

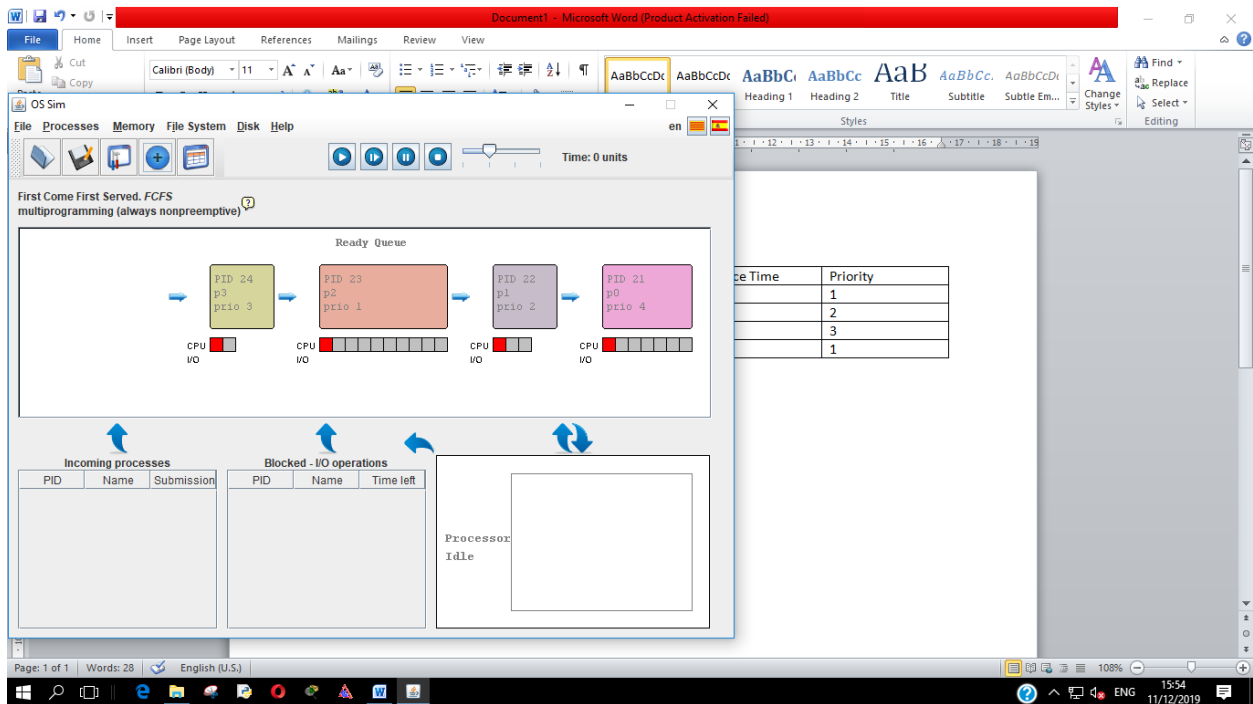
OSSIM

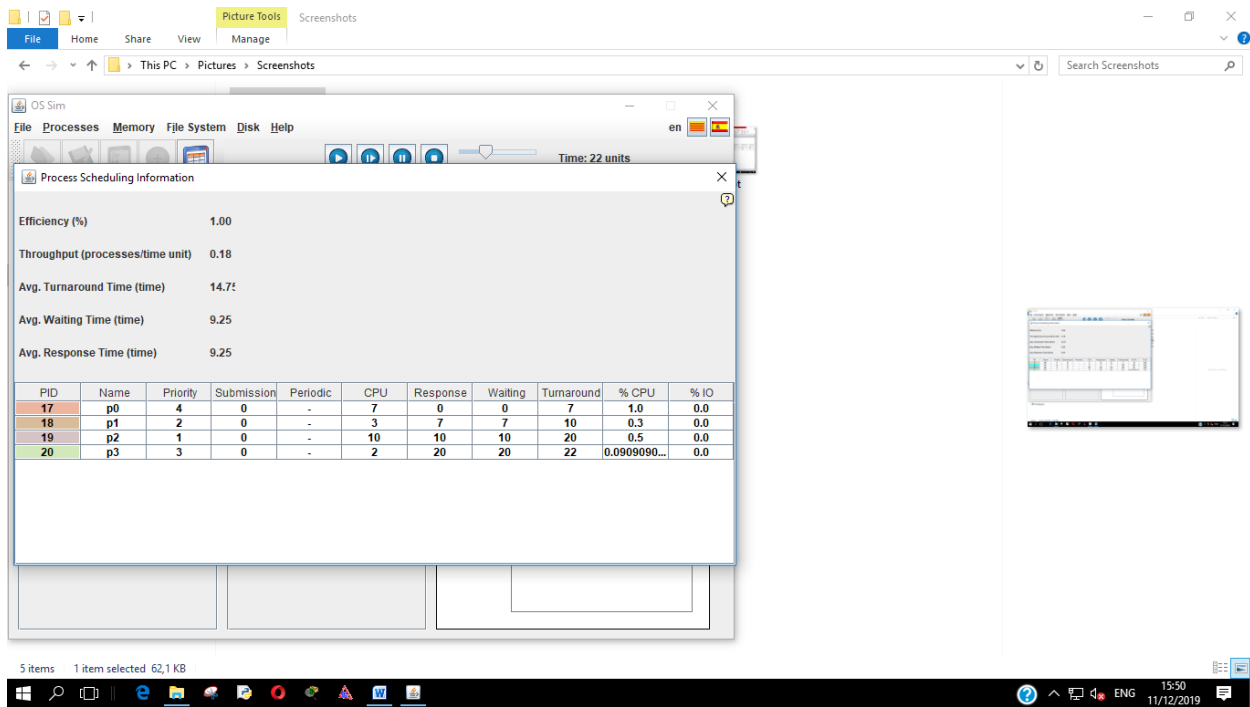
Alip Tabah Saputro

L200180215

Class E

1. FCFS

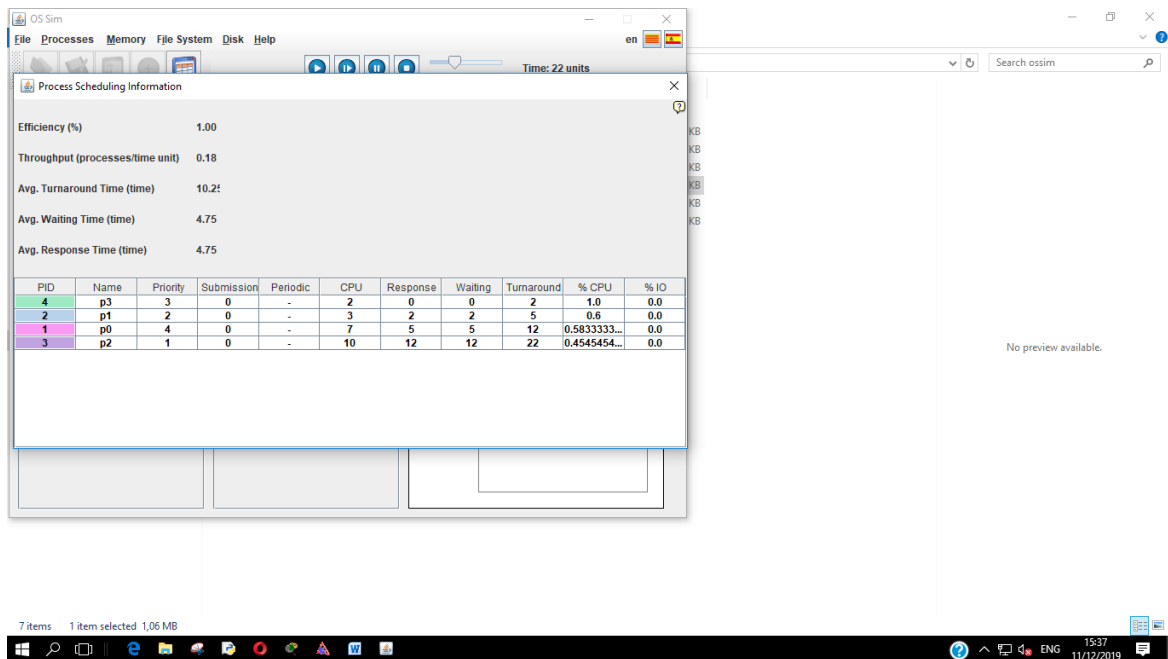
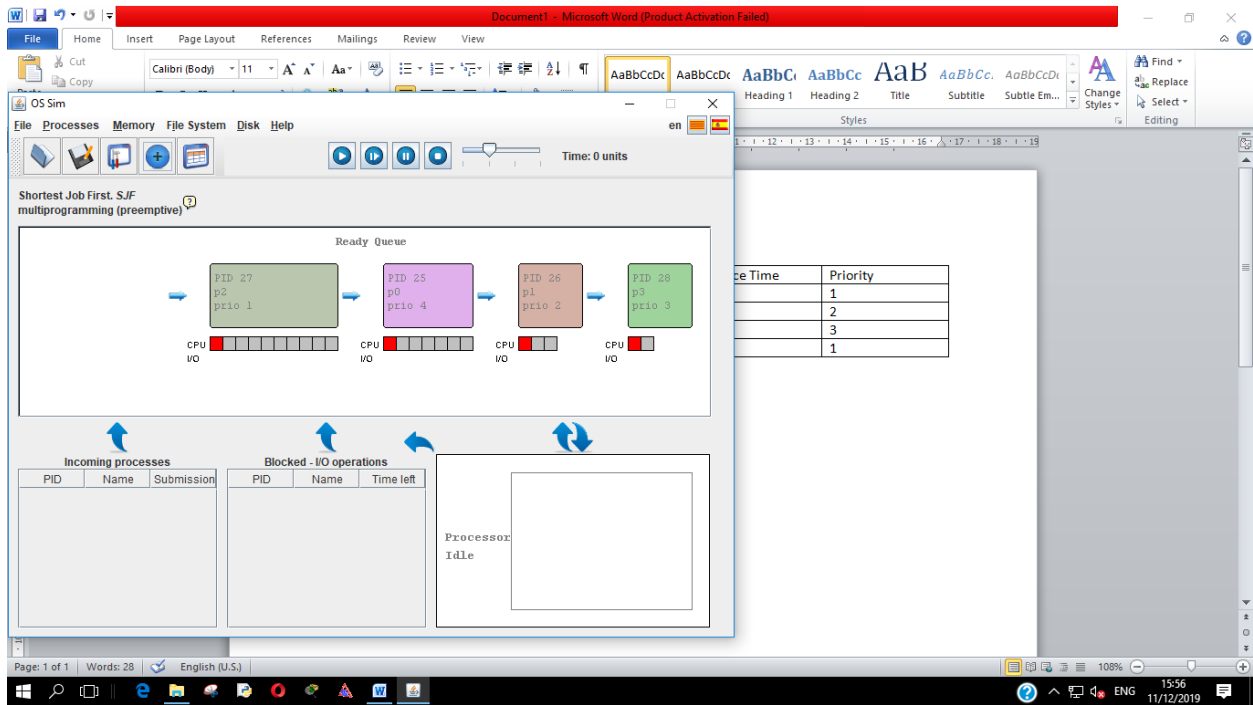




Process	Waiting Time
P0	0
P1	7
P2	10
P3	20
Av. waiting Time	9.25
Av. Turns Time	14.75
Av. Respon Time	9.25

2. SJFS

a. Preemptive



Process	Waiting Time
P0	5
P1	2
P2	12
P3	0
Av. waiting Time	4.75
Av. Turns Time	10.25
Av. Respon Time	4.75

b. Non Preemptive

OS Sim

File Processes Memory File System Disk Help

Shortest Job First, S/JF multiprogramming (nonpreemptive)

Ready Queue

PID 31 p2 prio 1 CPU I/O

PID 29 p0 prio 4 CPU I/O

PID 30 p1 prio 2 CPU I/O

PID 32 p3 prio 3 CPU I/O

Incoming processes

PID	Name	Submission

Blocked - I/O operations

PID	Name	Time left

Processor: Idle

Arrival Time	Priority
1	1
2	2
3	3
1	1

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OS Sim

File Processes Memory File System Disk Help

Process Scheduling Information

Efficiency (%) 1.00

Throughput (processes/time unit) 0.18

Avg. Turnaround Time (time) 10.25

Avg. Waiting Time (time) 4.75

Avg. Response Time (time) 4.75

PID	Name	Priority	Submission	Periodic	CPU	Response	Waiting	Turnaround	% CPU	% IO
8	p3	3	0	-	2	0	0	2	1.0	0.0
6	p1	2	0	-	3	2	2	5	0.6	0.0
5	p0	4	0	-	7	5	5	12	0.5833333...	0.0
7	p2	1	0	-	10	12	12	22	0.4545454...	0.0

Arrival Time	Burst Time	Service Time	Priority
0	7	0	1
1	3	7	2
2	10	10	3
3	2	20	1

7 items 1 item selected 1,06 MB

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Process	Waiting Time
P0	5
P1	2
P2	12
P3	0
Av. waiting Time	4.75
Av. Turns Time	10.25
Av. Respon Time	4.75

3. Priority Scheduling

OS Sim

File Processes Memory File System Disk Help

Time: 0 units

Priority scheduling, multiprogramming (nonpreemptive)

Ready Queue

PID 31 p1 prio 1 CPU I/O

PID 30 p1 prio 2 CPU I/O

PID 32 p3 prio 3 CPU I/O

PID 29 p0 prio 4 CPU I/O

Incoming processes

PID	Name	Submission

Blocked - I/O operations

PID	Name	Time left

Processor Idle

Waiting Time	Priority
	1
	2
	3
	1

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15:57 11/12/2019

The screenshot shows the OS Sim software interface. A window titled "Process Scheduling Information" is open, displaying various performance metrics and a table of process data. In the background, a Microsoft Word document is visible with a table containing arrival, burst, service, and priority times for four processes.

Process Scheduling Information Window:

- Efficiency (%): 1.00
- Throughput (processes/time unit): 0.18
- Avg. Turnaround Time (time): 12.50
- Avg. Waiting Time (time): 7.00
- Avg. Response Time (time): 7.00

PID	Name	Priority	Submission	Periodic	CPU	Response	Waiting	Turnaround	% CPU	% IO
9	p0	4	0	-	7	0	0	7	1.0	0.0
12	p3	3	0	-	2	7	7	9	0.222222...	0.0
10	p1	2	0	-	3	9	9	12	0.25	0.0
11	p2	1	0	-	10	12	12	22	0.454545...	0.0

Background Word Document Table:

	Arrival Time	Burst Time	Service Time	Priority
0	0	7	0	1
1	1	3	7	2
2	2	10	10	3
3	3	2	20	1

Process	Waiting Time
P0	0
P1	9
P2	12
P3	7
Av. waiting Time	7.00
Av. Turns Time	12.50
Av. Respon Time	7.00

4. Round Robin (Quantum Time = 4)

Round Robin, RR
multiprogramming, Quantum: 4, (always preemptive)

Ready Queue

CPU I/O

Incoming processes

Blocked - I/O operations

Processor Idle

Arrival Time	Priority
1	1
2	2
3	3
1	1

Process Scheduling Information

Efficiency (%) 1.00

Throughput (processes/time unit) 0.18

Avg. Turnaround Time (time) 14.50

Avg. Waiting Time (time) 9.00

Avg. Response Time (time) 5.50

PID	Name	Priority	Submission	Periodic	CPU	Response	Waiting	Turnaround	% CPU	% IO
14	p1	2	0	-	3	4	4	7	0.4285714...	0.0
16	p3	3	0	-	2	11	11	13	0.1538461...	0.0
13	p0	4	0	-	7	0	9	16	0.4375	0.0
15	p2	1	0	-	10	7	12	22	0.4545454...	0.0

Process	Waiting Time
P0	9
P1	4
P2	12
P3	11
Av. waiting Time	9.00
Av. Turns Time	14.50
Av. Respon Time	5.50