Final Exam, CS – 405, Fall 2020
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Given below are the system and job descriptions. Assume load time for jobs is 50 and I/O is 25; FIFO for job scheduling.

Timer value = 50
Degree of multiprogramming = 2
Job1 100, I/O, 100, I/O, 100
Job2 25, I/O, 25, I/O, 25
Job3 25, I/O, 25, I/O, 25

Complete the chronological events for the jobs to be loaded and executed – the table should help.

My thoughts on the timer value are as follows: A context switch will only occur when the timer value ticks. That is to say with a 50 value timer that if a job only needs 25 units of cpu time, it will use the 25 units and then the cpu will sit idle for 25 units. Only then will the next job in the queue take over the cpu. An IO request will be made once ready, even if the cpu is sitting idle for that time. IO can occur simultaneously with Loading.

Time	Event	Job Queue	Job on CPU
0	Loading		
50	Loaded	Job1	
50	Schedule/Loading		Job1
100	Loaded	Job2	
100	Timeout/Schedule	Job1	Job2
125	Job2 Request IO	Job1	Job2
125	Timeout	Job1	Job2(waiting)
150	Job2 IO Received		Job1
150	Scheduling	Job2	Job1
200	Job1 IO Request	Job2	Job1
200	Timeout		Job2
225	Job1 IO Received		Job2
225	Scheduling	Job1	Job2
225	Job2 IO Request	Job1	Job2
225	Timeout	Job1	Job2(waiting)
250	Job2 IO Received		Job1
250	Scheduling	Job2	Job1
300	Timeout/Scheduling	Job1	Job2
325	Timeout/Job2 Done	Job1	Job2(done)
325	Loading Job3	Job1	Job2(done)
350	Job2 Done		Job1
375	Job3 Loaded/Scheduled	Job3	Job1
400	Job1 IO Request	Job3	Job1
400	Timeout		Job3
425	Job1 IO Received		Job3
425	Scheduling	Job1	Job3

425	Job3 IO Request	Job1	Job3
425	Timeout	Job1	Job3(waiting)
450	Job3 IO Received/Schedule	Job3	Job1
500	Timeout/Scheduling	Job1	Job3
525	Job3 IO Request	Job1	Job3
525	Timeout	Job1	Job3(waiting)
550	Job3 IO Receive/Scheduling	Job3	Job1
600	Timeout/Job1 Done		Job3
625	Timeout/Job3 Done		Job3(done)
650	System Done		