Date: 24-9-21

pid will start from zero

pid → 0 (scheduler)

pid → 1 (init process)

⇒ majority numbers from zero to Three hundred are all ready reserved.

32768

⇓

0 TO 32767

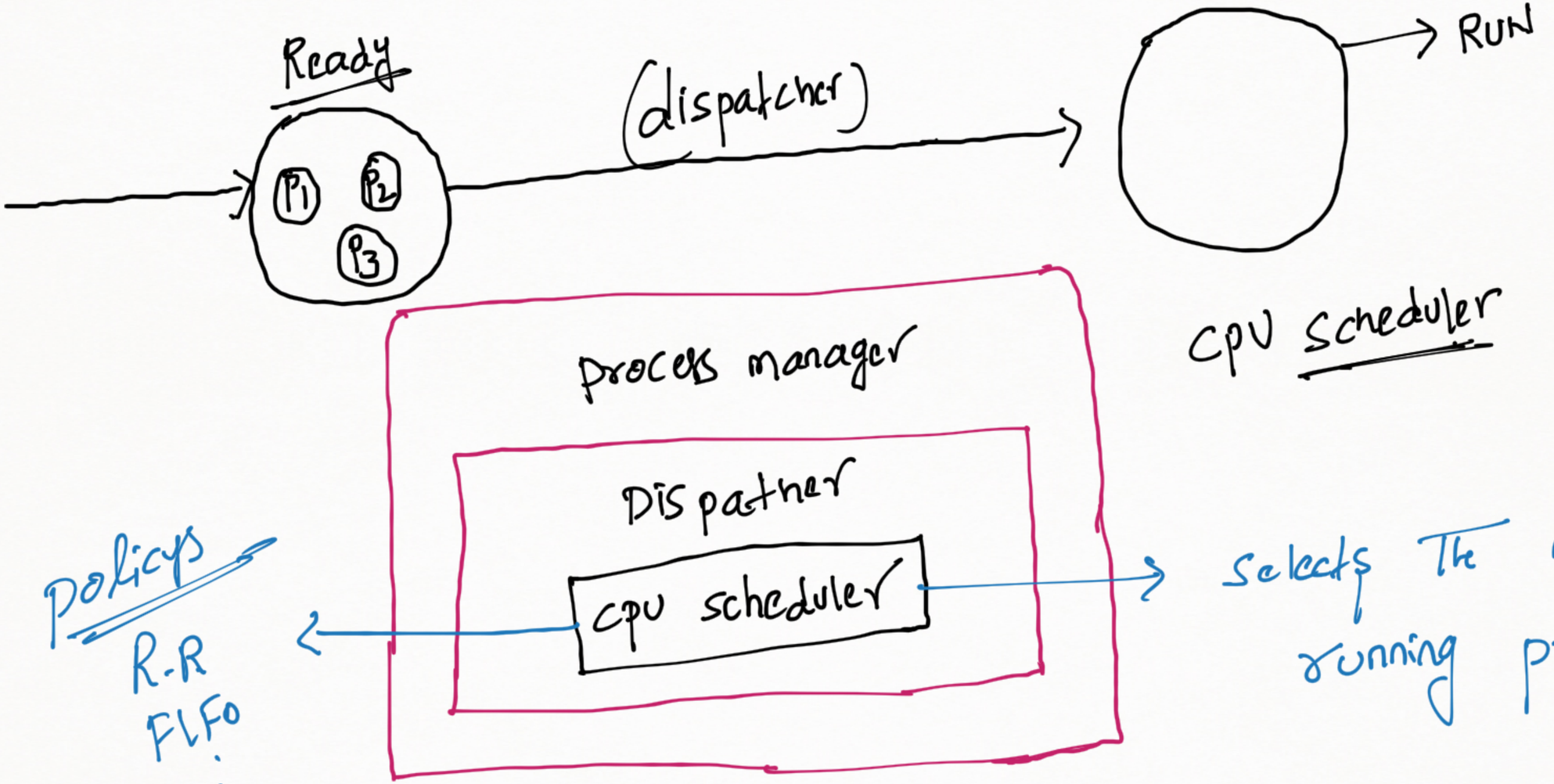
once pid numbers reaches to max value again it will restart from 300 onwards

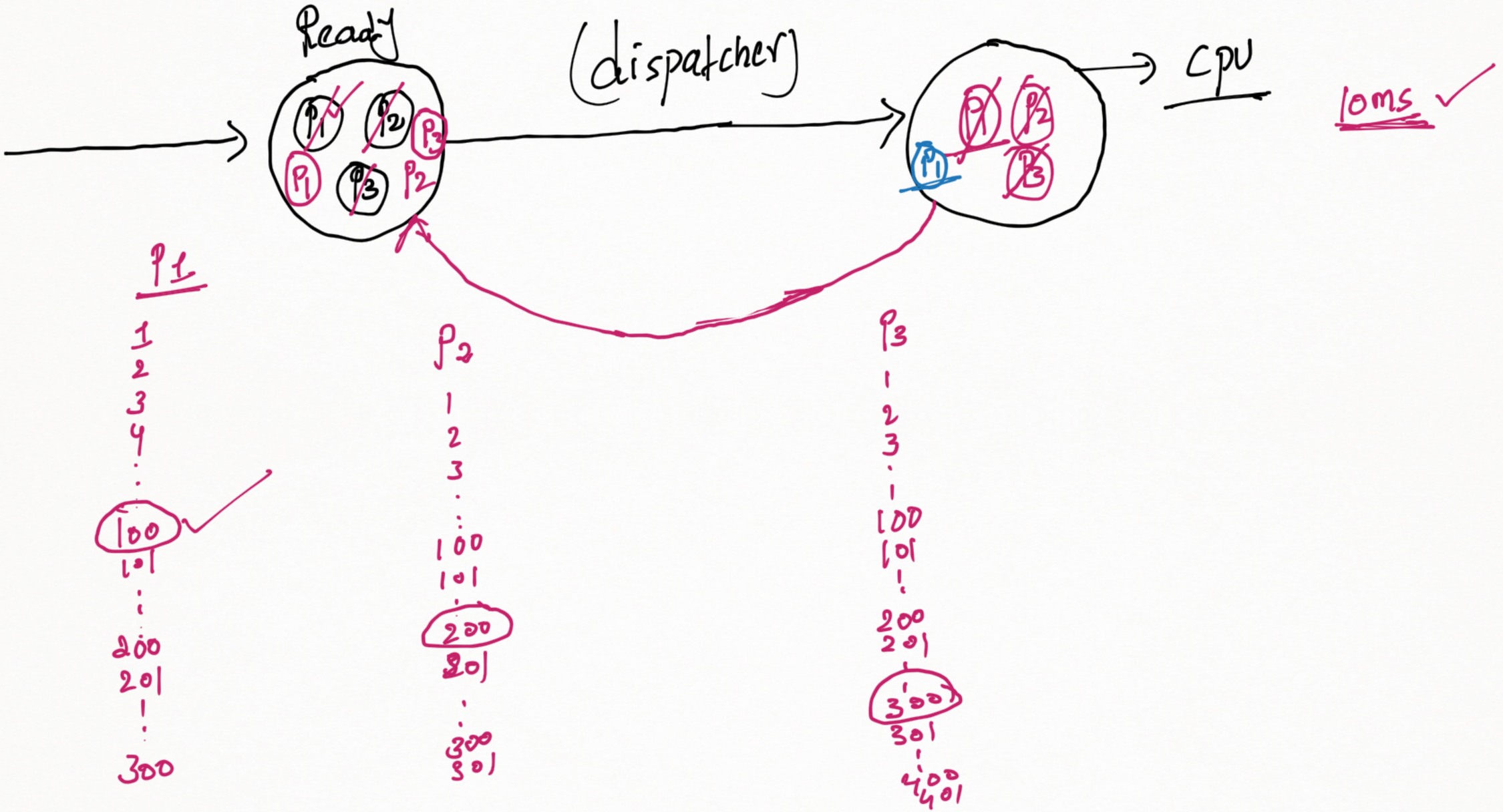
CPU bound vs I/O bound

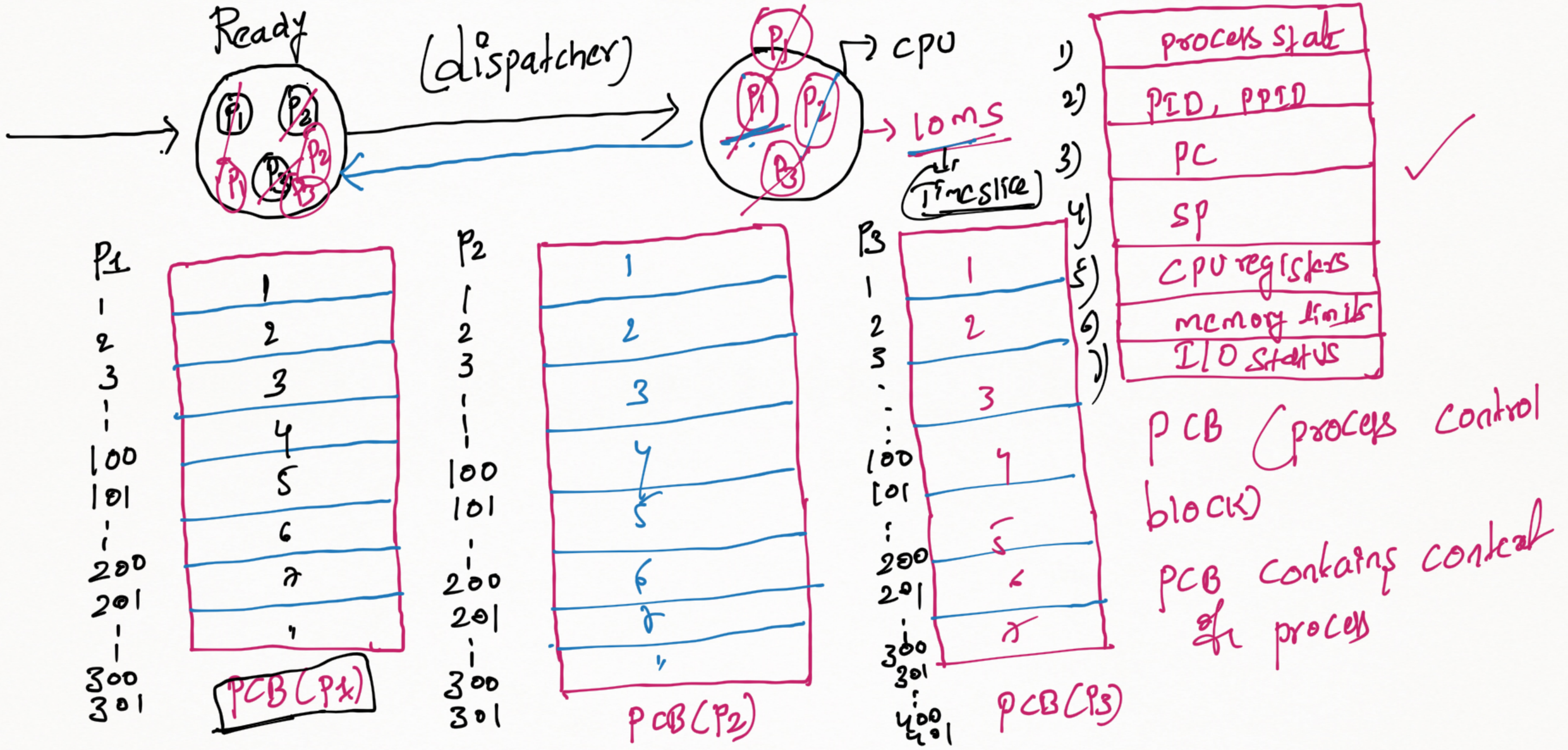
⇒ A process in its life time always demands the CPU than those type of processes are called CPU bound process.

⇒ A process in its life time always not demanding the CPU, most of the time waiting for I/O events that type of process is called I/O bound process.

Example for The I/O bound process if Shell




Ready
(dispatcher)
CPU
10ms
P1
P2
P3
P1
1
2
3
4
100
101
200
201
300
P2
1
2
3
100
101
200
201
300
301
P3
1
2
3
100
101
200
201
300
301
400
401


Ready
(dispatcher)
CPU
10ms
(or timeslice)
P1
P2
P3
1)
2)
3)
4)
5)
6)
7)
process state
PID, PPID
PC
SP
CPU registers
memory limits
I/O status
PCB (process control block)
PCB contains context of process
PCB (P1)
PCB (P2)
PCB (P3)

context switch

Context switch is the mechanism to store and restore the state or context of a CPU in process control block so that a process execution can be resumed from the same point at later time.

→ using context switch multiple process will share CPU time efficiently

→ context switch is an essential part of multiprocessing

→ switching from one process to another process called context switch.

Dispatcher: Dispatcher is a module that gives control of the cpu to the process selected by scheduler.

⇒ life of the PCB is life of the process

⇒ is context switch time is extra burden to cpu?

yes, context switch time is extra burden to cpu, but without context switch how to achieve the multiprocessing

Sol ⇒ it is impossible to make context switch time to Zero but possible to minimize with the help of Threads