ASSIGNMENT 14 & 15

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Branch: Information Technology

1) Write a program in C to create and store information in a text file.

```c
#include <stdio.h>
#include <stdlib.h>

int main()
{
    char str[1000];
    FILE *fptr;
    char fname[20]="school.txt";

    printf("\n\n Create a file (school.txt) and input text :\n");
    fptr=fopen(fname,"w");
    if(fptr==NULL)
    {
        printf(" Error in opening file!");
        exit(1);
    }
    printf(" Input a sentence for the file : ");
    fgets(str, sizeof str, stdin);
    fprintf(fptr,"%s",str);
    fclose(fptr);
    printf("\n The file %s created successfully...!!\n\n",fname);
    return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   1: Code

```
Windows PowerShell
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PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }

Create a file (school.txt) and input text :
Input a sentence for the file : Om Gharge

The file school.txt created successfully...!!
```

2) Write a program in C to read an existing file.

```c
#include <stdio.h>
#include <stdlib.h>

void main()
{
    FILE *fptr;
    char fname[20];
    char str;
    printf("\n\n Read an existing file :\n");
    printf(" Input the filename to be opened : ");
    scanf("%s",fname);
    fptr = fopen (fname, "r");
    if (fptr == NULL)
    {
        printf(" File does not exist or cannot be opened.\n");
        exit(0);
    }
    printf("\n The content of the file %s is  :\n",fname);
    str = fgetc(fptr);
    while (str != EOF)
    {
        printf ("%c", str);
        str = fgetc(fptr);
    }
    fclose(fptr);
    printf("\n\n");
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   1: Code

```
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PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }

 Read an existing file :
 Input the filename to be opened : school.txt

 The content of the file school.txt is  :
Om Gharge
```

3) Write a program in C to write multiple lines in a text file.

```c
#include <stdio.h>

int main ()
{
    FILE * fptr;
    int i,n;
    char str[100];
    char fname[20]="school.txt";
    char str1;

    printf("\n\n Write multiple lines in a text file and read the file :\n");
    printf(" Input the number of lines to be written : ");
    scanf("%d", &n);
    printf("\n :: The lines are ::\n");
    fptr = fopen (fname,"w");
    for(i = 0; i < n+1;i++)
    {
        fgets(str, sizeof str, stdin);
        fputs(str, fptr);
    }
    fclose (fptr);
    fptr = fopen (fname, "r");
    printf("\n The content of the file %s is  :\n",fname);
    str1 = fgetc(fptr);
    while (str1 != EOF)
    {
        printf ("%c", str1);
        str1 = fgetc(fptr);
    }
    printf("\n\n");
    fclose (fptr);
    return 0;
```

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL**   1: Code

```
PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }

Write multiple lines in a text file and read the file :
Input the number of lines to be written : Hello World! How are you?

:: The lines are ::

The content of the file school.txt is  :
Hello World! How are you?

PS C:\Users\omgha\AppData\Local\Temp>
```

4) Write a program in C to read the file and store the lines into an array.

```c
1   #include <stdio.h>
2   #include <stdlib.h>
3   #include <string.h>
4
5   #define LSIZ 128
6   #define RSIZ 10
7
8   int main(void)
9   {
10      char line[RSIZ][LSIZ];
11      char fname[20];
12      FILE *fptr = NULL;
13      int i = 0;
14      int tot = 0;
15      printf("\n\n Read the file and store the lines into an array :\n");
16      printf(" Input the filename to be opened : ");
17      scanf("%s",fname);
18
19      fptr = fopen(fname, "r");
20      while(fgets(line[i], LSIZ, fptr))
21      {
22          line[i][strlen(line[i]) - 1] = '\0';
23          i++;
24      }
25      tot = i;
26      printf("\n The content of the file %s  are : \n",fname);
27      for(i = 0; i < tot; ++i)
28      {
29          printf(" %s\n", line[i]);
30      }
31      printf("\n");
32      return 0;
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   1: Code

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PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }

Read the file and store the lines into an array :
 Input the filename to be opened : school.txt

 The content of the file school.txt are :
 Hello World! How are you?

PS C:\Users\omgha\AppData\Local\Temp>

5) Write a program in C to Find the Number of Lines in a Text File.

```c
#include <stdio.h>

#define FSIZE 100

int main()
{
    FILE *fptr;
    int ctr = 0;
    char fname[FSIZE];
    char c;
    printf("\n\n Read the file and count the number of lines :\n");
    printf(" Input the file name to be opened : ");
    scanf("%s",fname);

    fptr = fopen(fname, "r");
    if (fptr == NULL)
    {
        printf("Could not open file %s", fname);
        return 0;
    }

    for (c = getc(fptr); c != EOF; c = getc(fptr))
        if (c == '\n')
            ctr = ctr + 1;
    fclose(fptr);
    printf(" The lines in the file %s are : %d \n \n", fname, ctr-1);
    return 0;
}
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL                                                            1: Code

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PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }

 Read the file and count the number of lines :
 Input the file name to be opened : school.txt
 The lines in the file school.txt are : 0

PS C:\Users\omgha\AppData\Local\Temp>
```

6) Write a program in C to find the content of the file and number of lines in a Text File.

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

#define LSIZ 128
#define RSIZ 10

int main(void)
{
    char line[RSIZ][LSIZ];
    char fname[20];
    FILE *fptr = NULL;
    int i = 0;
    int tot = 0;
    printf("\n\n Find the content of the file and number of lines in a Text File :\n");
    printf(" Input the file name to be opened : ");
    scanf("%s",fname);

    fptr = fopen(fname, "r");
    while(fgets(line[i], LSIZ, fptr))
    {
        line[i][strlen(line[i]) - 1] = '\0';
        i++;
    }
    tot = i;
    printf("\n The content of the file %s  are : \n",fname);
    for(i = 0; i < tot; ++i)
    {
        printf(" %s\n", line[i]);
    }
    printf("\n The lines in the file are : %d\n",tot-1);
    printf("\n");
    return 0;
}
```

```
PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL                                                                    1: Code

PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }

Find the content of the file and number of lines in a Text File :
Input the file name to be opened : school.txt

The content of the file school.txt  are :
one

The lines in the file are : 0

PS C:\Users\omgha\AppData\Local\Temp>
```

7) Write a program in C to count a number of words and characters in a file

```c
#include <stdio.h>
#include <stdlib.h>

void main()
{
    FILE *fptr;
    char ch;
    int wrd=1,charctr=1;
    char fname[20];
    printf("\n\n Count the number of words and characters in a file :\n");
    printf(" Input the filename to be opened : ");
    scanf("%s",fname);

    fptr=fopen(fname,"r");
    if(fptr==NULL)
    {
        printf(" File does not exist or can not be opened.");
    }
    else
    {
        ch=fgetc(fptr);
        printf(" The content of the file %s are : ",fname);
        while(ch!=EOF)
        {
            printf("%c",ch);
            if(ch==' '||ch=='\n')
            {
                wrd++;
            }
            else
            {
                charctr++;
            }
            ch=fgetc(fptr);
        }
        printf("\n The number of words in the  file %s are : %d\n",fname,wrd-2);
        printf(" The number of characters in the  file %s are : %d\n\n",fname,charctr-1);
    }
    fclose(fptr);
}
```

```
PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }


 Count the number of words and characters in a file :
 Input the filename to be opened : school.txt
 The content of the file school.txt are : one

 The number of words in the  file school.txt are : 0
 The number of characters in the  file school.txt are : 3

PS C:\Users\omgha\AppData\Local\Temp>
```

8) Write a program in C to delete a specific line from a file

```c
#include <stdio.h>
#include <string.h>
#define MAX 256
int main()
{   int lno, ctr = 0;
    char ch;
    FILE *fptr1, *fptr2;
    char fname[MAX];
    char str[MAX], temp[] = "temp.txt";
    printf("\n\n Delete a specific line from a file :\n");
    printf(" Input the file name to be opened : ");
    scanf("%s",fname);
    fptr1 = fopen(fname, "r");
    if (!fptr1)
    {       printf(" File not found or unable to open the input file!!\n");
            return 0;
    }
    fptr2 = fopen(temp, "w");
    if (!fptr2)
    {       printf("Unable to open a temporary file to write!!\n");
            fclose(fptr1);
            return 0;
    }
    printf(" Input the line you want to remove : ");
    scanf("%d", &lno);
    lno++;
    while (!feof(fptr1))
    {   strcpy(str, "\0");
        fgets(str, MAX, fptr1);
        if (!feof(fptr1))
        {   ctr++;
            if (ctr != lno)
            {fprintf(fptr2, "%s", str);
            }}}
    fclose(fptr1);
    fclose(fptr2);
    remove(fname);
    rename(temp, fname);
    fptr1=fopen(fname,"r");
        ch=fgetc(fptr1);
    printf(" Now the content of the file %s is : \n",fname);
    while(ch!=EOF)
    {   printf("%c",ch);
        ch=fgetc(fptr1);
    }
    fclose(fptr1);
    return 0;
}
```

9) Write a program in C to replace a specific line with another text in a file.

```c
#include <stdio.h>
#include <string.h>
#define MAX 256
int main()
{
    FILE *fptr1, *fptr2;
    int lno, linectr = 0;
    char str[MAX],fname[MAX];
    char newln[MAX], temp[] = "temp.txt";
    printf("\n\n Replace a specific line in a text file with a new text :\n");
    printf(" Input the file name to be opened : ");
    fgets(fname, MAX, stdin);
    fname[strlen(fname) - 1] = '\0';
    fptr1 = fopen(fname, "r");
    if (!fptr1)
    {       printf("Unable to open the input file!!\n");
            return 0;}
    fptr2 = fopen(temp, "w");
    if (!fptr2)
    {       printf("Unable to open a temporary file to write!!\n");
            fclose(fptr1);
            return 0;}
    printf(" Input the content of the new line : ");
    fgets(newln, MAX, stdin);
    printf(" Input the line no you want to replace : ");
    scanf("%d", &lno);
    lno++;
    while (!feof(fptr1))
    {   strcpy(str, "\0");
        fgets(str, MAX, fptr1);
        if (!feof(fptr1))
        {   linectr++;
            if (linectr != lno)
                {fprintf(fptr2, "%s", str);
                }
            else
                {fprintf(fptr2, "%s", newln);
                }}}
    fclose(fptr1);
    fclose(fptr2);
    remove(fname);
    rename(temp, fname);
    printf(" Replacement did successfully..!! \n");
    return 0;
}
```

```
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PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }


 Replace a specific line in a text file with a new text :
 Input the file name to be opened : school.txt
 Input the content of the new line : Hello World
 Input the line no you want to replace : one
 Replacement did successfully..!!
PS C:\Users\omgha\AppData\Local\Temp>
```

10) Write a program in C to append multiple lines at the end of a text file.

```c
#include <stdio.h>

int main ()
{
    FILE * fptr;
    int i,n;
    char str[100];
    char fname[20];
    char str1;

    printf("\n\n Append multiple lines at the end of a text file :\n");
    printf(" Input the file name to be opened : ");
    scanf("%s",fname);
    fptr = fopen(fname, "a");
    printf(" Input the number of lines to be written : ");
    scanf("%d", &n);
    printf(" The lines are : \n");
    for(i = 0; i < n+1;i++)
    {
        fgets(str, sizeof str, stdin);
        fputs(str, fptr);
    }
    fclose (fptr);
    fptr = fopen (fname, "r");
    printf("\n The content of the file %s is  :\n",fname);
    str1 = fgetc(fptr);
    while (str1 != EOF)
    {
        printf ("%c", str1);
        str1 = fgetc(fptr);
    }
    printf("\n\n");
    fclose (fptr);
    return 0;
}
```

```
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PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }

 Append multiple lines at the end of a text file :
 Input the file name to be opened : school.txt
 Input the number of lines to be written : 3
 The lines are :
Om Gharge
Hello
How are you?

 The content of the file school.txt is  :

Om Gharge
Hello
How are you?

PS C:\Users\omgha\AppData\Local\Temp>
```

11) Write a program in C to copy a file in another name

```c
#include <stdio.h>
#include <stdlib.h>
void main()
{
    FILE *fptr1, *fptr2;
    char ch, fname1[20], fname2[20];
    printf("\n\n Copy a file in another name :\n");
    printf(" Input the source file name : ");
    scanf("%s",fname1);
    fptr1=fopen(fname1, "r");
    if(fptr1==NULL)
    {   printf(" File does not found or error in opening.!!");
        exit(1);
    }
    printf(" Input the new file name : ");
    scanf("%s",fname2);
    fptr2=fopen(fname2, "w");
    if(fptr2==NULL)
    {   printf(" File does not found or error in opening.!!");
        fclose(fptr1);
        exit(2);
    }
    while(1)
    {
        ch=fgetc(fptr1);
        if(ch==EOF)
        {break;
        }
        else
        {fputc(ch, fptr2);
        }
    }
    printf(" The file %s  copied successfully in the file %s. \n\n",fname1,fname2);
    fclose(fptr1);
    fclose(fptr2);
    getchar();
}
```

```
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PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }


Copy a file in another name :
 Input the source file name : school.txt
 Input the new file name : Newfile.txt
 The file school.txt  copied successfully in the file Newfile.txt.

PS C:\Users\omgha\AppData\Local\Temp>
```

12) Write a program in C to merge two files and write it in a new file.

```c
#include <stdio.h>
#include <stdlib.h>
void main()
{
    FILE *fold1, *fold2, *fnew;
    char ch, fname1[20], fname2[20], fname3[30];
    printf("\n\n Merge two files and write it in a new file :\n");
    printf(" Input the 1st file name : ");
    scanf("%s",fname1);
    printf(" Input the 2nd file name : ");
    scanf("%s",fname2);
    printf(" Input the new file name where to merge the above two files : ");
    scanf("%s",fname3);
    fold1=fopen(fname1, "r");
    fold2=fopen(fname2, "r");
    if(fold1==NULL || fold2==NULL)
    {   printf(" File does not exist or error in opening...!!\n");
        exit(EXIT_FAILURE);
    }
    fnew=fopen(fname3, "w");
    if(fnew==NULL)
    {   printf(" File does not exist or error in opening...!!\n");
        exit(EXIT_FAILURE);
    }
    while((ch=fgetc(fold1))!=EOF)
    {
        fputc(ch, fnew);
    }
    while((ch=fgetc(fold2))!=EOF)
    {
        fputc(ch, fnew);
    }
    printf(" The two files merged into %s file successfully..!!\n\n", fname3);
    fclose(fold1);
    fclose(fold2);
    fclose(fnew);
}
```

```
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PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }


 Merge two files and write it in a new file :
 Input the 1st file name : school.txt
 Input the 2nd file name : Newfile.txt
 Input the new file name where to merge the above two files : Thirdfile.txt
 The two files merged into Thirdfile.txt file successfully..!!

PS C:\Users\omgha\AppData\Local\Temp>
```

13) Write a program in C to encrypt a text file.

```c
#include <stdio.h>
#include <stdlib.h>
void main()
{ char fname[20], ch;
    FILE *fpts, *fptt;
    printf("\n\n Encrypt a text file :\n");
    printf(" Input the name of file to encrypt : ");
    scanf("%s",fname);
    fpts=fopen(fname, "r");
    if(fpts==NULL)
    {   printf(" File does not exists or error in opening..!!");
        exit(1);}
    fptt=fopen("temp.txt", "w");
    if(fptt==NULL)
    {   printf(" Error in creation of file temp.txt ..!!");
        fclose(fpts);
        exit(2);}
    while(1)
    {   ch=fgetc(fpts);
        if(ch==EOF)
        {break;}
        else
        {   ch=ch+100;
            fputc(ch, fptt);}}
    fclose(fpts);
    fclose(fptt);
    fpts=fopen(fname, "w");
    if(fpts==NULL)
    {   printf(" File does not exists or error in opening..!!");
        exit(3);}
    fptt=fopen("temp.txt", "r");
    if(fptt==NULL)
    {   printf(" File does not exists or error in opening..!!");
        fclose(fpts);
        exit(4);}
    while(1)
    {   ch=fgetc(fptt);
        if(ch==EOF)
        {break;}
        else
        {fputc(ch, fpts);}}
    printf(" File %s successfully encrypted ..!!\n\n", fname);
    fclose(fpts);
    fclose(fptt);
}
```

```
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PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }


 Encrypt a text file :
 Input the name of file to encrypt : school.txt
 File school.txt successfully encrypted ..!!

PS C:\Users\omgha\AppData\Local\Temp>
```

14) Write a program in C to remove a file from the disk.

```c
#include <stdio.h>

void main()
{
    int status;
    char fname[20];
    printf("\n\n Remove a file from the disk :\n");
    printf(" Input the name of file to delete : ");
    scanf("%s",fname);
    status=remove(fname);
    if(status==0)
    {
        printf(" The file %s is deleted successfully..!!\n\n",fname);
    }
    else
    {
        printf(" Unable to delete file %s\n\n",fname);
    }
}
```

```
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PS C:\Users\omgha> cd "C:\Users\omgha\AppData\Local\Temp\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }

 Remove a file from the disk :
 Input the name of file to delete : Thirdfile.txt
 The file Thirdfile.txt is deleted successfully..!!

PS C:\Users\omgha\AppData\Local\Temp>
```