Lab 10

Objective(s):

To understand data files and file handling in C.

1. **Write a program to read RollNo, Name, Address, Age & marks in physics, C, math in 1st semester of three students in BCT. Store the records into a file std.txt located at d:\ drive. Display the student details with average marks achieved (use data files record I/O).**

```
/*Write a program to read RollNo, Name, Address, Age
& marks in
physics, C, math in 1st semester of three students in
BCT. Store the
records into a file std.txt located at d:\ drive.
Display the student
details with average marks achieved (use data files

record I/O).*/

#include<stdio.h>
#include<conio.h>
struct student
{
    char name[20];
    char add[50];
    int roll;
    struct marks
    {
        float mark[3];
    }m;
};
typedef struct student student;
int main()
{
   student s;
```

```
    FILE *std;
    std=fopen("D:\\std.txt","wb");
    if(std==NULL)
    {
        printf("File not created !!");
        exit(0);
    }
    int i,j;
    float sum;
    for(i=0;i<3;i++)
    {
        printf("Enter name:\t");
        scanf("  %[^\n]s",&s.name);
        printf("Enter address:\t");
        scanf(" %[^\n]s",&s.add);
        printf("Enter roll number:\t");
        scanf("%d",&s.roll);
        printf("Enter marks in physics:\t");
        scanf("%f",&s.m.mark[0]);
        printf("Enter marks in math:\t");
        scanf("%f",&s.m.mark[1]);
        printf("Enter marks in C:\t");
        scanf("%f",&s.m.mark[2]);
        fwrite(&s,sizeof(s),1,std);
        printf("\n\n");
    }
    fclose(std);
    std=fopen("D:\\std.txt","rb");
    if(std==NULL)
    {
        printf("No file found !!");
        exit(1);
    }
    printf("\n%-24s %-23s %-24s %-
25s\n","Name","Address","Roll","Average");
```

```
printf("**********************************************
**********************************************\n")
;
   for(i=0;i<3;i++)
   {sum=0; fread(&s,sizeof(s),1,std);
       printf("%-25s",s.name); printf("%-
       25s",s.add); printf("%-25d",s.roll);
       sum=s.m.mark[0]+s.m.mark[1]+s.m.mark[2];
       printf("%-25f",sum/3); printf("\n\n");




   }
   fclose(std);
   getch();
   return 0;
}
```

2. Write characters into a file "filec.txt". The set of characters are read from the keyboard until enter key is pressed.

```
/*. Write characters into a file "filec.txt". The set
of characters are
read from the keyboard until enter key is pressed*/
#include<stdio.h>
#include<conio.h>
int main()
{
    FILE *fp;
    fp=fopen("filec.txt","w");
    if(fp==NULL)
    {
        printf("No file created !!");
        exit(0);
    }
    char ch;
```

```
    printf("Enter any character\n(press enter to
exit)\n");
    while(1)
    {
        ch=getchar();
        if (ch=='\n')
        {
            break;
        }
        fputc(ch,fp);
    }
    fclose(fp);
    getch();
    return 0;
}
```

3. Read characters from file "filec.txt" created in question 2. Also count the number of characters in the file.

```
/*. Read characters from file "filec.txt" created in
question 2. Also
count the number of characters in the file.

*/

#include<stdio.h>
#include<conio.h>
int main()
{
    FILE *fp;
    char ch;
    int n=0;
    fp=fopen("filec.txt","r");
    printf("Characters form file:\n");
    while(1)
    {
        ch=fgetc(fp);

        if (ch==EOF)
        {
            break;
        }
        printf("%c",ch);
        n=n+1;
```

```
    }
    printf("\nNo of characters =
    %d",n); fclose(fp);
    getch();
    return 0;
}
```

4. Write set of strings each of length 40 into a file "stringc.txt" and display it (use fputs() and fgets() function).

```
/*Write set of strings each of length 40 into a file
"stringc.txt" and
display it (use fputs() and fgets() function).
*/
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
int main()
{
    FILE *fp;
    char st[41];
    char ch;
    fp=fopen("stringc.txt","w");
    do
    {
      printf("Enter any string:\n");
      scanf(" %[^\n]s",st);
      fputs(st,fp);

      printf("\nDo you want to add another string
(Y/N)?");
      scanf(" %c",&ch);
    }while(ch=='y'||ch=='Y');
    fclose(fp);
    fp=fopen("stringc.txt","r");
    printf("\nEntered string:\n");
    while(fgets(st,41,fp)!=NULL)
    {

        printf("%s\n",st);
    }
    fclose(fp);
    getch();
```

```
    return 0;
}
```

5. Write name, age and height of a person into a data file "person.txt" and read it (use fprintf() and fscanf() function).

```
/*Write name, age and height of a person into a data
file "person.txt"
and read it (use fprintf() and fscanf() function).*/

#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
struct person
{
    char name[20];
    int age;
};  float height;
typedef struct person person;
int main()
{
    person p;
    FILE *fp;
    fp=fopen("person.txt","w");
    if(fp==NULL)
    {
        printf("no file is created !!");
        exit(0);
    }
    printf("Enter name:\t"); scanf("
    %[^\n]s",&p.name); printf("Enter
    age:\t"); scanf("%d",&p.age);
    printf("Enter height:\t");
    scanf("%f",&p.height);
    printf("\n\nSaving information on
person.txt....");
    fprintf(fp,"%s %d %f",p.name,p.age,p.height);
    printf("\nSaving completed successfully");
    fclose(fp);
    fp=fopen("person.txt","r");
    fscanf(fp,"%s %d %f",&p.name,&p.age,&p.height);

    printf("\nDisplaying information from file:\n");
```

```
    printf("\nName: %s",p.name);
    printf("\nAge: %d",p.age);
    printf("\nHeight: %0.2f",p.height);
    fclose(fp);
    getch();
    return 0;


}
```