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Introduction to fprintf() in C

In the C programming language, a library function fprintf which is also known as format function sends output that is formatted to a stream. Even though it prints the message, it is not possible on stdout console. It is almost similar to normal printf() function except in the fact that





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Syntax and Parameters

Below is the syntax of the function fprintf() in the C programming language.

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```
int fprintf(FILE *stream, const char *format, ...)
```

Parameters:

- The stream which is the pointer to a file object that finds the stream.
- The format is the C string which consists of the text that to be written to the stream.

Embedded format tags are also present which can be replaced by the values mentioned in subsequently added arguments and formatted. The prototype of format tags is %[flags][width][.precision][length]specifier.

Return Value:

The total count of characters that writes to the file will be returned if it is a success. An EOF will be returned if it is failed.

The format can be:

1. %d: An integer will be displayed

Example: 9





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Example: 9.0

4. **%e**: A floating point number will be displayed in exponential.



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Example: 9.00045e+1

5. **%g**: A floating point number will be displayed with a fixed decimal format or exponential

based on the number size



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The required header format in C programming language for the function fprintf is:

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

How fprintf() Function Works in C?

- First, initialize variables based on your requirement.
- Open the text file in the specified location in write mode using a file pointer.
- If the file pointer is null, print an error message.
- If the file pointer is not null, execute the commands based in the requirement.
- Open the file to check whether the code runs successfully and the output is available in it.

Examples of fprintf() in C

Let us see some sample programs on fprintf() function.

Example #1

C program to Print Names in a File

Code:

```
#include<stdio.h>

int main()
{
    //initialize two integer variables i and n
    int i, n=1;
    //initialize one character variable
```





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```
//if file pointer is null, print the statement
if (filepnter == NULL)
{
printf("Sorry. . The file you are trying to open donot exist . .
.");
return 0;
}
//if file pointer is not null, execute the for loop
for (i=0; i<n; i++)
{
puts("Enter user name");
gets(s);
fprintf(filepnter,"%d.%s\n", i, s);
}
fclose(filepnter);
return 0;
}
```

Output:

```
Enter user name
Anju
```



First, initialize character variable s and two integer variables i and n where n=1. Then, open a text file in the specified location write mode. If the file pointer is null, print "Sorry. The file you are trying to open do not exist . . .". If the file pointer is not null, execute the for loop that checks



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```
main.c C:\Users\SCRC_L... :
1 0.Anju
2 |
```

Suppose the value of n is changed to 3. Then the user name will be asked three times as depicted in the below figure.

```
Enter user name
Anna
Enter user name
Adam
Enter user name
sam
```

The data in the file will be as shown below. 0, 1, 2 and 3 are the values of i.

```
main.c C:\Users\SCRC_L... :
1 0.Anna
2 1.Adam
3 2.sam
4 |
```

Example #2

C Program to Print Student Details in A File.

Code:

```
#include <stdio.h>

int main()
{
```





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```
char studentname[30];
float mark;
//create a file if not already present
filepnter = fopen("studentinfo.txt", "w+");
if (filepnter == NULL)
{
printf("The file you are trying to open does not exist. . . \n");
return 0;
}
printf("Enter the student roll number : \n");
scanf("%d", &rollnum);
fprintf(filepnter, "roll number= %d\n", rollnum);
printf("Enter the student name: \n");
scanf("%s", studentname);
fprintf(filepnter, "student name= %s\n", studentname);
printf("Enter the mark\n");
scanf("%f", &mark);
fprintf(filepnter, "mark= %.3f\n", mark);
fclose(filepnter); }
```

Output:

```
Enter the student roll number :
24
Enter the student name:
Anna
Enter the mark
```





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the mark. On executing the code, the user will be asked to input these three values. On successful submission, a file will be created in the folder. The filename of the file created is mentioned in our file pointer.

On opening the file, the details that gave as input will be displayed inside it.

A screenshot of a code editor with two tabs: 'main.c' and 'studentinfo.txt'. The 'studentinfo.txt' tab is active, showing the following text:

```
1 roll number= 24
2 student name= Anna
3 mark= 50.000
4
```

Example #3

C Program to Print Student Details in a File with Value of i.

```
#include <stdio.h>

int main()
{
    FILE *filepnter;
    int i, n=1;
    int rollnum;
    char studentname[30];
    float mark;
    filepnter = fopen("studentinfo.txt", "w+");

    if (filepnter == NULL)
    {
        printf("The file you are trying to open does not exist. . . \n");
    }
}
```





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```
fprintf(fileptr, "%d\n", 1);  
printf("Enter the student roll number : \n");  
scanf("%d", &rollnum);  
fprintf(fileptr, "roll number= %d\n", rollnum);  
printf("Enter the student name: \n");  
scanf("%s", studentname);  
fprintf(fileptr, "student name= %s\n", studentname);  
printf("Enter the mark\n");  
scanf("%f", &mark);  
fprintf(fileptr, "mark= %.3f\n", mark);  
}  
fclose(fileptr);  
return 0;  
}
```

Output:

```
Enter the student roll number :  
23  
Enter the student name:  
anna  
Enter the mark  
24
```

This program prints the index value along with the details of the student inside the file.

main.c	studentinfo.txt
1	0
2	roll number= 23
3	student name= anna





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work in C along with different examples and its code implementation. You may also have a look at the following articles to learn more –

1. [Stderr in C \(https://www.educba.com/stderr-in-c/\)](https://www.educba.com/stderr-in-c/)
2. [Const Pointer in C \(https://www.educba.com/const-pointer-in-c/\)](https://www.educba.com/const-pointer-in-c/)
3. [Modulus Operator in C \(https://www.educba.com/modulus-operator-in-c/\)](https://www.educba.com/modulus-operator-in-c/)
4. [C++ memcpy \(https://www.educba.com/c-plus-plus-memcpy/\)](https://www.educba.com/c-plus-plus-memcpy/)

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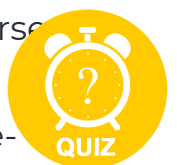
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