

**A Report on Open Ended Problem titled**  
**“CONTACTS APP” (Console Application)**

**Submitted for partial fulfillment of III semester Data Structures and  
Applications Laboratory**



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(An autonomous institution affiliated to VTU, Belagavi, Approved by AICTE, New Delhi,  
Accredited by NAAC with 'A' grade & ISO 9001:2015 Certified)

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# **ABSTRACT**

**“Contacts App” a console application to Feed , Store .Search and Delete the Contacts with file functionality to store the data . It include following functionality.**

- 1. Create**
- 2. Insertion**
- 3. Search**
- 4. Delete**
- 5. Display**

**The main aim of this project is to learn the working of linked list and handling CSV/Excel files in C.**

## **❖ Why CSV File..?**

**When it comes to the matter of large files CSV files are considered as a good storage medium as they allow various file manipulation which will be helpful for data like contacts.**

# INTRODUCTION and Overview

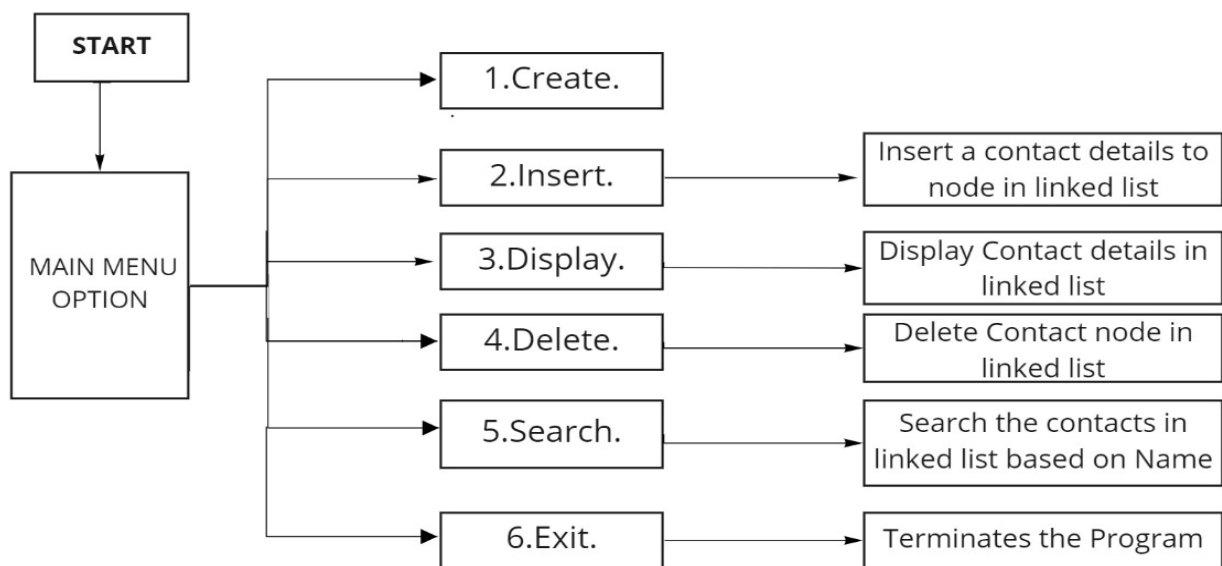
This work was centered on the design and implementation of a Contacts app. The study traced the contacts list to store the name and contact number of a person using the Linked list. This project work also focused primarily on storing contact data of person. Interestingly, in the end we store the contact details in the CSV file and separate the data of person. Therefore, this project will help immensely in the following way. Easy storing the data of contact person to the list ,easy to delete the contact from the list ,easy to search the contact in the list.

As per the source code ,

First we create a node with the contact information of first name, last name and mobile number of person.

- **create\_file** from this function we create the file in csv format to insert the information clearly using the file concepts.
- After that ,we create the header node as start to point the node to the **getnode** to store the contact information in the getnode.
- We use the **insert** function to check the file is created or not ,if file is created we can insert the contact information to the node and same will be copied to file.
- A **search** function is implemented with Linear search Technique.
- Function **del()** is used to delete The Contact nodes in linked list by using free function.
-

## Program Control-flow



## Source Code

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <ctype.h>
```

```
char filename[30]= {" "};
```

```
//filename[0] = '\0 ' ;
```

```
//NODE Declaration
```

```
struct node
```

```
{
```

```
    char firstname[20];
```

```
    char lastname[20];
```

```
    char number[15];
```

```
    struct node *next;
```

```
};
```

```
// Creates a file with Basic header data in Excel and initialize  
the file name
```

```
char *create_file(FILE *fp)
```

```
{
```

```
    printf("\n\t\t\t\t ....File creation.....\n\n");
```

```
    printf("Enter File name to be saved\n");
```

```
    scanf("%s",filename);
```

```
    strcat(filename, ".csv");
```

```
fp = fopen(filename,"a+");
fprintf(fp,"First Name,Last Name,Mobile number\n");
system("cls");

fclose(fp);

}
// Intializing the header Node
struct node *start = NULL;

struct node *getnode() // Getnode allocates memory for
Nodes
{
    return ((struct node *)malloc(sizeof(struct node)));
}

void insert(FILE *fp)
{
    if(strlen(filename)<=1)
    {
        printf("Please create a file before inserting.....!!!!!! ");

        sleep(3);
        system("cls");
        return;
    }
}
```

```
system("cls");
system("color a");
fp = fopen(filename,"a+");
struct node *temp, *nn;
nn = getnode();
temp = start;
while (temp->next != NULL)
{
    temp = temp->next;
}

printf("\n\t\t\t\t .....Contact Insertion.....\n\n");
printf("Enter First name:\n");
scanf("%s", &nn->firstname);
printf("Enter Last name:\n");
scanf("%s", &nn->lastname);
printf("Enter number:\n");
scanf("%s", &nn->number);
temp->next = nn;
fprintf(fp,"%s      ,      %s      ,      %s\n",nn->firstname,nn-
>lastname,nn->number);
nn->next = NULL;
fclose(fp);
printf("Contact saved successfully\n");
system("cls");
}

struct node *create(FILE *fp)
{
    system("cls");
```



```
system("color a");
create_file(fp);

struct node *temp, *nn;
if (start != NULL)
    insert(fp);
else
{
    printf("\n\t\t\t\t ....Enter Your First NODE.....\n\n");
    nn = getnode();
    start = nn;
    temp = start;
    printf("Enter First name:\n");
    scanf("%s", &nn->firstname);
    printf("Enter Last name:\n");
    scanf("%s", &nn->lastname);
    printf("Enter number:\n");
    scanf("%s", &nn->number);

    nn->next = NULL;
    fp =fopen(filename,"a+");
    fprintf(fp,"%s    ,    %s    ,    %s\n",nn->firstname,nn-
>lastname,nn->number);
    fclose(fp);
    system("cls");
    printf("Contact saved successfully\n");
    sleep(3);
    system("cls");
}
}
```

```
void search()
{
    system("color D");
    struct node *temp;
    char *f, *l;
    temp = start;
    printf("\n\t\t\t\t ..... Search Functionality ..... \n\n");

    printf("Enter name to be searched:\n");
    printf("Enter first name\n");
    scanf("%s", &f);
    printf("Enter last name\n");
    scanf("%s", &l);
    while((temp->firstname==f)&&(temp->lastname==l))
    {
        temp = temp->next;
    }
    printf("%s\t\t%s\t\t%s\n",                temp->firstname,temp-
>lastname, temp->number);

}

void del()
{
    system("color 4");
    struct node *pretemp, *temp;
    char f[20], l[20];
    printf("\n\t\t\t\t ..... Contact Deletion..... \n\n");
    temp = start;
```

```
pretemp = start->next;
printf("Enter first name :");
scanf("%s", &f);
printf("Enter last name :");
scanf("%s", &l);
while (temp != NULL)
{
    if ((pretemp->firstname == f) && (pretemp->lastname ==
l))
    {
        printf("%s ", temp->firstname);
        printf("%s ", temp->lastname);
        printf("%s ", temp->number);
        temp->next = pretemp->next;
        free(pretemp);
        break;
    }
    else
    {
        temp = temp->next;
        pretemp = pretemp->next;
    }
}
}
```

```
void display(struct node *start)
{
    struct node *temp;
    temp = start;
    system ("cls");
```

```
if (start == NULL)
{
    printf(" The Contacts List is Empty..!!\n\n\n");
}
else{

    printf("\n\t\t\t\t ..... Display ..... \n\n");
    printf("\n\n First name \t\t last name \t\t Mobile Number\n\t\t\n\n");
    while (temp != NULL)
    {
        printf("%s\t\t%s\t\t%s\n",          temp->firstname,temp-
>lastname, temp->number);

        temp = temp->next;
    }
}

printf(" You will be redirected main menu in 3 seconds");
sleep(3);
system ("cls");
}

int main()
{
    printf("\t\t\t\t\t-----Welcome-----\n ");
    printf("\t\t\t\t\t-----Contacts Management Software-----\n\n");

    FILE *fp;
```

```
int op = 0, ch;

while (ch != 6)
{
    system("color 6");

    printf("\n\t\t\t\t ..... Main Menu ..... \n\n");

    printf("\n\t\t\t\t1.Create\n\t\t\t\t2.Insert\n\t\t\t\t3.Display\n\t\t\t\t4.Delete\n\t\t\t\t5.Search\n\t\t\t\t6.Quit \n");
    printf("Enter your choice:");
    scanf("%d", &ch);
    switch (ch)
    {
    case 1:
        create( fp);
        break;

    case 2:
        insert(fp);
        break;

    case 3:
        display(start);
        break;
    case 4:
        del();
        break;
    case 5:
```

```
        search();  
        break;  
  
    case 6:  
        exit(0);  
        break;  
  
    }  
  
}  
  
return 0;  
}
```

```
"C:\Users\All\Desktop\main (1).exe"

-----Welcome-----
-----Contacts Management Software-----

..... Main Menu .....

1.Create
2.Insert
3.Display
4.Delete
5.Search
6.Quit

Enter your choice: _
```

```
.....Enter Your First NODE.....

Enter First name:
Vishal
Enter Last name:
mane
Enter number:
7392873611 _
```

```
.....Contact Insertion.....

Enter First name:
Pavan
Enter Last name:
KS
Enter number:
9798764523 _
```

```

..... Main Menu .....

1.Create
2.Insert
3.Display
4.Delete
5.Search
6.Quit

Enter your choice:5

..... Search Functionality .....

Enter name to be searched:
Enter first name
Vishal
Enter last name
mane
Vishal      mane      7392873611
```

```

..... Main Menu .....

1.Create
2.Insert
3.Display
4.Delete
5.Search
6.Quit

Enter your choice:
4

..... Contact Deletion.....


Enter first name :RAM
Enter last name :S
Contact Deleted
```



..... Display .....

First name	last name	Mobile Number
Vishal	mane	7392873611
Pavan	KS	9798764523
Saroja	A	8907653411
Darshan	DS	7895469092

You will be redirected main menu in 3 seconds

C5			7895469092
A	B	C	D
First Name	Last Name	Mobile number	
Vishal	mane	7392873611	
Pavan	KS	9798764523	
Saroja	A	8907653411	
Darshan	DS	7895469092	

# Conclusion

## What we learnt from this project.

- We got more familiar with the usage of Singly linked list .
- We learnt handling CSV files in C
- We learnt some System function which helped to make Output look better.
- This Project allowed us to Experience the Bigger Picture and helped us to Learn debugging for larger chunk of code.

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