

Fatima Jinnah Women University

Department Of Software Engineering

# PROJECT

**Course Title**

Data Structures and Algorithm (103)

# Submitted To

Dr. Aliya Ashraf

# Submitted By

Mariam Fatima Registration No: 2021-BSE-020

# Date of Submission

January 04, 2023

# PHONEBOOK MANAGEMENT SYSTEM

* Singly Linked List

**LINKED LIST**

* ID
* First Name
* Last Name
* Phone Number

## Void add\_record()

**DATA MEMBERS**

## MEMBER FUNCTIONS

This function is used to add record in phone book.

## Void delete\_record( )

This function is used to delete record from phone book.

## Void display()

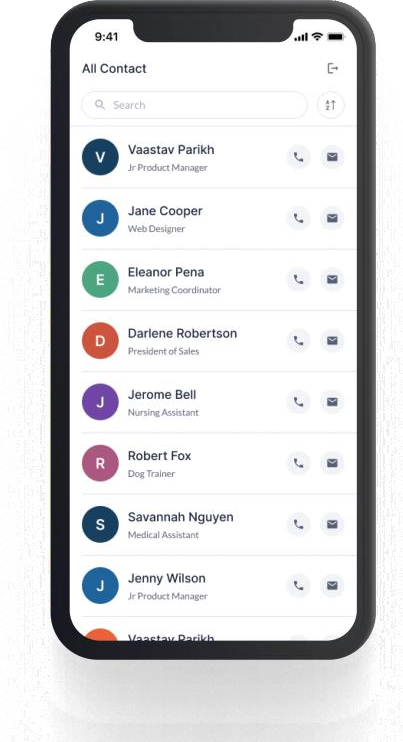
This function is used to display record in phonebook.

## Void search()

This function is used to search record from phone book.

## Void edit()

This function is used to update record in phone book.



## CODE:

// PHONEBOOK MANAGEMENT SYSTEM.cpp : Defines the entry point for the console application.

//

#include "stdafx.h" #include<iostream> #include<string> using namespace std; class Phone\_Book

{

private: struct node

{

}\*head; public:

int id;

string first\_name; string last\_name; string phone\_number; node \*next;

Phone\_Book()

{

head=NULL;

}

void add\_record()

{

node\*q=head; node \*p=new node;

cout<<"\tEnter ID: "; cin>>p->id;

cout<<"\tEnter First Name: "; cin>>p->first\_name; cout<<"\tEnter Last Name: "; cin>>p->last\_name; cout<<"\tEnter Phone Number: "; cin>>p->phone\_number; if(head==NULL)

{

}

else

{

head=p;

1. >next=NULL;

while(q->next!=NULL)

{

q=q->next;

}

q->next=p;

p->next=NULL;

}

sort();

}

void sort()

{

node \*p, \*q; int id;

string first\_name;

string last\_name; string phone\_number; int t\_id;

string t\_first\_name, t\_last\_name; string t\_phone\_number;

p=head; q=head; while(p!=NULL)

{

q=p->next; while(q!=NULL)

{

if(p->id>q->id)

{

t\_id=p->id;

t\_first\_name=p->first\_name; t\_last\_name=p->last\_name; t\_phone\_number=p->phone\_number;

p->id=q->id;

p->first\_name=q->first\_name; p->last\_name=q->last\_name;

1. >phone\_number=q->phone\_number;
2. >id=t\_id;

q->first\_name=t\_first\_name; q->last\_name=t\_last\_name;

q->phone\_number=t\_phone\_number;

}

q=q->next;

}

p=p->next;

}

}

void delete\_record()

{

int id;

int found=0;

cout<<"\tEnter ID you want to delete: "; cin>>id;

node \*p,\*q; p=head; if(p==NULL)

cout<<"No record found\n"; else if(p->id==id)

{

}

else

{

head=head->next; delete p; found=1;

while(p->next!=NULL)

{

q=p;

p=p->next; if(p->id==id)

{

q->next=p->next; delete p; found=1;

break;

}

}

}

if(found==1)

{

cout<<"Record of this ID has been deleted\n";

}

else

cout<<"Record of this ID has not been found\n";

}

void display()

{

node \*p; p=head; if(head==NULL)

cout<<"No records\n"; while(p!=NULL)

{

cout<<"\tID: "<<p->id<<endl;

cout<<"\tFirst Name: "<<p->first\_name<<endl; cout<<"\tLast Name: "<<p->last\_name<<endl; cout<<"\tPhone Number: "<<p->phone\_number<<endl; cout<<endl;

p=p->next;

}

}

void search()

{

int id;

cout<<"Enter ID you want to search "; cin>>id;

int found=0; node \*p=head; while(p!=NULL)

{

if(p->id==id)

{

found=1; break;

}

p=p->next;

}

if(found==1)

{

}

else

{

}

}

cout<<"\tID: "<<p->id<<endl;

cout<<"\tFirst Name: "<<p->first\_name<<endl; cout<<"\tLast Name: "<<p->last\_name<<endl; cout<<"\tPhone Number: "<<p->phone\_number<<endl;

cout<<"Record not found\n"<<endl;

void edit()

{

int id, found=0; node \*p; p=head;

cout<<"Enter ID you want to edit: "; cin>>id;

while(p!=NULL)

{

if(p->id==id)

{

found=1; break;

}

p=p->next;

}

if(found==1)

{

}

else

}

};

cout<<"\tEnter New ID: "; cin>>p->id;

cout<<"\tEnter New First Name: "; cin>>p->first\_name; cout<<"\tEnter New Last Name: "; cin>>p->last\_name;

cout<<"\tEnter New Phone Number: "; cin>>p->phone\_number;

cout<<"No record found'n";

int \_tmain(int argc, \_TCHAR\* argv[])

{

Phone\_Book p; char i;

int choice; do{

cout<<"\*\*\*\*\*PHONE BOOK MANAGEMENT SYSTEM\*\*\*\*\*"<<endl; cout<<" 1).ADD RECORD"<<endl;

cout<<" 2).DELETE RECORD"<<endl; cout<<" 3).DISPLAY RECORD"<<endl; cout<<" 4).SEARCH RECORD"<<endl; cout<<" 5).EDIT RECORD"<<endl;

cout<<"\*\*\*\*\*ENTER YOUR OWN CHOICE\*\*\*\*\*"<<endl; cin>>choice;

switch(choice)

{

case 1:

p.add\_record(); break;

case 2:

p.delete\_record(); break;

case 3:

p.display(); break;

case 4:

p.search();

break; case 5:

p.edit(); break;

default:

cout<<"Invalid Choice"<<endl;

}

cout<<"Do you want to see the main menu?\n"; cout<<"Enter y : \n";

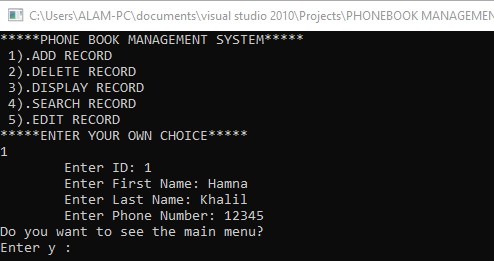
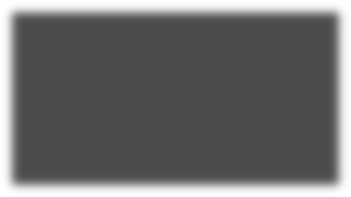
cin>>i;

}while(i=='y'); return 0;

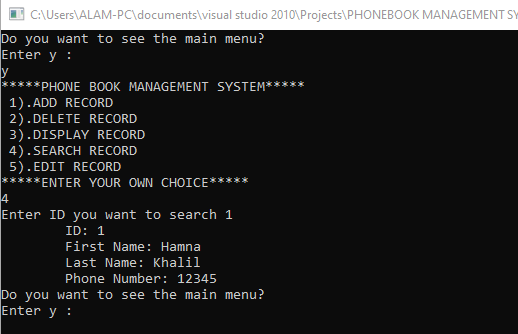
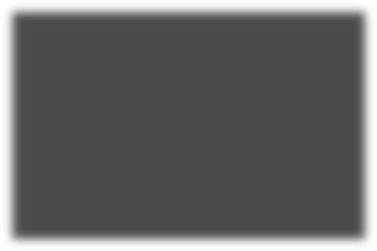
}

## OUTPUT:

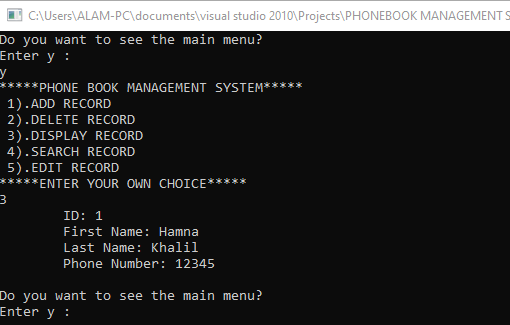
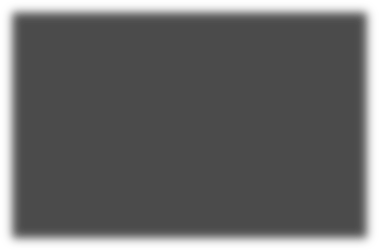
* 1. **ADD**



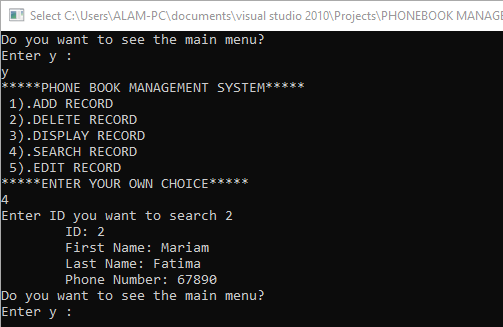
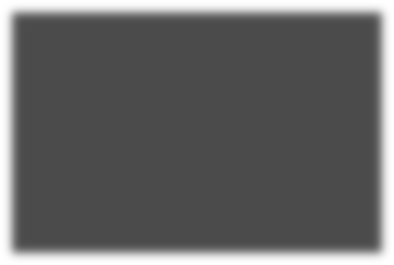
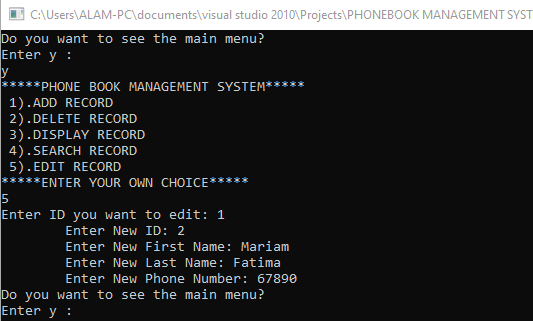
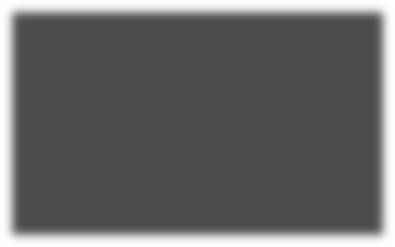
## SEARCH



* 1. **DISPLAY**



## EDIT



* 1. **DELETE**

