

## DAILY ASSESSMENT FORMAT

<b>Date:</b>	<i>20-06-2020</i>	<b>Name:</b>	<i>Poorvi j gowda</i>
<b>Course:</b>	<i>C programming</i>	<b>USN:</b>	<i>4AL17EC071</i>
<b>Topic:</b>	<i>Files and error handling</i> <i>Error handling</i>		<i>6<sup>th</sup> b</i>
<b>Github Repository:</b>	<i>Poorvi-2000</i>		

## FORENOON SESSION DETAILS

--

 C Tutorial

## CERTIFICATE

SOLOLEARN

Issued 18 June, 2020

This is to certify that

**Poorvihj**

has successfully completed the

**C Tutorial course**Yeva Hyusyan  
Chief Executive Officer

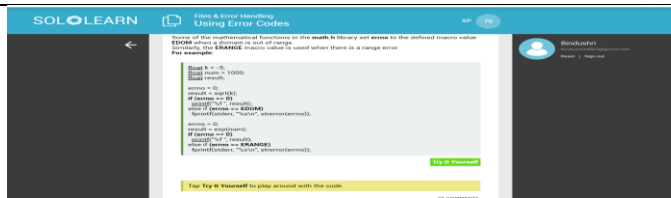
Certificate #1089-16360158

SHARE

SAVE

Verification URL

<https://www.sololearn.com/Certificate/1089-16360158/pdf/>



9/11/2020, 20/06/2020

## Files & Error Handling

### Working with files

#### Accessing files

An external file can be opened, read from, and written to by a program.

→ stdio.h library includes file handling function

→ FILE typedef for defining a file pointer

- 1) r - open for reading  
w - open for writing  
a - open for append  
r+ - open for reading & writing

w+ - overwriting

a+ - appending reading & writing

#include <stdio.h>

int main() {

FILE \*fp;

fp = fopen("myfile.txt", "w");

if (fp == NULL) {

printf("Error opening file\n");

return -1;

fclose(fp);

return 0;

## Reading from a file.

The stdio.h library also includes functions for reading from an open file.

fgetc(fp) → Returns next character from file pointed by fp

fgetc(buf, n, fp) reads n-1 characters  
fscanf(fp, conversion-specifiers, vars) → Reads characters from character file by fp & assigns output to a list of variable pointers vars with conversion-specifiers.

assigns output to a list of variable pointers vars with conversion-specifiers.

## Writing to a file

The stdio.h library also includes functions for writing to a file.

'\n' must be explicitly added

fputc(char, fp) → writes character char to the file pointed to by fp.

fputs(str, fp) writes string str to the file pointed to by fp.

fprintf(fp, str, vars) prints string to the file pointed to by fp.

## Binary file I/O

rb - open for reading

wb - open for writing

ab - open for append

\* rb+ open for reading & writing  
\* wb+ open for reading & writing & overwriting

\* ab+ open for reading & writing & append to file

## Binary File I/O

FILE \*fp;

int arr[10];

int x[10];

int k;

for (k=0; k<10; k++)

arr[k] = k;

fp = fopen("datafile.bin", "wb");  
fwrite(arr, sizeof(arr[0]), sizeof(arr)/sizeof(arr[0]), fp);

fclose(fp);

fp = fopen("datafile.bin", "rb");

fread(x, sizeof(arr[0]), sizeof(arr)/sizeof(arr[0]), fp);

fclose(fp);

for (k=0; k<10; k++)

printf("%d", x[k]);

## \* Controlling the file pointer

fgetc(fp) returns long int value corresponding to the file pointer position.

fseek(fp, num\_bytes, from\_pos);

SEEK - SET start of file  
SEEK - CUR current position  
SEEK - END end of file.

### Error handling

Exception handling  
Central to good programming  
practices is error handling techniques  
It is also called error handling

### Exit command

Immediately stop the  
execution of a program  
and send an exit code  
back to the calling  
process

### Using the Error codes

#### using errno

error code is set in a  
global variable named  
errno, which defines error

we use errno with extern int errno; Preprocessor operator

### Preprocessor Directives

The C preprocessor uses two  
# directives make two  
substitutions in the program  
source code before compila-  
tion.

#include including heads  
#define, #undef, #ifdef  
and #undef macros

#ifdef, #ifndef, #if, #else  
#elif, #endif, conditional  
compilation.

#pragma implementation  
and compiler specific.

#error, #warning w/p.  
an error or warning

### conditional compilation directives

#ifdef, #ifndef, #undef =>  
#define.

#ifndef TERM.

### #operator

#macro operator called  
stringification or stringizing

> ## operator is also the token pasting operator.  
Because it appends, or "pastes", tokens together.

```
#define VAR (name, num) name##num
```

```
int x1 = 125;
```

```
int x2 = 250;
```

```
int x3 = 500;
```

```
printf ("%d\n", VAR (x, 3));
```

# CERTIFICATE

SOLOLEARN

Issued 18 June, 2020

*This is to certify that*

**Poorvihj**

*has successfully completed the*

**C Tutorial course**



**Yeva Hyusyan**  
Chief Executive Officer

Certificate #1089-16360158

