File system and input & output

File – It is a container in a storage device to store data

- RAM is volatile.
- Contents are lost when program terminates.
- Files are used to persist the data.

Operation on files

- Create a file
- Open a file
- Close a file
- Read from a file
- Write from a file

Types of files

- Text files – textual data. Ex - .txt, .c, .java, .py, .js
- Binary files – binary data. Ex - .exe, .mp3, .jpg

File pointer

File is a structure that needs to be created for opening a file. A FILE ptr that points to this structure and is used to access the file.

FILE *fptr;

Opening a file

FILE *fptr

fptr = fopen("filename", mode);

mode = read, write, etc..

Closing a file

fclose(fptr);

File opening modes

- “r” – open to read
- “rb” – open to read in binary
- “w” – open to write
- “wb” – write in binary
- “a” – open to append

Reading from a file

char ch;

fsacnf(fptr, “%c”, &ch);

Writing a file

char ch = “M”;

fprintf(fptr, “%c”, &ch);

Read and Write a character

fgetc(fptr);

fputc(‘A’, fptr);

End of file(EOF)

fgetc returns EOF to show that the file has ended.