglect the capital letters with respect to the small letters , so it doesn't matter to it even the letter is capital or small.



## Modify function :

We used to declare a function with tag modify to rewrite and modify the specific fields determined by the user , first we will open the file and obtain a counter to check the case of the file and data , also we will use it in some conditions and loops , we will load the data from the file using while loop and storing it in array of structures in order to modify on it , we will ask the user for the last name of the contact he wants to modify and by using strcmp inside the for loop to get the aimed and the identical data to be compared to that of the last name entered by the user and printing it on screen to allow user chosen from it and take the decision to modify which field , then we will ask him about the fields he wants to modify , then inside while loop we will apply switch cases , according to the choice of the user we will modify the specific field by rewriting on it the new value , after that we will open the file again and put the modified data on it ( saving ) by using for loop then we will print a message to the user warning him to save data or it will be lost , then we will close the file , and applying a choice to the user to return to the menu .



```
"C:\Users\sa7er\Desktop\PhoneBook Project\bin\Debug\PhoneBook Project.exe"
Enter the last name
hossam
-----
last name is: hossam
first name is: omar
date is: 6/4/2000
address is: 45 abdo street alex
email is: omar.hossam6288@yahoo.com
phone number is: 4229800
please enter the field you want to modify:
1-last name 2-first name 3-Date Of birth 4-street address 5-E-mail 6-Phone
Number 7-finish 2
Enter the first name: mohamed
please enter the field you want to modify:
1-last name 2-first name 3-Date Of birth 4-street address 5-E-mail 6-Phone
Number 7-finish
7
*****save or your data will be lost*****
0-Main
```