

UNIT-6 (FILE HANDLING)

(RAM GOPAL GUPTA- <http://ramgopalgupta.com/>)

PART-4

File Handling:

After discussing “how to write content into a file”; now we will move over to the next topic:

4: Reading from a File:

We can read content from a file using C program.

: Method 1:

Using fgetc(.) function:

The fputc() function returns a single character from a file. It gets a character from a file. It returns EOF at the end of file.

Syntax:

```
int fputc(FILE *fptr)
```

Example1: (see the example2 of file Part-3 to write the data into a file)

```
//example1.c
```

```
Line 1- #include <stdio.h>
Line 2- main(){
Line 3- FILE *fp;
Line 4- char ch;
Line 5- clrscr();
Line 6- fp=fopen("a2.txt","r");
Line 7- while((ch=fgetc(fp))!=EOF){           // EOF full form “End of File”
Line 8- printf("%c",ch);
Line 9- }
Line 10- fclose(fp);
Line 11- }
```

Explanation:

Before running the above program you have make a file “a2.txt” write some content in that file such as “This is an example of file read using C program from test.txt”

Line 6- a file “a2.txt” will open (if exists) in read mode.

Line 7- fgetc(.) read a character from the “fp” pointer i.e. “a2.txt” file and store it into “ch”. If it is not End of File (EOF) then while loop will become true and executes the

Line 8 which will print a character stored into “ch”. Line 8 will execute till the while loop is true.

Output:

a2.txt

This is an example of file read using C program from a2.txt

: Method 2:

Using fscanf(..) function:

The fscanf() function is used to read set of characters from file. It reads a word from the file and returns EOF at the end of file.

Syntax:

```
int fscanf(FILE *stream, const char *format [, argument, ...])
```

Example2: (see the example3 of file Part-3 to write the data into a file)

```
//example2.c
```

```
Line 1- #include <stdio.h>
```

```
Line 2- main(){
```

```
Line 3- FILE *fp;
```

```
Line 4- char buff[255]; //creating char array to store data of file
```

```
Line 5- fp = fopen("data.txt", "r");
```

```
Line 6- while(fscanf(fp, "%s", buff)!=EOF){
```

```
Line 7- printf("%s ", buff );
```

```
Line 8- }
```

```
Line 9- fclose(fp);
```

```
Line 10- }
```

Explanation:

Line 4- Declared an array “buff” to store the data of file.

Line 5- Opens a file “data.txt” (if exists) in read mode

Line 6- fscanf(..) has three parameters

- First is file pointer which refers to a file from where we will read the data
- Second is the format of data which we will read from a file
- Third is variable where the read data will store. In the above case it is an array because we are reading the data of type string.

So the 6th line of the code read the data from the file “data.txt” and store it into “buff” char array. If it is not EOF then executes the **Line 7** which will print the string stored in “buff”

data.txt

```
Hello I am using fprintf...
```

: Method 3:

Using fread(..) function:

The fread() function is used to read records (sequence of bytes) from the file. A record may be an array or a structure.

Syntax:

```
fread( ptr, int size, int n, FILE *fp );
```

- The fread() function takes four arguments.
- ptr : ptr is the reference of an array or a structure where data will be stored after reading.
- size : size is the total number of bytes to be read from file.
- n : n is number of times a record will be read.
- FILE* : FILE* is a file where the records will be read.

Example3: (see the example5 of file Part-3 to write the data into a file)

```
//example3.c
```

```
Line 1- #include<stdio.h>
Line 2- struct Student
Line 3- {
Line 4- int roll;
Line 5- char name[25];
Line 6- float marks;
Line 7- };
Line 8- void main()
Line 9- {
Line 10- FILE *fp;
Line 11- char ch;
Line 12- struct Student Stu;
Line 13- fp = fopen("Student.dat","r");
Line 14- printf("\n\tRoll\tName\tMarks\n");
Line 15- while(fread(&Stu,sizeof(Stu),1,fp)>0)
Line 16- {
Line 17- printf("\n\t%d\t%s\t%f",Stu.roll,Stu.name,Stu.marks);
Line 18- }
Line 19- fclose(fp);
Line 20- }
```

Output:

Roll	Name	Marks
1	Ashish	78.53
2	Kaushal	72.65
3	Vishwas	82.65

Explanation:

- At line 13 a “Student.dat” file has been opened in read mode and reference has been moved to file pointer “fp”.
- Line 14 show the head part of the record i.e. Roll, Name, Marks with a tab space.
- From line 15 to 18while(..) loop is executed to get the record of the student till the user records do not exists into the file “Student.dat”. To understand the parameter passed in fread(...) see the syntax given above

This was all about reading the content from a file using C program.

IN NEXT FILE (PART-5) WILL DISCUSS; SOME MORE OPERATION IN FILE HANDLING THROUGH C PROGRAM →