

File System Management : A file is a collection of related info defined by its creator

if we have file a.txt and it is created by user 1.
 (This file may contain personal detail of the user & Account details)

→ In general file is a sequence of bits, bytes, lines or record. [name - user]

Some Example of file Types

↳ Text file - sequence of character organized in to lines

→ Source file - sequence of subroutines or function

→ Object file -

if source we have source file 'a' and it contains

a ← f(1) → calling (it is executable file)
 f(2)

Object file - collection of words, which is organized in to loader Record Blocks

File Attributes : Are the parameter used to keep track of file in OS

- i) Name - Human Readable form (FileName) (a)
- Identifier → Unique ID, numbers (123) a₁, a₂, a₃
- Type → File Type (txt) sⁿ.txt
- Location → Pointer to a device and location of file on device
- Size - Current size of (1024 KB)
- Protection - Access Control in (file User Read) (a U₁ R)
- Time & Date - ^{When} (creation, Modification, Deletion)
- User ID - User identification

File Operation :

Creating a file $\left\{ \begin{array}{l} \text{space (v)} \\ \text{Entry for New file} \end{array} \right.$

Writing a file → [Write a(file) content (ABC)]

Reading a file → Read (a)

Repositioning file → (file seek)

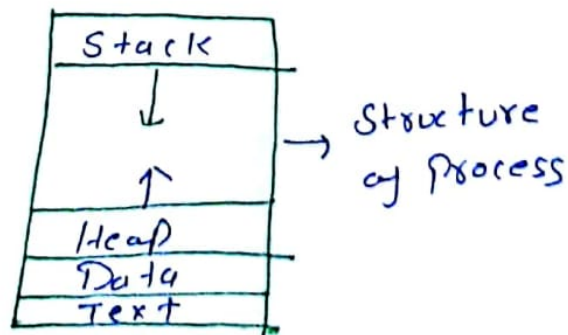
Deleting a file →

Truncating a file - Deleting Only Contents

Process :- Process is an active entity with a Program Counter that specifies the next instruction to execute and a set of Resource associated with process

Parts of Process

- 1-) Text Section :- It include the current activity which is represented by the value of the Program counter and the contents of processor's register
- 2-) Stack - It contains temporary data such as function parameter, return address and local variable
- 3-) Data :- It contains Global Variable



1-) Heap :- It is the memory which is dynamically

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allocated during Process Run time.

Program :- A Program is a passive entity
ex - A file containing a list of instruction to be stored on disk

Base of Comparison

Program

Process

Program is a set of instruction

When a prog is executed it's mean as process

Nature

Passive

Active

Lifetime

Longer

Limited

Required

It is spread on Disk

It hold Resources such as CPU, Memory, I/O etc

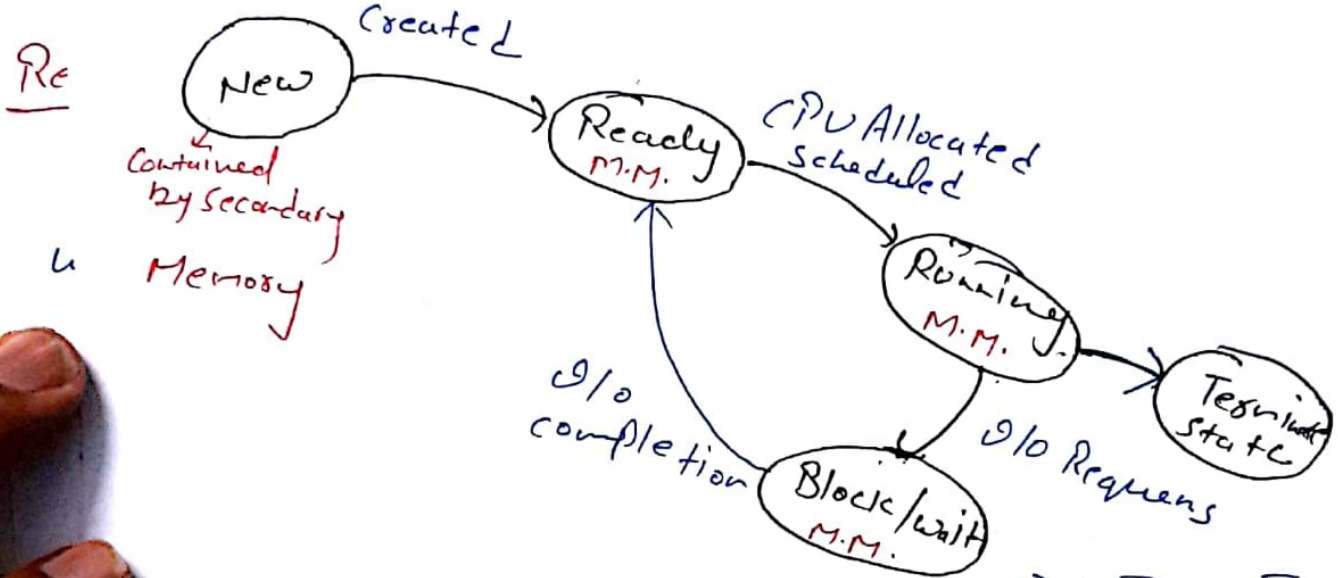
Resources

In same file and not require any other Resource

Note - It is possible that will be associated with Program . In that case '1' but process will e.m. instlon

two process the same prog will be 'two'

Ne Process State Diagram



M.M. - Main Memory

→ जब तक

Process Block state में है तब तक कोई दूसरा Process Ready से Running state में आ जायेगा।

⇒ Suppose Ready state में तीन Process हैं। P₁, P₂, P₃ तब P₁ पहले Running state में आया लेकिन जब P₂ create हुआ और उसकी Priority P₁ से ज्यादा है उस Condition में P₂ Running में आ जायेगा और P₁ Ready में भेज दिया जायेगा।

waiting! - The -

New - When the process is Under Creation then we say that process is in new state.

It is the first state of any process

Ready! When the process is waiting to be assigned to a processor then we say that process is in Ready state. Many process can be in a Ready state.

From the group of many process in Ready state one of the process is selected and assigned to the processor.

Running! When the process is being executing then the process will be in Running state.

Only one process can be in Running state at a time

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Pc 8.m.05.06

Waiting | The process is waiting for some event to occur such as I/O request or wait for subprocess's termination. More than one process can be in waiting state.

Terminate | When the process has finished its all execution.

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