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→Semester : 2ND
→Branch : CSE
→Subject : DATA STRUCTURE
→Topic : Contact List

Source Code : [Contact List.c](#)

Assignment 1

1. Design a contact list for the cell phone using appropriate data structures.
2. Explain:
 - a. Multiple Stacks
 - b. Multiple Queues

→ Design a contact list for the cell phone using appropriate data structures

```

1 #include<stdio.h>
2 #include<conio.h>
3 #include<string.h>
4 #include<stdlib.h>
5 void menu();
6 void add_contact();
7 void show_contact();
8 void search_contact();
9 void edit_contact();
10 void del_contact();
11 void exit_menu();
12 struct contact
13 {
14     double ph;
15     char name[20];
16 } list;
17 char query[20],name[20];
18 FILE *fp,*ft;
19 int i,n,ch,l,found;
20
21 int main()
22 {
23     menu();
24     exit_menu();
25     return 0;
26 }
27
28 void menu()
29 {
30     system("cls");
31     printf("\n\t **** Welcome to Contact Management System ****\n");
32     printf("\n\n\n\t\t\tMAIN MENU\n\t\t\t=====\n");
33     printf("\t\t 1. Add a new Contact\n");
34     printf("\t\t 2. List all Contacts\n");
35     printf("\t\t 3. Search for contact\n");
36     printf("\t\t 4. Edit a Contact\n");
37     printf("\t\t 5. Delete a Contact\n");
38     printf("\t\t 6. Exit\n\t\t\t=====\n\t\t");
39     printf("Enter the choice:");
40     scanf("%d",&ch);
41     switch(ch)
42     {
43     case 1:
44         add_contact();
45         break;
46     case 2:
47         show_contact();
48         break;
49     case 3:
50         search_contact();
51         break;

```

```

32     case 4:
33         edit_contact();
34         break;
35     case 5:
36         del_contact();
37         break;
38     case 6:
39         exit(0);
40         break;
41     default:
42         printf("\n\tInvalid choice");
43         getch();
44         break;
45 }
46
47 void add_contact()
48 {
49     system("cls");
50     fp=fopen("contact.bin","a");
51     for (;;)
52     {
53         fflush(stdin);
54         printf("To exit press spacebar and then press enter key in the name input\nName (Use identical):");
55         scanf("%[^\\n]", &list.name);
56         if(stricmp(list.name, " ")==0)
57             break;
58         fflush(stdin);
59         printf("Phone:");
60         scanf("%lf",&list.ph);
61         fflush(stdin);
62         printf("\\n");
63         fwrite(&list,sizeof(list),1,fp);
64     }
65     fclose(fp);
66 }
67
68 void show_contact()
69 {
70     system("cls");
71     printf("\\n\\t\\t=====\\n\\t\\t\\tLIST OF CONTACTS\\n\\t\\t=====\\n\\n");
72     printf("Name\\t\\tPhone No\\t    \\n=====\\n\\n");
73     for(i=97; i<=122; i=i+1)
74     {
75         fp=fopen("contact.bin","r");
76         fflush(stdin);
77         found=0;
78         while(fread(&list,sizeof(list),1,fp)==1)
79         {
80             if(list.name[0]==i || list.name[0]==i-32)
81             {
82                 printf("\\nName\\t: %s\\nPhone\\t: %.0lf\\n",list.name,list.ph);
83                 found++;
84             }
85         }
86         if(found!=0)
87         {
88             printf("=====");
89             getch();
90         }
91         fclose(fp);
92     }
93 }
94
95 void search_contact()
96 {
97     system("cls");
98     do
99     {
100         found=0;
101         printf("\\n\\n\\t ->CONTACT SEARCH\\n\\t=====\\n\\t->Name of contact to search: ");
102         fflush(stdin);
103         scanf("%[^\\n]", &query);
104         l=strlen(query);
105         fp=fopen("contact.bin","r");
106         system("cls");
107         printf("\\n\\n->Search result for '%s' \\n=====\\n", query);
108         while(fread(&list,sizeof(list),1,fp)==1)
109         {
110             for(i=0; i<=l; i++)
111                 name[i]=list.name[i];
112             name[l]='\\0';
113             if(stricmp(name, query)==0)
114             {
115                 printf("\\n->Name\\t: %s\\n->Phone\\t: %d\\n",list.name,list.ph);
116                 found++;
117                 printf("->Press any key to continue...");
118                 getch();
119                 exit(menu());
120             }
121         }
122     } while(found==0);
123 }

```

```

141         }
142         else
143         {
144             printf("\n\t->No match found!");
145             getch();
146             exit_menu();
147         }
148     }
149     fclose(fp);
150 }
151 while(ch);
152 }
153
154 void edit_contact()
155 {
156     system("cls");
157     fp=fopen("contact.bin", "r");
158     ft=fopen("temp.dat", "w");
159     fflush(stdin);
160     printf("\n->Edit contact\n=====\\n\\n\t->Enter the name of contact to edit:");
161     scanf("%[^\\n]", name);
162     if(stricmp(name, list.name) != 0)
163         printf("\n\t NO Contact found by the name of %s", name);
164     else
165     {
166         fflush(stdin);
167         printf("\n\\n->Editing '%s'\\n\\n", name);
168         printf("->Name (Use identical):");
169         scanf("%[^\\n]", &list.name);
170         fflush(stdin);
171         printf("->Phone:");
172         scanf("%ld", &list.ph);
173         fflush(stdin);
174         printf("\\n");
175         fwrite(&list, sizeof(list), 1, ft);
176         fclose(fp);
177         fclose(ft);
178         remove("contact.bin");
179         rename("temp.dat", "contact.bin");
180     }
181 }
182
183 void del_contact()
184 {
185     system("cls");
186     fflush(stdin);
187     printf("\n\\n\t->DELETE A CONTACT\\n\t=====\\n\t->Enter the name of contact to delete:");
188     scanf("%[^\\n]", &name);
189     fp=fopen("contact.bin", "r");
190     ft=fopen("temp.dat", "w");
191     while(fread(&list, sizeof(list), 1, fp) != 0)
192         if (stricmp(name, list.name) != 0)
193             fwrite(&list, sizeof(list), 1, ft);
194     fclose(fp);
195     fclose(ft);
196     remove("contact.bin");
197     rename("temp.dat", "contact.bin");
198 }
199
200 void exit_menu()
201 {
202     while(1)
203     {
204         system("cls");
205         printf("\n\\n\\n->Enter the Choice:\\n\\n\t 1. Main Menu\t\t 2. Exit\\n");
206         scanf("%d", &ch);
207         switch (ch)
208         {
209             case 1:
210                 menu();
211                 break;
212             case 2:
213                 exit(0);
214                 break;
215             default:
216                 printf("\n\tInvalid choice");
217                 getch();
218                 break;
219         }
220     }
221 }
222

```

OUTPUTS

→MAIN MENU

```
"D:\C Code\contact List.exe"

**** Welcome to Contact Management System ****

      MAIN MENU
=====
1. Add a new Contact
2. List all Contacts
3. Search for contact
4. Edit a Contact
5. Delete a Contact
6. Exit
=====
Enter the choice:
```

→BALNK LIST OF CONTACT

```
"D:\C Code\contact List.exe"

=====
      LIST OF CONTACTS
=====

Name      Phone No
=====
```

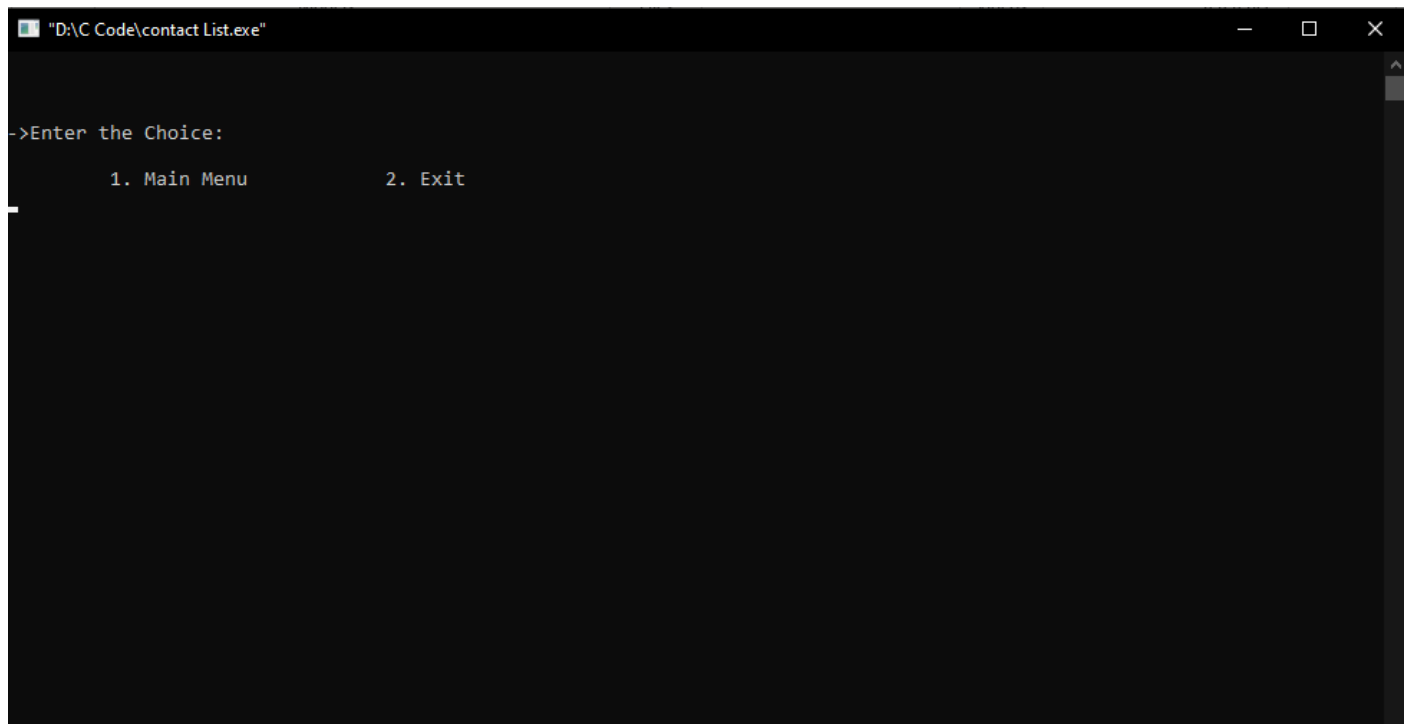
→INSERTING CONTANCT



```
"D:\C Code\contact List.exe"
To exit press spacebar and then press enter key in the name input
Name (Use identical):rakshit
Phone:9086123456

To exit press spacebar and then press enter key in the name input
Name (Use identical):
```

→EXIT MENU



```
"D:\C Code\contact List.exe"

->Enter the Choice:

      1. Main Menu      2. Exit

1
```

→LIST OF CONTACT AFTER INSERTING

```
"D:\C Code\contact List.exe"

=====
LIST OF CONTACTS
=====

Name           Phone No
=====

Name      : rakshit
Phone     : 9086123456
=====
```

→SEACHING

```
"D:\C Code\contact List.exe"

->CONTACT SEARCH
=====
->Name of contact to search: rakshit_
```

```
"D:\C Code\contact List.exe"

->Search result for 'rakshit'
=====
->Name : rakshit
->Phone : 9086123456
->Press any key to continue..._
```

→SEARCHING CONTACT NOT SAVING

```
"D:\C Code\contact List.exe"

->Search result for 'arjun'
=====
->No match found!_
```


→EDITING CONTACT

```
"D:\C Code\contact List.exe"
->Edit contact
=====
->Enter the name of contact to edit : rakshit

->Editing 'rakshit'
->Name(Use identical):rickey
->Phone:9086012345_
```

```
"D:\C Code\contact List.exe"
->Edit contact
=====
->Enter the name of contact to edit : arjun

NO Contact found by the name of arjun_
```

→DELETING CONTACT

```
"D:\C Code\contact List.exe"

->DELETE A CONTACT
=====
->Enter the name of contact to delete:rakshit
contact deleted successfully_
```

```
"D:\C Code\contact List.exe"

->DELETE A CONTACT
=====
->Enter the name of contact to delete:arjun
contact not found_
```