

SHORT QUESTIONS

Q.1 What is a File?

Ans. The data is stored in the form of files. A file is a set of related records.

Q.2 What is a Stream?

Ans. A stream is a logical interface to a file. A stream is associated to a file using an open operation. A stream is not associated to a file using a close operation. Stream refers to flow of data from source to destination. There are two types of streams.

Text Stream

Binary Stream

Q.3 What are Text Streams?

Ans. A text stream is a sequence of characters. Character translations may occur in a text stream e.g. new line is represented as carriage return. There may not be one to one relation between the characters written and those on the external device.

Q.4 What is a Binary Stream?

Ans. It is a sequence of bytes. The number of bytes written or read is always the same as those on the external device. It means there is one to one relation between the bytes written or read and those on the external device. No character translations occur in binary stream. Some additional bytes such as the file sector on the disk are added to the binary stream.

Q.5 What is BOF?

Ans. The start of first byte or character in a file is called Beginning of file (BOF).

Q.6 What is EOF?

Ans. The end of last byte or character in a file is called End of file (EOF). EOF characters are placed after the last character in C.

Q.7 What is Current position?

Ans. The position where data read or data write operations are performed is called current position.

Q.8 What is new line?

Ans. Enter key is used in text editor for new line but in C new line character is `\n` to be placed at the end of each line.

Q.9 What is File Opening?

Ans. Before read or write operations, a file must be opened. All standard file handling functions of C are declared in `stdio.h`. When a file is opened, a portion of memory is reserved for file to read and write this memory is called memory buffer.

Q.10 What is flushing of buffer?

Ans. The transfer of data from buffer to the disk is called flushing of buffer. The writing and reading through file through disk is time consuming, therefore time of reading and writing data to a file is reduced through buffer.

Q.11 What is a Pointer?

Ans. A pointer is like a variable whose content is the address of another memory cell (variable). * represents a pointer to the variable with which it is used.

Q.12 What is a file pointer?

Ans. A file is not directly accessible in C. Files are accessed through I/O buffers. A file pointer is a variable of `FILE` type defined in `stdio.h` `FILE *` represents a pointer to a variable of `FILE` type

Q.13 What is `fopen( )` function?

Ans. The `fopen( )` function is used to open a file. The function prototype is:

`FILE *fopen(const char *filename, const char *mode);` or

`FILE *fp;        // it specifies the file pointer.`

`fp = fopen (file, mode);`

The `fopen` function returns the null pointer, if it fails to open the file (most common reason is file does not exist).

Example: `FILE *fpr`

`fpr = fopen ("C:\\TC\\XYZ.DAT", "r");`

Q.14 What is File opening Modes/ File Access Modes?

Ans. A file can be opened to perform various operations e.g. reading, writing, appending, these operations are represented as modes e.g. "r" is used for reading.

Q.15 What is the meaning of "r" in file opening modes?

Ans. "r" open a text file for reading, each file must exists before reading .

Q.16 What is the meaning of "w" in file opening modes?

Ans. "w" open a text file for writing, if the file already exists then it contents are overwritten, if it does not exists, it will be created.

Q.17 What is the meaning of "a" in file opening modes?

Ans. "a" open a text file for append. Data is appended at the end of existing file. If the file does not exist, it will be created.

Q.18 What is the meaning of "r+" in file opening modes?

Ans. "r+" opens a file for both reading and writing. The file must already exists

Q.19 What is the meaning of “w+” in file opening modes?

Ans. “w+” opens a file for reading and writing, its contents are overwritten. If the file does not exist, it is created.

Q.20 What is the meaning of “a+” in file opening modes?

Ans. “a+” opens a text file for both reading and appending. If the file does not exist, it is created for both reading and writing.

Q.21 What is File Closing?

Ans. An open file must be closed after completing the tasks. When a file is closed then the buffer is flushed (data is transferred on the disk). If the file is not closed then the data may be lost.

Q.22 What is fclose() function?

Ans. The fclose() function is used to close a file.

Syntax:

fclose(fp);

Where fp is a file pointer associated to a file which is to be closed. fclose() function returns 0 if the close operation is successfully completed. fclose() function returns EOF if any error occurs.

Q.23 What is the function of putc()?

Ans. The putc() function writes a single character to the file. The putc() function returns the character, if it successfully writes it. The putc() function returns the EOF if an error occurs.

Syntax:

putc(character ch , file_pointer);

Character ch can be character, int, constant or a variable. File pointer specifies variable of FILE type associated with the file in which character is to be written.

Q.24 What is the function of getc()?

Ans. The getc() function reads the next character from the file. If an error occurs it returns EOF. The getc() function also returns EOF when the EOF is encountered. The file must be in open mode to use this function. It automatically moves the next character when it this function is again used.

Syntax:

Variable = getc(file_pointer);

Variable is a character variable to which the character read from the file.

Q.25 What is a string and what is the function of character array in strings?

Ans. String is a combination of characters and it is enclosed in double quotes e.g. “ali”
Character array is used to hold strings.

char name_of_string_variable [string_length];

char is data type and string length is the number of characters in a string. A string variable can also be declared without specifying the number of characters. The

variable that is used to store a string is called string variable. The last character of a string must be a Null character \0 i.e. Null character \0 is added to the end of the string. Null character \0 is also included in the string length. C uses string.h header file to handle the strings.

Q.26 What is a string variable?

Ans. The variable that is used to store a string is called string variable.

```
char name_of_string_variable [string_length];
```

A string variable can also be declared without specifying the number of characters. The last character of a string must be a Null character \0 i.e. Null character \0 is added to the end of the string. Null character \0 is also included in the string length. C uses string.h header file to handle the strings.

Q.27 What are the most common string functions?

Ans. `fputs( )`
`fgets( )`
`strcpy( )`

Q.28 What is the function of fputs()?

Ans. It is used to write a string of characters in to a file. This function writes the string until the null character \0 is reached. It does not add the null character to the file. The file must be opened or in append mode to write this function.

Syntax:

```
fputs(string, file_pointer)
```

string are the characters that are to be written in the file.

Example:

```
FILE *fp;  
fp = fopen("test1.txt", "w");  
fputs("The String of your choice :", fp);  
The above string is written in test1.txt file.
```

Q.29 What is the function of fgets()?

Ans. It is used to read a string of characters of a certain length from a file. The file must be opened or in append mode to write this function.

Syntax:

```
fgets(string or string variable, n, file_pointer)
```

n is the number of characters read from the file.

Q.30 What is Formatted I/O?

Ans. The formatted file input and output functions are used for reading and writing formatted data. In formatted I/O data is read or data is written in a specific manner in the file.

Q.31 What is the function of fprintf()?

Ans. The fprintf() function is used for formatted output in a file. Its Syntax is:

```
fprintf(file_pointer, control_string, arguments);
```

The arguments are variables and are optional.

Q.32 What is the function of fscanf()?

Ans. The fscanf() function is used to read formatted data from a file. Its syntax is:

fscanf(file_pointer, control_string, arguments);

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