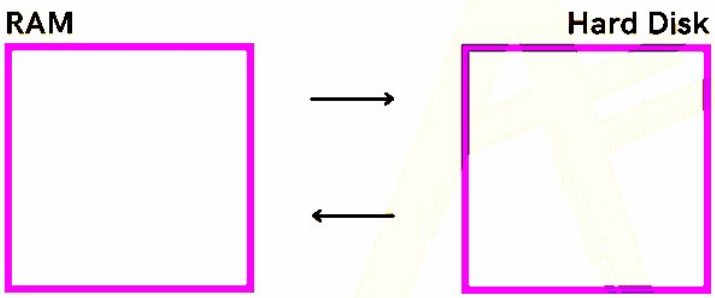
File IO



File IO

FILE - 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 in a File

Types of Files

Text Files	Binary Files
textual data	binary data
.txt, .c	.exe, .mp3, .jpg

File Pointer

FILE is a (hidden)structure that needs to be created for opening a file

A FILE ptr that points to this structure & is used to access the file.

```
FILE *fptr;
```

Opening a File

```
FILE *fptr;

fptr = fopen("filename", mode);
```

Closing a File

```
fclose(fptr);
```

File Opening Modes

"r" open to read

"rb" open to read in binary

"w" open to write

"wb" open to write in binary

"a" open to append

BEST Practice

Check if a file exists before reading from it.

Reading from a file

```
char ch;

fscanf(fptr, "%c", &ch);
```

Writing to a file

```
char ch = 'A';

fprintf(fptr, "%c", ch);
```

Read & Write a char

```
fgetc(fptr)

fputc( 'A', fptr)
```

EOF (End Of File)

fgetc returns EOF to show that the file has ended