



C Programming

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# File I/O

- Facts and figures and information can be permanently stored on storage device.
- Each file have data (contents) and metadata (information).
- File IO can enable read/write file data.
- File Input Output
  - Low Level File IO
    - Explicit Buffer Management. Use File Handle.
  - High Level File IO
    - Auto Buffer Management. Use File Pointer.



# Types of File – Library Functions

- **Text File**

- I/O Operations can be performed on text file using
- **Unformatted Functions**
  - fgetc – Helps to read a character one byte data from text file.
  - fputc – Helps to write a character byte data to a file.
  - fgets – Helps to read buffer size data from file.
  - fputs – Helps to write buffer size data to a file.
- **Formatted Functions**
  - fscanf – Helps to read different type of data from file.
  - fprintf – Helps to write different type of data to a file.



# Types of File – Library Functions

- **Binary File**

- I/O Operations can be performed on text file using
  - fread – Helps to read binary data from a file
  - fwrite – Helps to write data to a file in binary format
- fopen – loads file in specified mode for I/O operations.
- fclose – unloads file which is associated to file pointer.
- fseek – helps to reposition file pointer from SEEK\_SET, SEEK\_CUR, SEEK\_END
  - **SEEK\_SET = 0, SEEK\_CUR=1, SEEK\_END=2**
- rewind – helps to reposition file pointer at the 0 offset position
- ftell – helps to understand current file offset position



# I/O Modes

- File can be opened for Input Output process in different modes:
- w loads file in write mode. If file does not exist create new one and if already exists then overwrites existing one.
- w+ loads file for write and read.
- r loads file for reading purpose.
- r+ loads file for read and write purpose.
- a loads file to write in append mode. If file does not exist creates new one.
- a+ loads file to read and write in append mode
- However character b can be appended if file is to be open in binary mode.





Thank you!

