Week 9: File

1. Write a Program to create a file and write data into file.

```c
#include <stdio.h>
#include <stdlib.h>
#define DATA_SIZE 1000
int main()
{
    char data[DATA_SIZE];
    FILE * fPtr;
    fPtr = fopen("file.txt", "w");
    if(fPtr == NULL)
    {
        /* File not created hence exit */
        printf("Unable to create file.\n");
        exit(1);
    }

    printf("Enter contents to store in file : \n");
    //scanf("%[^\n]",data);
    gets(data);
    //fgets(data, DATA_SIZE, stdin);
    /* Write data to file */

    fprintf(fPtr,"%s", data);
    fprintf(stdout,"%s\n", data);

    fclose(fPtr);


    printf("File created and saved successfully. :) \n");

    return 0;
}
```

2. Write a Program to Read all the Line from a File.

```c
#include <stdio.h>
#include <stdlib.h>
int main()
{
    char c;
    FILE *fptr;
    fptr = fopen("file.txt","r");
    if(fptr== NULL)
    {
        printf("Error! File cannot be opened.");
        exit(1);
    }
    while((c=fgetc(fptr))!=EOF)
    {
        printf("%c", c);
    }
    fclose(fptr);
    return 0;
}
```

3. C program to write name and marks of n number of students and store them in a file.

```c
#include <stdio.h>
int main()
{
   char name[50];
   int marks, i, num;

   printf("Enter number of students: ");
   scanf("%d", &num);

   FILE *fptr;
   fptr = (fopen("C:\\student.txt", "w"));
   if(fptr == NULL)
   {
       printf("Error!");
       exit(1);
   }

   for(i = 0; i < num; ++i)
   {
      printf("For student%d\nEnter name: ", i+1);
      scanf("%s", name);

      printf("Enter marks: ");
```

```
      scanf("%d", &marks);

      fprintf(fptr,"\nName: %s \nMarks=%d \n", name, marks);
   }

   fclose(fptr);
   return 0;
}
```

4. Write C program to read name and marks of n number of students from file and print them in console.

```
#include <stdio.h>
int main()
{
    char name[50];
    int marks, i, num;
    printf("Enter number of students: ");
    scanf("%d", &num);
    FILE *fptr;
    fptr = (fopen("student.txt", "r"));
    if(fptr == NULL)
    {
        printf("Error!");
        exit(1);
    }
    fprintf(stdout,"Name \tMarks \n");
    for(i = 0; i < num;i++)
    {

        fscanf(fptr,"%s %d",&name,&marks);
        printf("%s \t%4d\n",name,marks);
    }
    fclose(fptr);
    return 0;
}
```

5. Write C program to read item name, unit and price from 'item.txt' file and print them total price of each item and gross total of all item in console and another file 'output.txt'.

Item.txt :

pen	15	6
paper	500	2
printer	5000	3
monitor	16500	31
cpu	50000	31

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
main()
{
    FILE *x,*y;
    char a[20];
    float b;
    int c,i;
    float d;
    float sum;
    x=fopen("item.txt","r");
    y=fopen("output.txt","w");
    fprintf(y,"\n\tWELCOME TO THE GLOSSARY SHOP MANAGEMENT\t\n\n\n");

fprintf(y,"ITEM\tPRICE\tQUANTITY\t\tTOTAL\n.............................
.................................................\n");
    printf("\n\t\tWELCOME TO THE GLOSSARY SHOP MANAGEMENT\t\t\n");
    printf("\t\t_____________________________________\t\t\n\n\n");

printf("ITEM\tPRICE\t\tQUANTITY\tTOTAL\n_____________________________________
_____________\n");
    sum=0;
    for(i=1;i<=5;i++)
    {
    fscanf(x,"%s %f %d",&a,&b,&c);
     d=b*c;
    sum+=d;
    fprintf(y,"\n%s\t%.2f\t%d\t\t%.2f",a,b,c,d);
    fprintf(y,"\n");
    printf("\n%s\t%.2f\t\t%d\t\t%.2f",a,b,c,d);
```

```
    printf("\n");

    }

fprintf(y,"_____\n\n\tGRAND
TOTAL = \t\t%.2f",sum);

    printf("_____\n\n\t\tGRAND
TOTAL = \t\t%.2f",sum);
    fclose(x);
    fclose(y);
    getch();
}
```

Output:

```
WELCOME TO THE GLOSSARY SHOP MANAGEMENT

ITEM    PRICE   QUANTITY        TOTAL
.....................................................................
pen     15.00       6           90.00
paper   500.00      2           1000.00
eraser  30.00       3           90.00
scale   25.00      31           775.00
Khata   50.00      31           1550.00

_____________________________________
GRAND TOTAL =          3505.00
```

6. Write a C program to copy contents of one file to another file.

```c
#include <stdio.h>
#include <stdlib.h> // For exit()

int main()
{
    FILE *fptr1, *fptr2;
    char filename[100], c;

    printf("Enter the filename to open for reading \n");
    scanf("%s", filename);

    // Open one file for reading
    fptr1 = fopen(filename, "r");
    if (fptr1 == NULL)
    {
        printf("Cannot open file %s \n", filename);
        exit(0);
    }

    printf("Enter the filename to open for writing \n");
    scanf("%s", filename);
    // Open another file for writing
    fptr2 = fopen(filename, "w");
    // Read contents from file

    while((c=fgetc(fptr1))!=EOF)
    {
        fputc(c, fptr2);
    }

    printf("\nContents copied to %s", filename);

    fclose(fptr1);
    fclose(fptr2);
    return 0;
}
```

7. C Program to Find the Number of Lines in a Text File.

```c
#include <stdio.h>

int main()
{
    FILE *fileptr;
    int count_lines = 0;
    char chr;
    fileptr = fopen("file.txt", "r");
   //extract character from file and store in chr
    while ((chr = getc(fileptr))!= EOF)
    {
        //Count whenever new line is encountered
        if (chr =='\n')
        {
            count_lines = count_lines + 1;
        }

    }
    fclose(fileptr); //close file.
    printf("There are %d lines in a file.txt\n", count_lines);
    return 0;
}
```

8. Write a program to randomly access file using fseek() function.

File.txt

Called from the number 01922999217 at 2:30 to the number 01677809509 total time: 3:57
Called from the number 01722999217 at 3:30 to the number 01677809509 total time: 3:00
Called from the number 01822999217 at 2:30 to the number 01677809509 total time: 2:26
Called from the number 01522999217 at 2:30 to the number 01677809509 total time: 0:50

```
#include<stdio.h>
#include<conio.h>
void main(void){
  FILE *x;
  int n,i=0;
  char call_no[12], t_call[5],t_from[12],durat[5];
  x=fopen("file.txt","r");
  printf("Call From \tTime \tCall
To\t\tDuration\n",call_no,t_call,t_from,durat);
  while(!feof(x)){
        fseek(x,23L+i,1);
        fscanf(x,"%s",call_no);
        fseek(x,4L,1);
        fscanf(x,"%s",t_call);
        fseek(x,15L,1);
        fscanf(x,"%s",t_from);
        fseek(x,13L,1);
        fscanf(x,"%s",durat);
        i=1;
        printf("%s \t%s \t%s \t%s\n",call_no,t_call,t_from,durat);
  }
  fclose(x);
 }
```

```
Output:
01922999217    2:30    01677809509    3:57
01722999217    3:30    01677809509    3:00
01822999217    2:30    01677809509    2:26
01522999217    2:30    01677809509    0:50
01522999217    2:30    01677809509    0:50
```