# WEEK 14 Programming For Problem Solving

## List all predefined file functions with relevant file types.

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| --- | --- |
| File operation | Declaration & Description |
| fopen() – To open a file | Declaration: FILE \*fopen (const char \*filename, const char \*mode)fopen() function is used to open a file to perform operations such as reading, writing etc. In a C program, we declare a file pointer and use fopen() as below. fopen() function creates a new file if the mentioned file name does not exist.FILE \*fp; fp=fopen (“filename”, ”‘mode”);Where, fp – file pointer to the data type “FILE”. filename – the actual file name with full path of the file. mode – refers to the operation that will be performed on the file. Example: r, w, a, r+, w+ and a+. Please refer below the description for these mode of operations. |
| fclose() – To close a file | Declaration: int fclose(FILE \*fp);fclose() function closes the file that is being pointed by file pointer fp. In a C program, we close a file as below. fclose (fp); |
| fgets() – To read a file | Declaration: char \*fgets(char \*string, int n, FILE \*fp)fgets function is used to read a file line by line. In a C program, we use fgets function as below. fgets (buffer, size, fp);where, buffer – buffer to  put the data in. size – size of the buffer fp – file pointer |
| fprintf() – To write into a file | Declaration: int fprintf(FILE \*fp, const char \*format, …);fprintf() function writes string into a file pointed by fp. In a C program, we write string into a file as below. fprintf (fp, “some data”); or fprintf (fp, “text %d”, variable\_name); |

## Write a program in C to write multiple lines in a text file. Test Data : Input the number of lines to be written : 4 :: The lines are :: test line 1 test line 2 test line 3 test line 4 *Expected Output* :

## The content of the file test.txt is :

## test line 1

## test line 2

## test line 3

## test line 4

#include <stdio.h>

int main() {

FILE \*file;

char line[100];

int numLines, i;

// Get the number of lines to be written

printf("Input the number of lines to be written: ");

scanf("%d", &numLines);

// Open the file for writing

file = fopen("test.txt", "w");

// Check if the file is successfully opened

if (file == NULL) {

printf("Error opening the file.\n");

return 1;

}

// Write the lines to the file

printf("Enter the lines:\n");

for (i = 0; i < numLines; ++i) {

// Read a line from the user

scanf(" %[^\n]", line);

// Write the line to the file

fprintf(file, "%s\n", line);

}

// Close the file

fclose(file);

// Open the file for reading

file = fopen("test.txt", "r");

// Check if the file is successfully opened

if (file == NULL) {

printf("Error opening the file for reading.\n");

return 1;

}

// Display the content of the file

printf("\nThe content of the file test.txt is:\n");

while (fgets(line, sizeof(line), file) != NULL) {

printf("%s", line);

}

// Close the file

fclose(file);

return 0;

}