SSN COLLEGE OF ENGINEERING (Autonomous)
(Affiliated to Anna University, Chennai)
DEPARTMENT OF CSE
UCS 1211 PROGRAMMING IN C LABORATORY
A7: File Handling in C

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1.**Program Name:** Copy the contents one file to another

Program:

```
#include<stdio.h>
#include<stdlib.h>
void main(int argc,char *argv[])
{
FILE *fp1,*fp2;
char ch[3]="w",c;

fp1=fopen(argv[1],"r");
fp2=fopen(argv[2],"r");
if(fp1==NULL)
        printf("\nSource File do not exist");
else
{
        if(fp2!=NULL)
{
        printf("\nDo you want to overwrite or append to the file?(w/a): ");
        scanf("%s",ch);
        fclose(fp2);
}
        fp2=fopen(argv[2],ch);

        while((c=getc(fp1))!=EOF)
        {
        putc(c,fp2);
        }
        printf("\nThe contents copied successfully!!\n");
}
```

```
fclose(fp1);
fclose(fp2);

}
```

Output:

```
csea50@jtl-13:~/assignment7$  gcc copy.c -o copy
csea50@jtl-13:~/assignment7$ ./copy source.txt dest.txt
The contents copied successfully!!
csea50@jtl-13:~/assignment7$  gcc copy.c -o copy
csea50@jtl-13:~/assignment7$ ./copy source.txt dest.txt
Do you want to overwrite or append to the file?(w/a): a
The contents copied successfully!!
```

2. **Program Name:** To maintain records containing name, address and telephone number and perform given operations.

Program:

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
struct rec
{
   char name[30],add[30];
   unsigned long ph;
};
struct rec input()
{
   struct rec obj;
   printf("\nEnter Name: ");
   scanf("%s",obj.name);
   printf("\nEnter address:" );
   scanf("%s",obj.add);
   printf("\nEnter phone number: ");
   scanf("%lu",&obj.ph);
   return obj;
}
void display(struct rec obj)
{
   printf("\nNAME: %s",obj.name);
   printf("\nADDRESS: %s",obj.add);
   printf("\nPHONE NO: %lu\n",obj.ph);
}
```

```
void add()
{
   struct rec obj;
   FILE *fp;
   fp = fopen("phone.dat", "ab");
   obj=input();
   fprintf(fp,"%s\n",obj.name);
   fprintf(fp,"%s\n",obj.add);
   fprintf(fp,"%lu\n",obj.ph);
   fclose(fp);
}
void ret(char name[30])
{
   struct rec obj;
   FILE *fp;
   fp = fopen("phone.dat", "rb");
   while(1)
   {
      fscanf(fp," %[^\n]",obj.name);
      fscanf(fp," %[^\n]",obj.add);
      fscanf(fp," %lu",&obj.ph);
      if((strcmp(name,obj.name)==0)&&(!feof(fp)))
            display(obj);
      if(feof(fp))
         break;
   }
   fclose(fp);
}
void modify()
{
   int op;
   char name[30];
   struct rec obj,newobj;
   FILE *fp1,*fp2;
   fp1 = fopen("phone.dat", "a+b");
   fp2 = fopen("phonenew.dat", "a+b");
   printf("\nEnter name to search and modify: ");
   scanf(" %[^\n]",name);
   while(1)
   {
      fscanf(fp1," %[^\n]",obj.name);
      fscanf(fp1," %[^\n]",obj.add);
```

```
      fscanf(fp1," %lu",&obj.ph);
      if((strcmp(name,obj.name)==0)&&(!feof(fp1)))
            {
               display(obj);
               printf("\nDo you want to modify\n1.NAME\n2.ADDRESS\n3.PHONE
NUMBER");
               printf("\nEnter (1/2/3): ");
               scanf("%d",&op);

               switch(op)
               {
                  case 1:
                     printf("\nEnter new name: ");
                     scanf(" %[^\n]",obj.name);
                     break;
                  case 2:
                     printf("\nEnter new address: ");
                     scanf(" %[^\n]",obj.add);
                     break;
                  case 3:
                     printf("\nEnter new phone number: ");
                     scanf(" %lu",&obj.ph);
                     break;
               }
            }
      if(feof(fp1))
         break;
      else
      {
      fprintf(fp2,"%s\n",obj.name);
      fprintf(fp2,"%s\n",obj.add);
      fprintf(fp2,"%lu\n",obj.ph);
      }
   }
   fclose(fp1);
   fclose(fp2);
   remove("phone.dat");
   rename("phonenew.dat","phone.dat");
   printf("\n\nRECORD MODIFIED SUCCESSFULLY!!!");
}
void disp()
{
```

```
   struct rec obj;
   FILE *fp;
   fp = fopen("phone.dat", "rb");
   while(1)
   {
      fscanf(fp," %[^\n]",obj.name);
      fscanf(fp," %[^\n]",obj.add);
      fscanf(fp," %lu",&obj.ph);
      if(!feof(fp))
         display(obj);
      else
         break;

      printf("\n************************");
   }
   fclose(fp);
}
void main()
{
   struct rec obj;
   int op;
   char name[30];
   do
   {

   printf("\nMENU\n******");
   printf("\n1.Add a record \n2.Modify \n3.Retrieve and display \n4.Display all
records\n5.Exit");
   printf("\nEnter your choice: ");
   scanf("%d",&op);
   switch(op)
   {
   case 1:
      printf("\nADD NEW RECORD");
      add();
      break;
   case 2:
      printf("\nMODIFY EXISTING RECORD");
      modify();
      break;
   case 3:
      printf("\nRETRIEVE EXISTING RECORD");
```

```
      printf("\nEnter name to search: ");
      scanf(" %[^\n]",name);
      ret(name);
      break;
   case 4:
      printf("\nDISPLAY ALL RECORDS");
      disp();
      break;
   }
   }while(op!=5);
}
```

Output:

```
csea50@jtl-13:~/assignment7$ gcc record.c –o record
csea50@jtl-13:~/assignment7$./record
MENU
******
1.Add a record
2.Modify
3.Retrieve and display
4.Display all records
5.Exit
Enter your choice: 1

ADD NEW RECORD
Enter Name: Gayu
Enter address:chennai
Enter phone number: 56764980

MENU
******
1.Add a record
2.Modify
3.Retrieve and display
4.Display all records
5.Exit
Enter your choice: 1

ADD NEW RECORD
Enter Name: kavya
Enter address:Delhi
```

Enter phone number: 45678903

MENU
******
1.Add a record
2.Modify
3.Retrieve and display
4.Display all records
5.Exit
Enter your choice: 2

MODIFY EXISTING RECORD
Enter name to search and modify: Gayu

NAME: Gayu
ADDRESS: chennai
PHONE NO: 56764980

Do you want to modify
1.NAME
2.ADDRESS
3.PHONE NUMBER
Enter (1/2/3): 2

Enter new address: Mumbai

RECORD MODIFIED SUCCESSFULLY!!!

MENU
******
1.Add a record
2.Modify
3.Retrieve and display
4.Display all records
5.Exit
Enter your choice: 3

RETRIEVE EXISTING RECORD
Enter name to search: kavya

NAME: kavya
ADDRESS: Delhi

```
PHONE NO: 45678903

MENU
******
1.Add a record
2.Modify
3.Retrieve and display
4.Display all records
5.Exit
Enter your choice: 4

DISPLAY ALL RECORDS
NAME: Gayu
ADDRESS: Mumbai
PHONE NO: 56764980

************************
NAME: kavya
ADDRESS: Delhi
PHONE NO: 45678903

************************

MENU
******
1.Add a record
2.Modify
3.Retrieve and display
4.Display all records
5.Exit
Enter your choice: 5
```

3. **Program Name:** To maintain records containing name, address and telephone number and perform given operations.

Program:

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
struct rec
{
   char name[30],add[30];
```

```
   unsigned long ph;
};
struct rec input()
{
   struct rec obj;
   printf("\nEnter Name: ");
   scanf("%s",obj.name);
   printf("\nEnter address:" );
   scanf("%s",obj.add);
   printf("\nEnter phone number: ");
   scanf("%lu",&obj.ph);
   return obj;
}
void display(struct rec obj)
{
   printf("\nNAME: %s",obj.name);
   printf("\nADDRESS: %s",obj.add);
   printf("\nPHONE NO: %lu\n",obj.ph);
}
void add()
{
   struct rec obj;
   FILE *fp;
   fp = fopen("details.dat", "ab");
   obj=input();
   fwrite(&obj,sizeof(struct rec),1,fp);
   fclose(fp);
}
void ins(int m)
{
   struct rec obj;
   int i=0;
   FILE *fp1,*fp2;
   fp1 = fopen("details.dat", "rb");
   fp2 = fopen("newdet.dat", "wb");
   for(;i<m-1;++i)
   {
      fread(&obj,sizeof(struct rec),1,fp1);
      fwrite(&obj,sizeof(struct rec),1,fp2);
   }
   obj=input();
   fwrite(&obj,sizeof(struct rec),1,fp2);
```

```
   while(1)
   {
      fread(&obj,sizeof(struct rec),1,fp1);
      if(!feof(fp1))
         fwrite(&obj,sizeof(struct rec),1,fp2);
      else
         break;
   }
   fclose(fp1);
   fclose(fp2);
   remove("details.dat");
   rename("newdet.dat","details.dat");
   printf("\nRECORD INSERTED SUCCESSFULLY!!!\n");
}
void del()
{
   struct rec obj;
   int i=0;
   char name[30];
   FILE *fp1,*fp2;
   fp1 = fopen("details.dat", "rb");
   fp2 = fopen("newdet.dat", "wb");
   printf("\nEnter name to delete record: ");
   scanf(" %[^\n]",name);
   while(1)
   {
      fread(&obj,sizeof(struct rec),1,fp1);
      if(strcmp(name,obj.name)!=0&&(!feof(fp1)))
         fwrite(&obj,sizeof(struct rec),1,fp2);
      if(feof(fp1))
         break;
   }
   fclose(fp1);
   fclose(fp2);
   remove("details.dat");
   rename("newdet.dat","details.dat");
   printf("\nRECORD DELETED SUCCESSFULLY!!!\n");
}
void n_disp(int n)
{
   struct rec obj;
   FILE *fp;
```

```
   fp = fopen("details.dat", "rb");
   fseek(fp,sizeof(struct rec)*(n-1),0);
   fread(&obj,sizeof(struct rec),1,fp);
   display(obj);
   fclose(fp);
}
void disp()
{
   struct rec obj;
   FILE *fp;
   fp = fopen("details.dat", "rb");
   while(1)
   {
      fread(&obj,sizeof(obj),1,fp);
      if(!feof(fp))
         display(obj);
      else
         break;

      printf("\n************************");
   }
   fclose(fp);
}
void main()
{
   struct rec obj;
   int n,op;
   char name[30];
   do
   {
   printf("\nMENU\n******");
   printf("\n1.Add a record \n2.Insert a record \n3.Delete a record\n4.Display nth
record \n5.Display all records\n6.Exit");
   printf("\nEnter your choice: ");
   scanf("%d",&op);
   switch(op)
   {
   case 1:
      printf("\nADD NEW RECORD");
      add();
      break;
   case 2:
```

```
      printf("\nINSERT A RECORD");
      printf("\nEnter the value of m(position): ");
      scanf(" %d",&n);
      ins(n);
      break;
   case 3:
      printf("\nDELETE A RECORD");
      del();
      break;
   case 4:
      printf("\nDISPLAY Nth RECORD");
      printf("\nEnter the value of n(position): ");
      scanf(" %d",&n);
      n_disp(n);
      break;
   case 5:
      printf("\nDISPLAY ALL RECORDS");
      disp();
      break;
   }
   }while(op!=6);
}
```

Output:

```
csea50@jtl-13:~/assignment7$ gcc recordmod.c –o recordmod.c
csea50@jtl-13:~/assignment7$ ./recordmod
MENU
******
1.Add a record
2.Insert a record
3.Delete a record
4.Display nth record
5.Display all records
6.Exit
Enter your choice: 1

ADD NEW RECORD
Enter Name: Gayu
Enter address:chennai
Enter phone number: 23456789
```

```
MENU
******
1.Add a record
2.Insert a record
3.Delete a record
4.Display nth record
5.Display all records
6.Exit
Enter your choice: 1

ADD NEW RECORD
Enter Name: kavya
Enter address:mumbai
Enter phone number: 67890123

MENU
******
1.Add a record
2.Insert a record
3.Delete a record
4.Display nth record
5.Display all records
6.Exit
Enter your choice: 2

INSERT A RECORD
Enter the value of m(position): 2
Enter Name: ashwini
Enter address:delhi
Enter phone number: 32165498

RECORD INSERTED SUCCESSFULLY!!!

MENU
******
1.Add a record
2.Insert a record
3.Delete a record
4.Display nth record
5.Display all records
6.Exit
Enter your choice: 5
```

DISPLAY ALL RECORDS
NAME: Gayu
ADDRESS: chennai
PHONE NO: 23456789

****

NAME: ashwini
ADDRESS: delhi
PHONE NO: 32165498

****

NAME: kavya
ADDRESS: mumbai
PHONE NO: 67890123

****

MENU
******
1.Add a record
2.Insert a record
3.Delete a record
4.Display nth record
5.Display all records
6.Exit
Enter your choice: 3

DELETE A RECORD
Enter name to delete record: kavya

RECORD DELETED SUCCESSFULLY!!!

MENU
******
1.Add a record
2.Insert a record
3.Delete a record
4.Display nth record
5.Display all records
6.Exit
Enter your choice: 4

DISPLAY Nth RECORD
Enter the value of n(position): 2

NAME: ashwini
ADDRESS: delhi
PHONE NO: 32165498

MENU
******
1.Add a record
2.Insert a record
3.Delete a record
4.Display nth record
5.Display all records
6.Exit
Enter your choice: 5

DISPLAY ALL RECORDS
NAME: Gayu
ADDRESS: chennai
PHONE NO: 23456789

****
NAME: ashwini
ADDRESS: delhi
PHONE NO: 32165498

****

MENU
******
1.Add a record
2.Insert a record
3.Delete a record
4.Display nth record
5.Display all records
6.Exit
Enter your choice: 6