

*The Phone Book*

*Algorithms*

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Swindon and  
North Wiltshire  
2004/05

Now includes  
a Classified  
directory

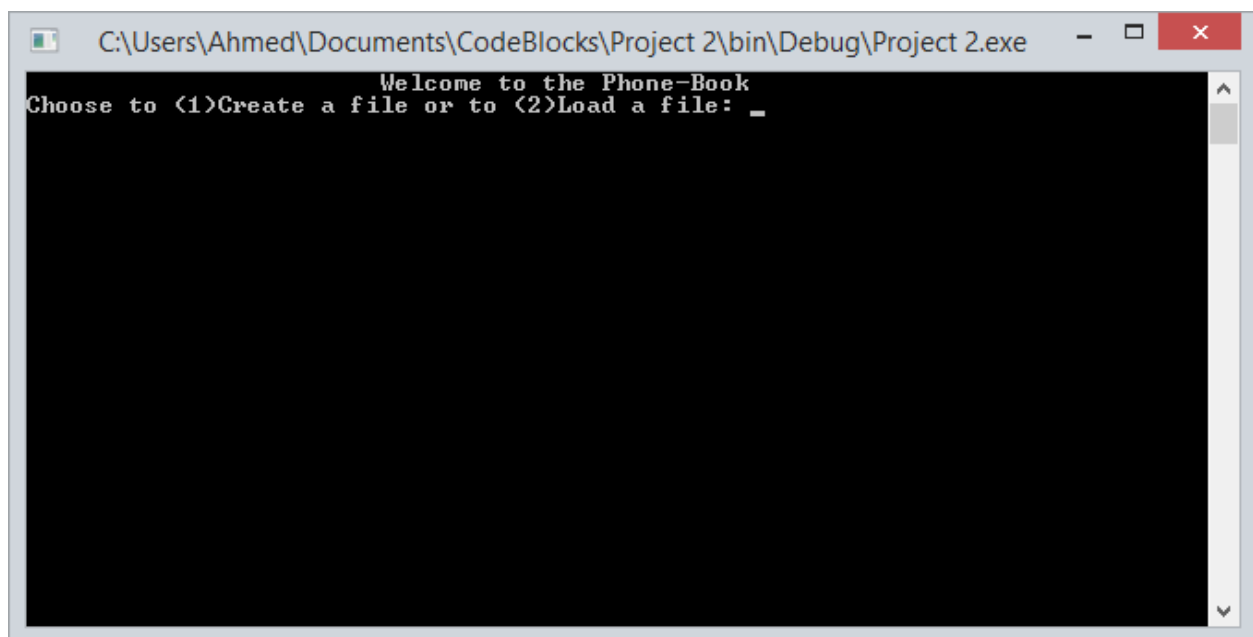
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**118**

## Concept:

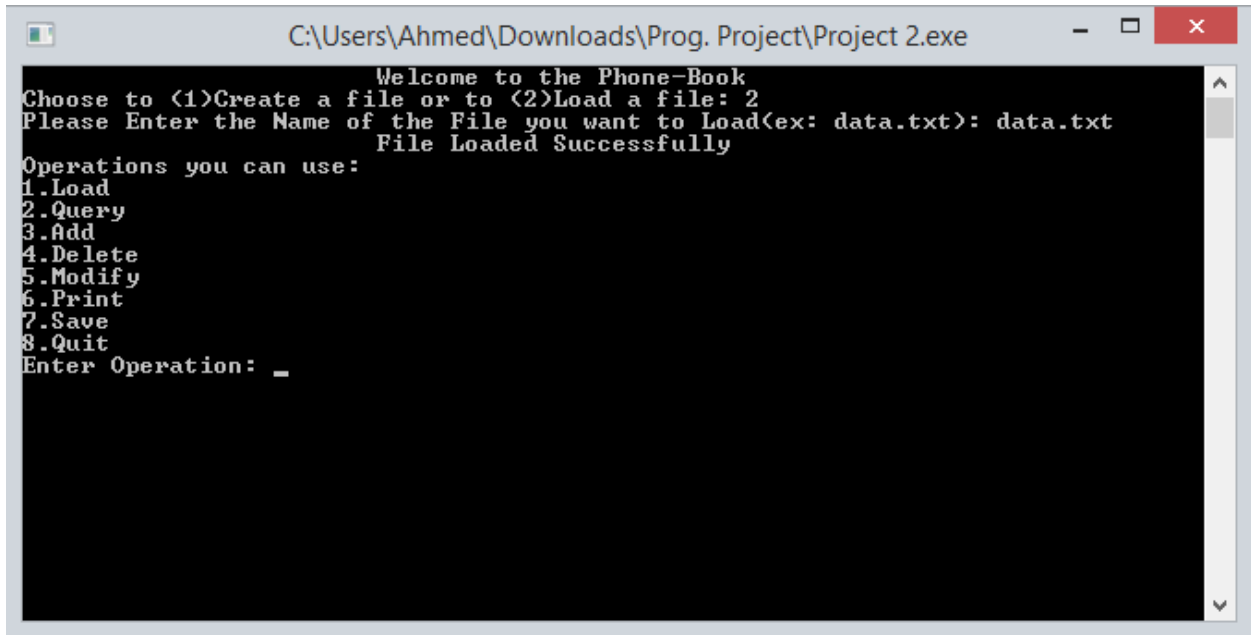
The Program is build on a global array of struct the struct contains the last name, the first name, the address; the city and the phone number then the user can make some operations as loading file and saving to file and adding, deleting and modifying contacts then the user can search for a specific contact or display them all.

## Main function:

The main function depends on an infinite while loops first it gives the user a choice to load a file or to create one this loop will run infinitely until it take a valid operation from the user then it will go to the function choosen by the user otherwise it will print error message and ask for the input again. After taking a valid operation the loop will break and go to the next infinite loop.



The second while infinite loop will also read an input operation then handle the operation function throw if else operations and compare the input throw a string comparing function and then handle the required function after the function finish its work the program clear the console and return to display the menu by pressing any key.

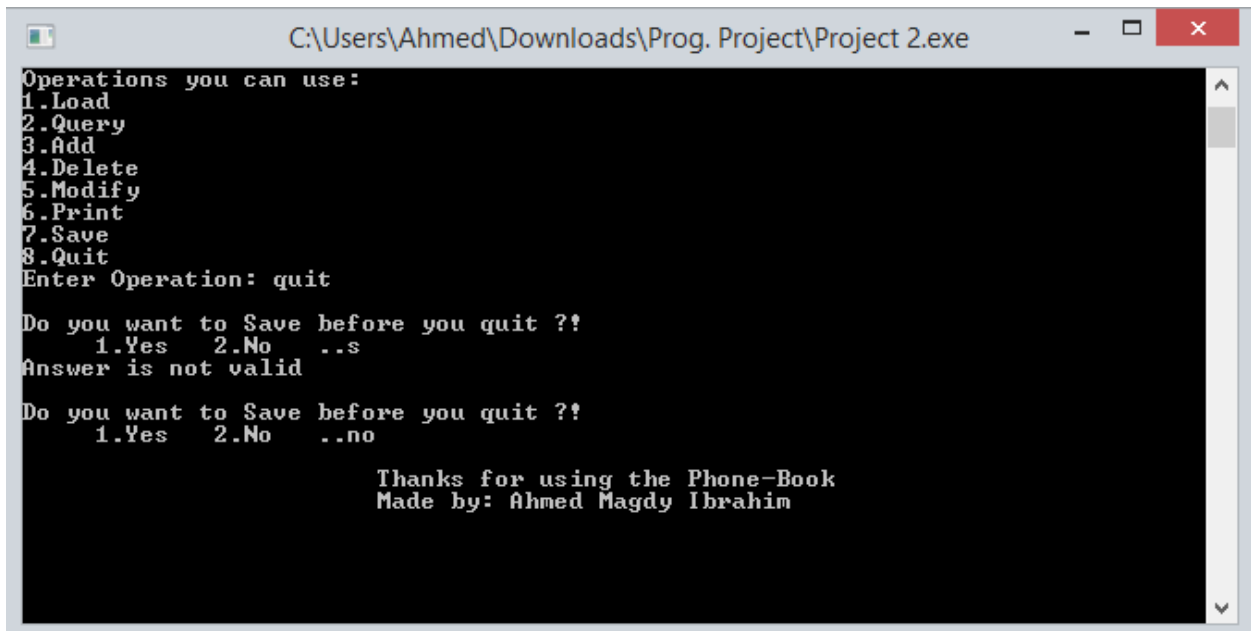


```

Welcome to the Phone-Book
Choose to <1>Create a file or to <2>Load a file: 2
Please Enter the Name of the File you want to Load(ex: data.txt): data.txt
File Loaded Successfully
Operations you can use:
1.Load
2.Query
3.Add
4.Delete
5.Modify
6.Print
7.Save
8.Quit
Enter Operation: _
```

When the user enters invalid operation it prints error message and continue the loop automatically and ask for the operation again.

After the user finish using the program he enters the quit operation so the program breaks the infinite loop and close.



```

Operations you can use:
1.Load
2.Query
3.Add
4.Delete
5.Modify
6.Print
7.Save
8.Quit
Enter Operation: quit
Do you want to Save before you quit ??
1.Yes 2.No ..s
Answer is not valid
Do you want to Save before you quit ??
1.Yes 2.No ..no

Thanks for using the Phone-Book
Made by: Ahmed Magdy Ibrahim
```

### **Load function:**

When this function is called it starts by asking for the name of the file and search for the existences of the file if it exist it will be loaded if not it will print error message and ask again for a file name.

In case the file is successfully loaded a clean function will clean up the array of struct from any old data and set the counter to zero then it will read string from the file line by line each line contains the information for one contact so the counter will be increased by one and a split function will split this information to their places in the struct.

Then the file will be closed and the user will work on the array.

### **Query function:**

This function take a string parameter and return integer which is number of required contacts by their last names it is made in this form to easily use it in the modify function.

When this function is called it starts a loop to compare the parameter string with the last names of all contacts when found a matching name it will print the information of all contacts with that last name.

In case no contact has that last name entered the function will print an error message to tell the user to check the input in case it was entered in wrong letters then it will return.

### **Add function:**

When this function is called it asks the user to input the information of a contact field by field and it will loop to check the validity of the number entered or it will ask again for it. Then it will increase the counter by one then return.

### Delete function:

When this function is called it will first ask the user for the last name of the contact needs to be deleted and check if this contact doesn't exist it will give an error message else it will continue to ask the user for the first name then recheck if that first name exist the that last name or not if not it will also print a error message then return.

When the contact found with the same last name and first name all his information will be removed from the array.

### Modify function:

When this function is called it will use the query function to search for the last name of the contact needs to be edited the query function will return the number of contacts with that last name so if there is no contacts will that name the function will return if there is only one the function will ask the user to edit the information field by field in case there is many contacts with that last name the function will ask to choose one by the first name then it will locate that contact and also asks for the new information.

### Print function:

When this function is called it will use a sorting function to sort the contacts alphabetically by their last names then first names then phone numbers.

Then it will display all the contacts information.

### Save function:

This function will ask for the name of the file the user wants to save to then it will create or overwrite the file and save the information of each contact in separate line and separate each field by a comma so the program can re read the data when this file is loaded again.