# CELLPHONE DIRECTORY

**ABSTRACT:**

This C-based Cellphone directory program employs a linked list structure to manage a comprehensive list of contacts. The system enables users to create, update, delete, and search for contacts by various criteria. Each contact record includes essential details such as name, mobile number, email address, and city name.

**KEY FEATURES:**

- **Contact Addition:** Users can add new contacts by providing necessary details.

- **Contact Deletion:** Allows for the removal of contacts based on their name.

- **Search Functionality:** Provides options to search for contacts by name, mobile number, or city name.

- **Contact Information Update:** Enables users to modify contact names, email addresses, and city details.

- **Comprehensive Display:** Offers a clear presentation of the entire contact list.

**EXECUTION FLOW:**

- Upon execution, the program displays a welcoming interface and prompts users with a menu-driven system.

- Users can choose from a range of operations, each corresponding to specific functionalities.

- Operations like adding, deleting, searching, updating, and displaying contacts prompt the user for necessary input and execute the requested action.

- The program loops until the user chooses to exit by entering -1.

**CODE:**

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <conio.h>
typedef struct list add;
struct list
{
char name[40];
char num[20];
char gmail[40];
char cn[40];
add* next;
};
int i=1,size=0;
void Insert(add** head)
{
char name;
add* temp=(add*)malloc(sizeof(add));
printf("\n\tContact Name : ");
scanf("%s",temp->name);
printf("\n\tMobile Number : ");
scanf("%s",temp->num);
printf("\n\tGmail id : ");
scanf("%s",temp->gmail);
printf("\n\tcity name : ");
scanf("%s",temp->cn);
temp->next = NULL;
size++;
```

```c
if(*head == NULL)
{
*head = temp;
printf("\n\n\t\tDone!!! contact successfully added to your directory\n\n");
return;
}
else
{
add* p = *head;
while(p->next != NULL)
{
p = p->next;
}
p->next = temp;
system("cls");
printf("\n\t\tDone!!! contact successfully added to your directory \n\n");
}
return;
}
void Searchbyname(add*head)
{
char ch[40];
system("cls");
printf("\n\n\t\tContact name to search : ");
scanf("%s",ch);
if(head == NULL)
{
system("cls");
printf("\n\n\n\t\t No Contact exists in this Phone Book List!!!\n\n");
return;
}
else
{
add*p = head;
while(p != NULL)
{
if(strcmp((p->name),ch) == 0)
{
printf("\n\t\t\t contact %s is founded!!!",p->name);
printf("\n\t\t------------------------");
printf("\n\t\tName : %s",p->name);
printf("\n\t\tNumber : %s",p->num);
printf("\n\t\tGmail ID : %s",p->gmail);
printf("\n\t\tcity name : %s\n\n",p->cn);
return;
}
p = p->next;
}
printf("\n\n\n\t\tThis Contact is not exists in the list! ");
}
}
void Searchbynumber(add*head)
{
char ch[40];
system("cls");
printf("\n\n\n\t\tContact number to search : ");
scanf("%s",ch);
if(head == NULL)
{
system("cls");
```

```c
printf("\n\n\n\t\tNo Contact exists in this Phone Book List!!!\n\n");
return;
}
else
{
add*p = head;
while(p != NULL)
{
if(strcmp((p->num),ch) == 0)
{
printf("\n\t\t\t contact %s is founded!!!",p->num);
printf("\n\t\t------------------------");
printf("\n\t\tName : %s",p->name);
printf("\n\t\t number : %s",p->num);
printf("\n\t\tGmail ID : %s",p->gmail);
printf("\n\t\tcity name : %s\n\n",p->cn);
return;
}
p = p->next;
}
printf("\n\n\n\t\tThis Contact is not exists in the list! ");
}
}
void Delete(add** head)
{
char ch[40];
system("cls");
printf("\n\t\tContact name to delete: ");
scanf("%s",ch);
if(*head == NULL)
{
printf("\n\t\t\t\t\tNo Contact exists in this Phone Book List!\n\n");
return;
}
else
{
if(strcmp(((*head)->name),ch) == 0)
{
add*p=*head;
*head = (*head)->next;
free(p);
printf("\n\t\t\tDone!!! the contact %s is successfully deleted from the directory\n\n\n\n");
return;
}
else
{
add*p = *head;
while(p->next != NULL)
{
if(strcmp((p->next->name),ch) == 0)
{
p->next = p->next->next;
size--;
return;
}
p = p->next;
}
printf("\n\t\t\tInvalid Contact!!!\n\n");
}
}
}
```

```c
}
void Searchbycity(add*head)
{
char ch[40];
int find=0;
printf("\n\n\n\t\tEnter City Name to search : ");
scanf("%s",ch);
if(head == NULL){
printf("\n\n\t\tNo Contact exists in this Phone Book List!!!\n\n");
return;
}
else
{
add*p = head;
while(p != NULL)
{
if(strcmp((p->cn),ch) == 0)
{
printf("\n\t\t\t Contacts in City : %s are founded!!!",p->cn);
printf("\n\t\t------------------------");
printf("\n\t\tName : %s",p->name);
printf("\n\t\t number : %s",p->num);
printf("\n\t\tGmail ID : %s",p->gmail);
printf("\n\t\tcity name : %s\n\n",p->cn);
find++;
}
p = p->next;
}
if(find==0)
{
printf("\n\n\n\t\tThis Contact is not exists in the list! ");
}
}
}
void Display(add* head)
{
printf("\n\t\tTotal Number of Contacts in the Phone Book: %d",size);
if(head == NULL)
{
printf("\n\n\n\t\tNo Contact exists in this Phone Book List!");
return;
}
else
{
add*p = head;
while(p != NULL)
{
printf("\n\t\t\t\t%d.%c%s",i,32,p->name);
printf("\n\t\t\t------------------------");
printf("\n\t\t\tNumber : %s",p->num);
printf("\n\t\t\tGmail ID : %s",p->gmail);
printf("\n\t\t\tcity name : %s\n\n",p->cn);
p = p->next;
i++;
}
i=1;
return;
}
}
void updatename(add*head)
```

```c
{
char ch[40];
char chn[40];
system("cls");
printf("\n\n\n\t\tContact name : ");
scanf("%s",ch);
printf("\n\n\n\t\tenter the name to update :");
scanf("%s",chn);
// system("cls");
if(head == NULL)
{
system("cls");
printf("\n\n\n\t\t No Contact exists in this Phone Book List!!!\n\n");
return;
}
else
{
add*p = head;
while(p != NULL)
{
if(strcmp((p->name),ch) == 0)
{
strcpy((p->name),chn);
printf("\n\t\t---------UPDATED CONTACT--------------");
printf("\n\t\tName : %s",p->name);
printf("\n\t\tNumber : %s",p->num);
printf("\n\t\tGmail ID : %s",p->gmail);
printf("\n\t\tcity name : %s\n\n",p->cn);
return;
}
p = p->next;
}
printf("\n\n\n\t\tThis Contact is not exists in the list! ");
}
}
void updatemail(add*head)
{
char ch[40];
char chn[40];
system("cls");
printf("\n\n\n\t\tContact name : ");
scanf("%s",ch);
printf("\n\n\n\t\tenter the Email address to update :");
scanf("%s",chn);
if(head == NULL)
{
system("cls");
printf("\n\n\n\t\t No Contact exists in this Phone Book List!!!\n\n");
return;
}
else
{
add*p = head;
while(p != NULL)
{
if(strcmp((p->name),ch) == 0)
{
strcpy((p->gmail),chn);
printf("\n\t\t---------UPDATED CONTACT--------------");
printf("\n\t\tName : %s",p->name);
```

```c
printf("\n\t\tNumber : %s",p->num);
printf("\n\t\tGmail ID : %s",p->gmail);
printf("\n\t\tcity name : %s\n\n",p->cn);
return;
}
p = p->next;
}
system("cls");
printf("\n\n\n\t\tThis Contact is not exists in the list! ");
}
}
void updatecity(add*head)
{
char ch[40];
char chn[40];
system("cls");
printf("\n\n\n\t\tContact name : ");
scanf("%s",ch);
printf("\n\n\n\t\tenter the City name to update :");
scanf("%s",chn);
// system("cls");
if(head == NULL)
{
system("cls");
printf("\n\n\n\t\t No Contact exists in this Phone Book List!!!\n\n");
return;
}
else
{
add*p = head;
while(p != NULL)
{
if(strcmp((p->name),ch) == 0)
{
strcpy((p->cn),chn);
printf("\n\t\t----------UPDATED CONTACT--------------");
printf("\n\t\tName : %s",p->name);
printf("\n\t\tNumber : %s",p->num);
printf("\n\t\tGmail ID : %s",p->gmail);
printf("\n\t\tcity name : %s\n\n",p->cn);
return;
}
p = p->next;
}
system("cls");
printf("\n\n\n\t\tThis Contact is not exists in the list! ");
}
}
int main()
{
add* head=NULL;
char c[40];
mainhome:
system("cls");
printf("\n\t\t_____ \n");

printf("\n\t\t\t\t\t WELCOME TO OUR PHONE BOOK ");

printf("\n\t\t_____ \n\n\n");
while(1)
```

```c
{
system("COLOR 75");
printf("\n\n\t\t\t\t\t\tMenu");
printf("\n\t\t\t------------------------------------------------");
printf("\n\t\t\t1)Create A Contact\t\t\t2)Remove A Contact");
printf("\n\t\t\t3)Find a contact by number\t\t4)Find A Contact by name");
printf("\n\t\t\t5)Find A contact by City\t\t6)Update Name");
printf("\n\t\t\t7)Update Mail\t\t\t8)Update City");
printf("\n\t\t\t9)Show contact list\t\t\t-1)Quit");
int ch;
printf("\n\n\t\t\t enter your choice:");
scanf("%d",&ch);
if(ch == -1)
{
break;
}
else
{
switch(ch)
{
case 1:system("cls");
Insert(&head);
break;
case 2:system("cls");
Delete(&head);
break;
case 3:system("cls");
Searchbynumber(head);
break;
case 4:system("cls");
Searchbyname(head);
break;
case 5:system("cls");
Searchbycity(head);
break;
case 6:system("cls");
updatename(head);
break;
case 7:system("cls");
updatemail(head);
break;
case 8:system("cls");
updatecity(head);
break;
case 9:system("cls");
Display(head);
break;
default :printf("\n\t\tInvalid Choice!Try again!!!");
break;
}
}
}
}
```

**OUTCOME:**

```
   ------------------------------------------------------------------
                      WELCOME TO OUR PHONE BOOK
   ------------------------------------------------------------------



                               Menu
          ------------------------------------------------------
          1)Create A Contact                2)Remove A Contact
          3)Find a contact by number        4)Find A Contact by name
          5)Find A contact by City          6)Update Name
          7)Update Mail                     8)Update City
          9)Show contact list               -1)Quit

            enter your choice:1
```

```
Contact Name : Menaga

Mobile Number : 9842251585

Gmail id : menagaraman18@gmail.com

city name : Madurai


        Done!!! contact successfully added to your directory


                               Menu
            ------------------------------------------------------
            1)Create A Contact                2)Remove A Contact
            3)Find a contact by number        4)Find A Contact by name
            5)Find A contact by City          6)Update Name
            7)Update Mail                     8)Update City
            9)Show contact list               -1)Quit

              enter your choice:2
```

```
Contact name to delete: Menaga

        Done!!! the contact  is successfully deleted from the directory




                                Menu
            -----------------------------------------------------
            1)Create A Contact                 2)Remove A Contact
            3)Find a contact by number         4)Find A Contact by name
            5)Find A contact by City           6)Update Name
            7)Update Mail                      8)Update City
            9)Show contact list                -1)Quit

             enter your choice:3
```

```
Contact number to search : 9842251585

           contact 9842251585 is founded!!!
-------------------------
Name : Menaga
 number : 9842251585
Gmail ID : menagaraman18@gmail.com
city name : Madurai




                                Menu
            -----------------------------------------------------
            1)Create A Contact                 2)Remove A Contact
            3)Find a contact by number         4)Find A Contact by name
            5)Find A contact by City           6)Update Name
            7)Update Mail                      8)Update City
            9)Show contact list                -1)Quit

             enter your choice:4
```

```
Contact name to search : Meghna

        contact Meghna is founded!!!
-------------------------
Name : Meghna
Number : 0987654321
Gmail ID : meghna@gmail.com
city name : America




                          Menu
        ----------------------------------------------------
        1)Create A Contact              2)Remove A Contact
        3)Find a contact by number      4)Find A Contact by name
        5)Find A contact by City        6)Update Name
        7)Update Mail                   8)Update City
        9)Show contact list             -1)Quit

         enter your choice:5
```

```
Enter City Name to search : Madurai

        Contacts in City : Madurai are founded!!!
-------------------------
Name : Menaga
 number : 9842251585
Gmail ID : menagaraman18@gmail.com
city name : Madurai


        Contacts in City : Madurai are founded!!!
-------------------------
Name : Raman
 number : 1234567890
Gmail ID : raman19@gmail.com
city name : Madurai




                          Menu
        ----------------------------------------------------
        1)Create A Contact              2)Remove A Contact
        3)Find a contact by number      4)Find A Contact by name
        5)Find A contact by City        6)Update Name
        7)Update Mail                   8)Update City
        9)Show contact list             -1)Quit

         enter your choice:6
```

```
Contact name : Meghna


enter the name to update :Priya

----------UPDATED CONTACT---------------
Name : Priya
Number : 0987654321
Gmail ID : meghna@gmail.com
city name : America



                              Menu
        ----------------------------------------------
        1)Create A Contact              2)Remove A Contact
        3)Find a contact by number      4)Find A Contact by name
        5)Find A contact by City        6)Update Name
        7)Update Mail                   8)Update City
        9)Show contact list             -1)Quit

          enter your choice:7
```

```
Contact name : Priya


enter the Email address to update :priya@gmail.com

----------UPDATED CONTACT---------------
Name : Priya
Number : 0987654321
Gmail ID : priya@gmail.com
city name : America



                              Menu
        ----------------------------------------------------
        1)Create A Contact              2)Remove A Contact
        3)Find a contact by number      4)Find A Contact by name
        5)Find A contact by City        6)Update Name
        7)Update Mail                   8)Update City
        9)Show contact list             -1)Quit

          enter your choice:8
```

```
Contact name : Priya


enter the City name to update :Chennai

----------UPDATED CONTACT----------------
Name : Priya
Number : 0987654321
Gmail ID : priya@gmail.com
city name : Chennai



                        Menu
        ---------------------------------------------------
        1)Create A Contact              2)Remove A Contact
        3)Find a contact by number      4)Find A Contact by name
        5)Find A contact by City        6)Update Name
        7)Update Mail                   8)Update City
        9)Show contact list             -1)Quit

         enter your choice:9
```

```
Total Number of Contacts in the Phone Book: 4
                1. Menaga
        -------------------------
        Number : 9842251585
        Gmail ID : menagaraman18@gmail.com
        city name : Madurai


                2. Raman
        -------------------------
        Number : 1234567890
        Gmail ID : raman19@gmail.com
        city name : Madurai


                3. Priya
        -------------------------
        Number : 0987654321
        Gmail ID : priya@gmail.com
        city name : Chennai



                        Menu
        ---------------------------------------------------
        1)Create A Contact              2)Remove A Contact
        3)Find a contact by number      4)Find A Contact by name
        5)Find A contact by City        6)Update Name
        7)Update Mail                   8)Update City
        9)Show contact list             -1)Quit

         enter your choice:-1
```

**CONCLUSION:**

This Cellphone directory system showcases fundamental contact management capabilities using C and linked list data structures. While providing essential functionalities for contact management, future iterations could focus on improving error handling, input validation, and memory management to ensure greater stability and user-friendly interactions.