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# FCFS

# FCFS:

With this scheme, the process that requests the CPU first is allocated the CPU first. The implementation is easily managed with FIFO (First In First Out) queue. Queue stores all the processes that want to be executed. When a process enters the ready queue, its PCB (Process Control Block) is linked onto the tail of the queue. When the CPU is free, it is allocated to the process at the head of the queue. The running process is then removed from the queue.

Consider,

|  |  |  |
| --- | --- | --- |
| **Process Id** | **Arrival time** | **Burst time** |
| P1 | 0 | 6 |
| P2 | 2 | 8 |
| P3 | 4 | 7 |
| P4 | 5 | 3 |
|  |  |  |

Let ,the CPU scheduling policy is Round Robin with time quantum = 2 unit

**Solve:**

*Ready Queue*

P1,p2,p3,p4

|  |  |  |  |
| --- | --- | --- | --- |
| P1 | P2 | P3 | P4 |

0 6 14 21 24

# Gant chart

we know-

* Turn Around time = Exit time – Arrival time
* Waiting time = Turn Around time – Burst time

|  |  |  |  |
| --- | --- | --- | --- |
| **Process Id** | **Exit time** | **Turn Around time** | **Waiting time** |
| P1 | 6 | 6 | 0 |
| P2 | 24 | 12 | 4 |
| P3 | 16 | 17 | 10 |
| P4 | 0 | 19 | 16 |
| Average |  | Tat=9 | Wt=7.5 |

Now,

∙ Average Turn Around time = (6+12+17+19) / 4= 54/4 = 9 unit ∙

Average waiting time = (0 + 4+ 10 + 16 ) / 4 = 30 / 4 = 7.5 unit

# Round Robin:

Round Robin(RR) scheduling algorithm is mainly designed for time-sharing

systems. This algorithm is similar to FCFS scheduling, but in Round

Robin(RR) scheduling, preemption is added which enables the system to

switch between processes.

➢ A fixed time is allotted to each process, called a quantum, for execution.

➢ Once a process is executed for the given time period that process is

preempted and another process executes for the given time period.

➢ Context switching is used to save states of preempted processes