# FILE OPERATIONS(CONT..)

From operational point of view, a user should be able to create a file
We will considered him/her as owner of the file.

| *Usage* | *Editor-based operation* | *OS terminology and description* |
|---|---|---|
| Create | Under FILE menu NEW | A CREATE command is available with explicit read/write option |
| Open | Under FILE menu OPEN | An OPEN command is available with explicit read write option |
| Close | Under FILE menu CLOSE<br>Also when you choose QUIT | A file CLOSE option is available |
| Read | Open to read | Specified at the time of open |
| Write | Save to write | Specified at the time of open |
| Rename or copy | Save as file name | Can copy using a copy command |
| Cut and Paste | Via a buffer | Uses desk top environment CDE |
| Join files | | Concatenation possible or uses an append at shell level |
| Delete | Under FILE use delete | Use remove or delete command |
| Relocate | | A move command is available |
| Alias | | A symbolic link is possible |
| List files | OPEN offers selection | Use a list command in a shell |

| *Usage* | *Unix shell command* | *MS DOS command* |
|---|---|---|
| Copy a file | cp | COPY |
| Rename a file | mv | RENAME |
| Delete a file | rm | DEL |
| List files | ls | DIR |
| Make a directory | mkdir | MKDIR |
| Change current directory | cd | CHDIR |

# FILEACCESSANDSECURITY

In Unix, owner of a file can change its permissions using chmodcommand which has a syntax as follows:
chmodpattern fileNameas in chmod644 myFile
e.g: 644 corresponds to the pattern rw-r--r--
664 corresponds to the patternrw-rw—r--
ls–l command displays the access permissions of a file.

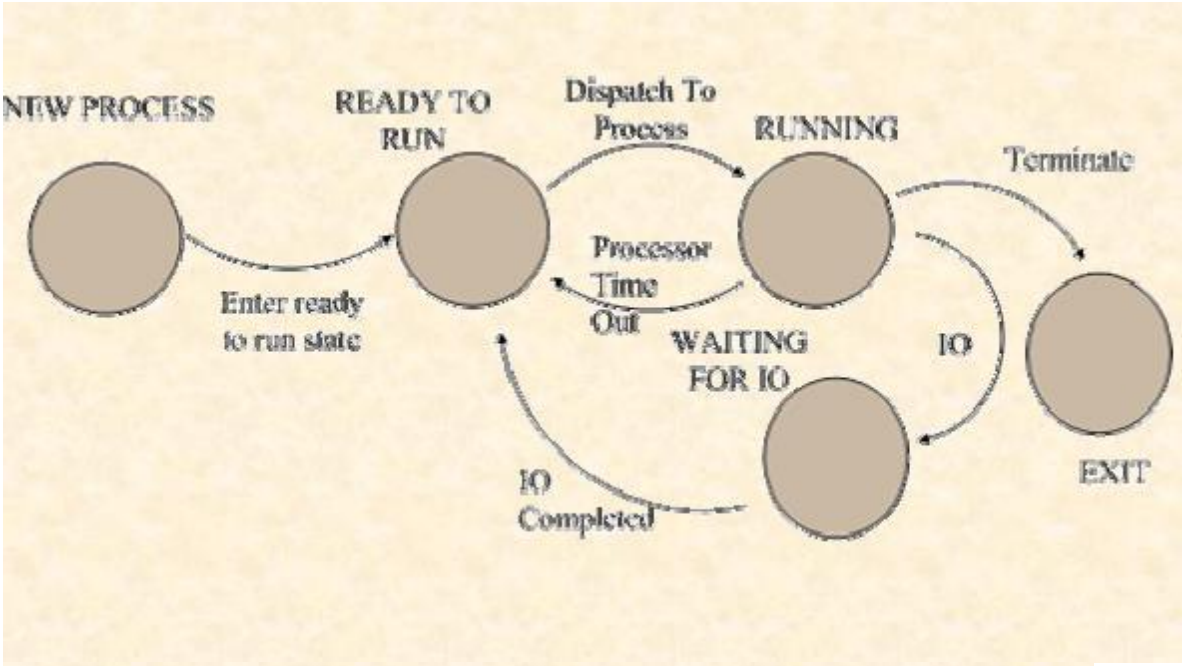
Unix internally recognizes 4 different file types
(1)ordinary(2) directory(3) special and (4)named.

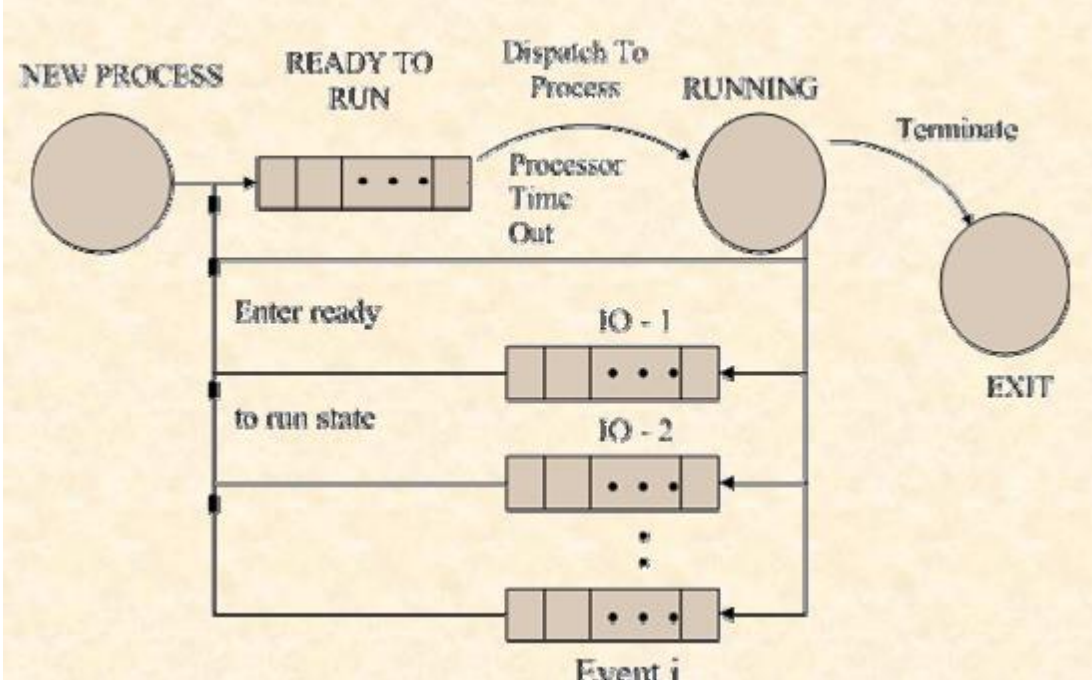
Inodestructure is used by Unix to maintain information about the named files.

## A QUEUINGMODEL

- Data structures are used for process management.
- OS maintains a queue for all ready-to-run processes.

- OS may have separate queue for each of the likely events (including completion of IO).


NEW PROCESS
READY TO RUN
Dispatch To Process
RUNNING
Terminate
Processor Time Out
Enter ready to run state
WAITING FOR IO
IO
EXIT
IO Completed


NEW PROCESS
READY TO RUN
Dispatch To Process
RUNNING
Terminate
Processor Time Out
Enter ready
IO - 1
to run state
IO - 2
EXIT
Event i

TYPESOFSCHEDULER

Short term scheduler(CPU scheduler)

Selects from among the processes that are ready to execute, & allocates the CPU to one of them.

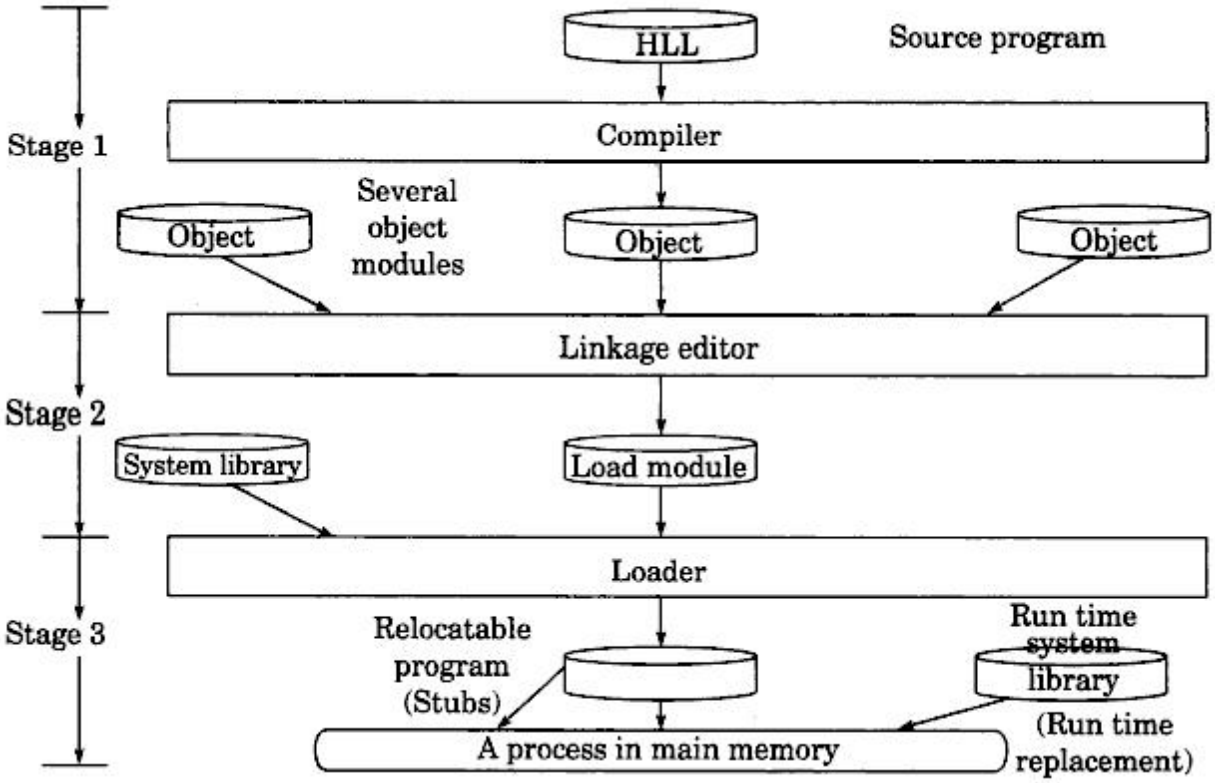
Long term scheduler(job scheduler)

Selects processes from pool which are spooled to mass storage device & loads them in memory for execution.

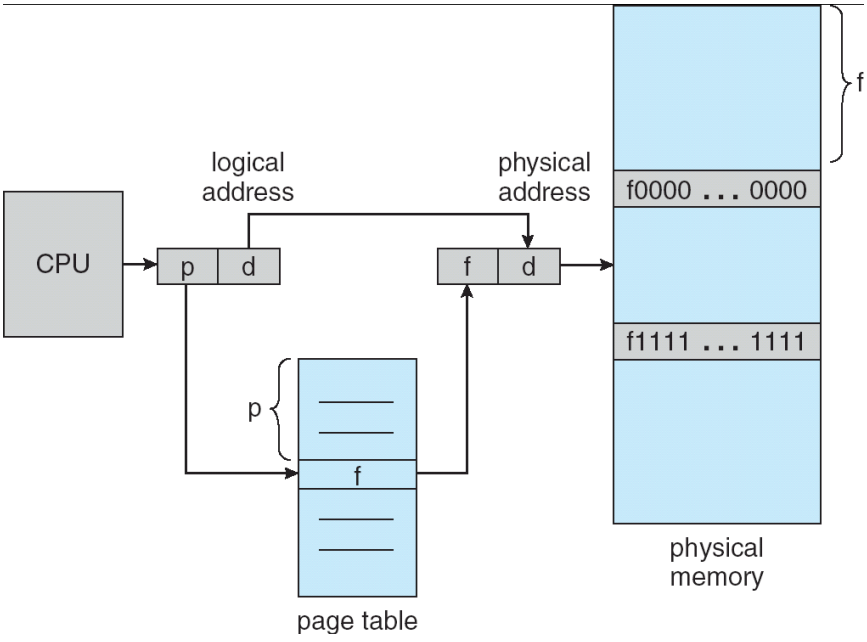
Medium term scheduler

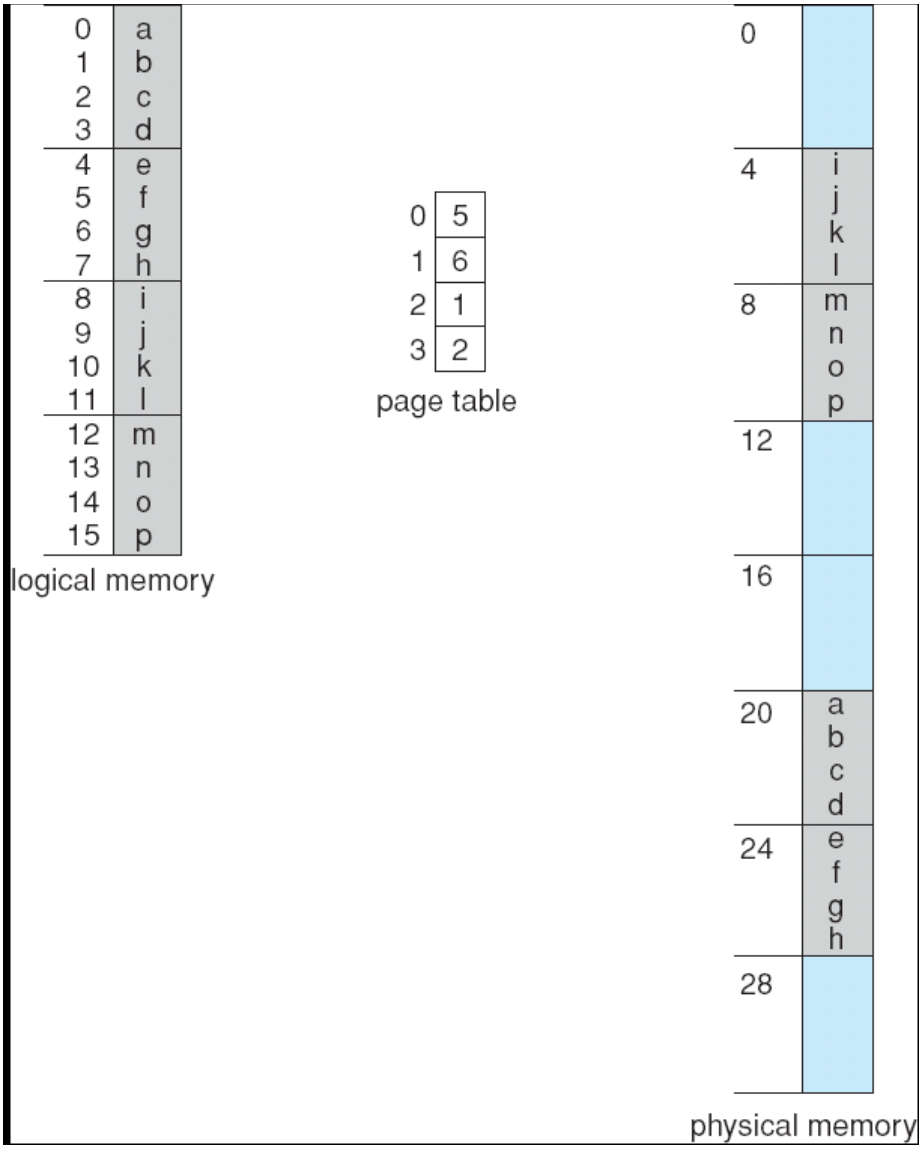
Reduces process from memory & then re-introduce memory with continuing its execution where it was left by technique of swapping.

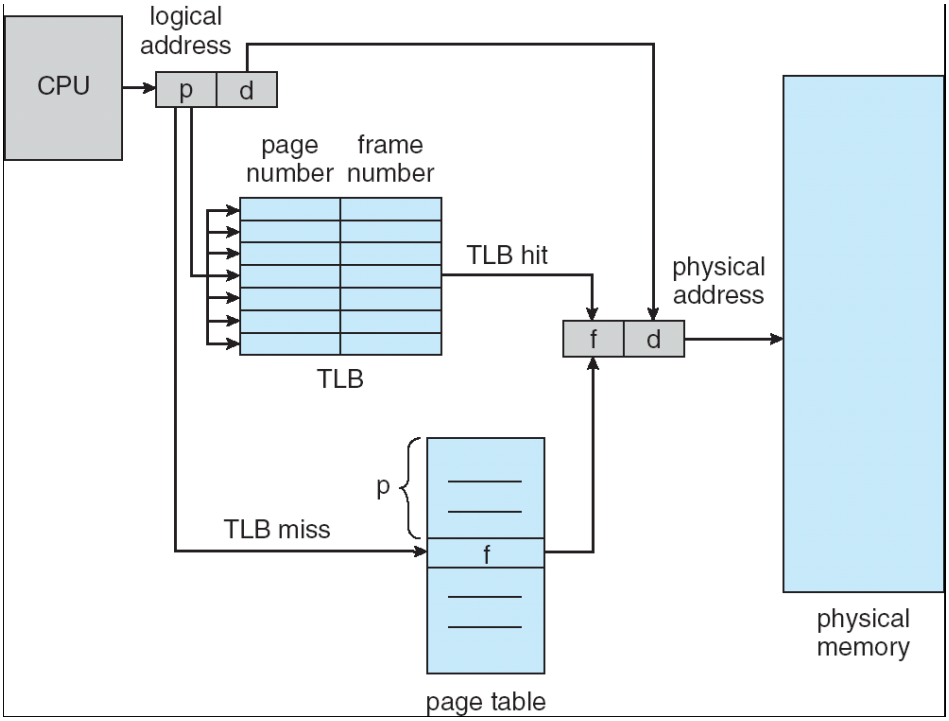
# Response Time
# Premptive
# Non Premptive Scheduling
# Context Switching
# Relocation Register
# Fifo Page replacement
## Page Fault
## Segmentation

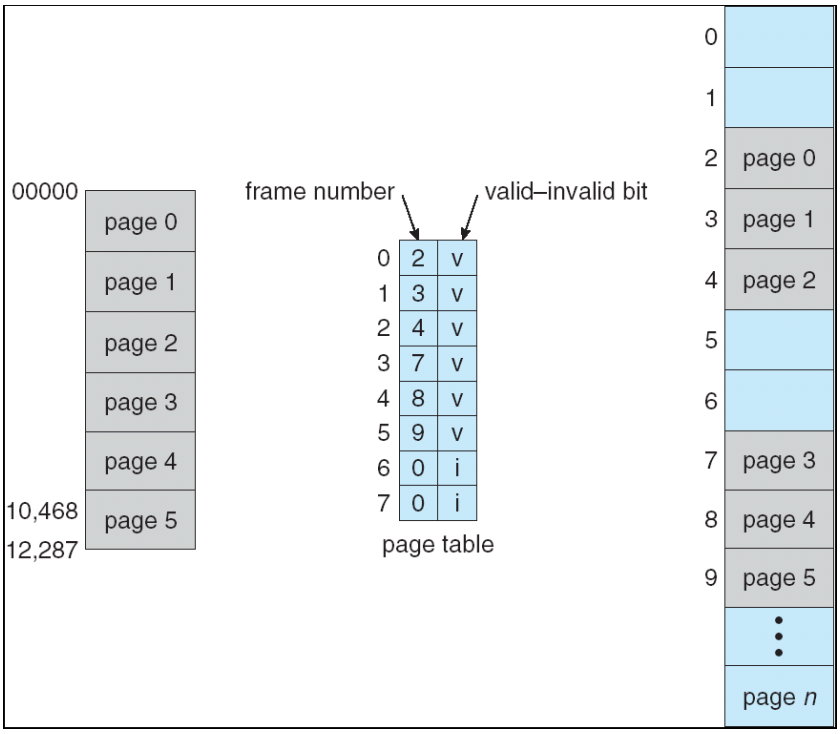

HLL
Source program
Stage 1
Compiler
Several
object
modules
Object
Object
Object
Linkage editor
Stage 2
System library
Load module
Loader
Stage 3
Relocatable
program
(Stubs)
Run time
system
library
(Run time
replacement)
A process in main memory

# Paging

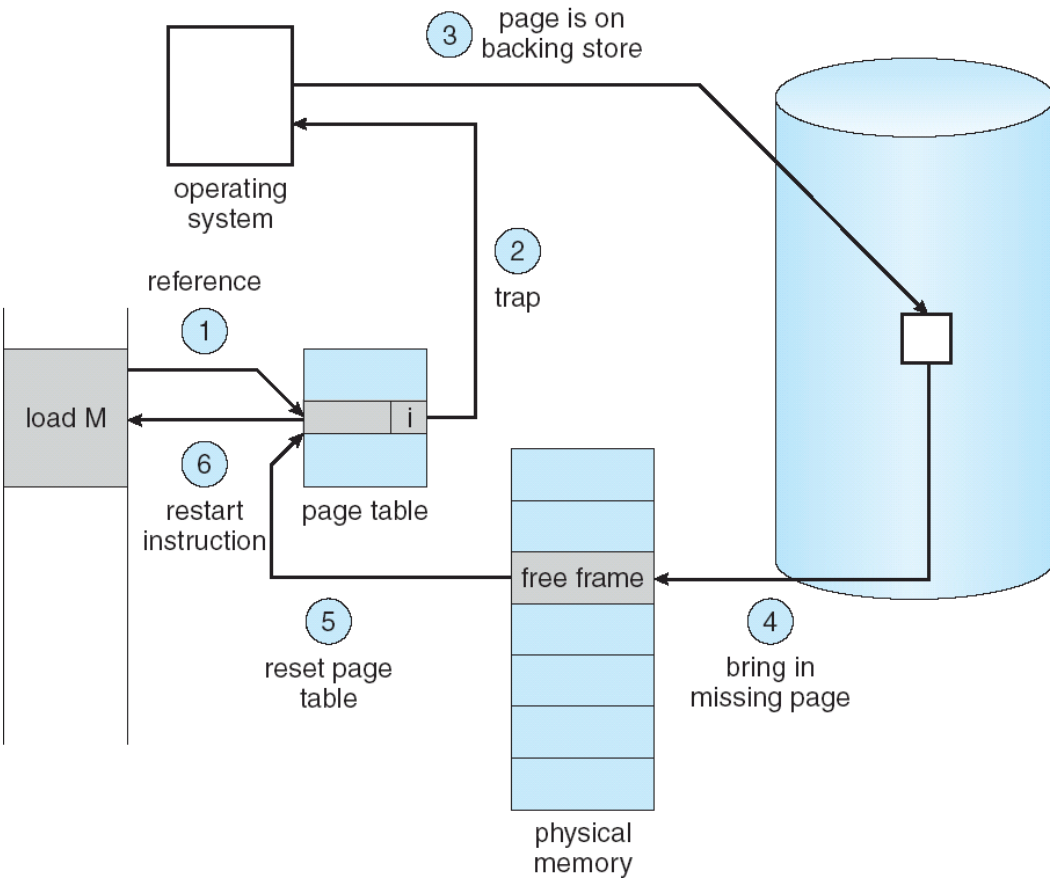

logical
address
physical
address
CPU
p
d
f
d
f0000 . . . 0000
f1111 . . . 1111
p
f
physical
memory
page table


0 a
1 b
2 c
3 d
4 e
5 f
6 g
7 h
8 i
9 j
10 k
11 l
12 m
13 n
14 o
15 p
logical memory
0 5
1 6
2 1
3 2
page table
0
4 i j k l
8 m n o p
12
16
20 a b c d
24 e f g h
28
physical memory


CPU
logical address
p
d
page number
frame number
TLB hit
physical address
f
d
TLB
p
TLB miss
f
page table
physical memory


00000
page 0
page 1
page 2
page 3
page 4
10,468
page 5
12,287
frame number
valid–invalid bit
0 2 v
1 3 v
2 4 v
3 7 v
4 8 v
5 9 v
6 0 i
7 0 i
page table
0
1
2 page 0
3 page 1
4 page 2
5
6
7 page 3
8 page 4
9 page 5
page n

## Page Fault


page is on backing store
3
operating system
2
trap
reference
1
load M
i
6
restart instruction
page table
free frame
5
reset page table
4
bring in missing page
physical memory