COSC 4740 Operating System Design

Lab Section 11

Program 2

github repo: cosc4740fa24/os_program2-cojoda

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Statement of Help

I worked alone, asked Jim Ward a few questions, but did everything by myself.

Time 0 Output

```
******************
The current system state is as follows:
********************
CURRENT TIME: 0
RUNNING PROCESS:
PID Priority Value Start Time Total CPU time
                        0
BLOCKED PROCESS:
Queue of processes Blocked for resource 0 is empty
Queue of processes Blocked for resource 1 is empty
Queue of processes Blocked for resource 2 is empty
PROCESSES READY TO EXECUTE:
Queue of processes with priority 0 is empty
Queue of processes with priority 1 is empty
Queue of processes with priority 2 is empty
Queue of processes with priority 3 is empty
*****************
Time 6 Output
****************
The current system state is as follows:
*******************
CURRENT TIME: 6
RUNNING PROCESS:
PID Priority Value Start Time Total CPU time
    0 10
                  5
BLOCKED PROCESS:
Queue of processes Blocked for resource 0 is empty
Queue of processes Blocked for resource 1 is empty
Queue of processes Blocked for resource 2 is empty
PROCESSES READY TO EXECUTE:
Queue of processes with priority 0 is empty
Queue of processes with priority 1 is empty
Queue of processes with priority 2 is empty
Queue of processes with priority 3 is empty
****************
```

Time 11 Output

```
******************
The current system state is as follows:
******************
CURRENT TIME: 11
RUNNING PROCESS:
PID Priority Value Start Time Total CPU time
                       6
BLOCKED PROCESS:
Queue of processes Blocked for resource 0 is empty
Queue of processes Blocked for resource 1 is empty
Queue of processes Blocked for resource 2 is empty
PROCESSES READY TO EXECUTE:
Queue of processes with priority 0 is empty
Queue of processes with priority 1 : PID Priority Value Start Time Total CPU time
4 1
              1
                    6
Queue of processes with priority 2 :
PID Priority Value Start Time Total CPU time
             42
Queue of processes with priority 3 is empty
****************
***************
The current system state is as follows:
******************
CURRENT TIME: 11
RUNNING PROCESS:
PID Priority Value Start Time Total CPU time
    1
BLOCKED PROCESS:
Queue of processes Blocked for resource 0 is empty
Queue of processes Blocked for resource 1 is empty
Queue of processes Blocked for resource 2 is empty
PROCESSES READY TO EXECUTE:
Queue of processes with priority 0 :
PID Priority Value Start Time Total CPU time
   0
                 11
5
             6
               6
                      11
Queue of processes with priority 1 : PID Priority Value Start Time Total CPU time
    1
              1
                      6
Queue of processes with priority 2 :
PID Priority Value Start Time Total CPU time
              42
Queue of processes with priority 3 is empty
*****************
****************
The current system state is as follows:
******************
CURRENT TIME: 11
RUNNING PROCESS:
```

PID Priority Value Start Time Total CPU time

```
6
                                       0
                        11
BLOCKED PROCESS:
Queue of processes Blocked for resource 0 is empty
Queue of processes Blocked for resource 1 is empty
Queue of processes Blocked for resource 2:
PID Priority Value Start Time Total CPU time
PROCESSES READY TO EXECUTE:
Queue of processes with priority 0 :
PID Priority Value Start Time Total CPU time
6 0
          6
                    11
Queue of processes with priority 1 : PID Priority Value Start Time Total CPU time
    1
               1
Queue of processes with priority 2:
PID Priority Value Start Time Total CPU time
              42
                        5
Queue of processes with priority 3 is empty
******************
******************
The current system state is as follows:
******************
CURRENT TIME: 11
RUNNING PROCESS:
PID Priority Value Start Time Total CPU time
     0
                6
                        11
BLOCKED PROCESS:
Queue of processes Blocked for resource 0 is empty
Queue of processes Blocked for resource 1:
PID Priority Value Start Time Total CPU time
               6
Queue of processes Blocked for resource 2:
PID Priority Value Start Time Total CPU time
3
     0
                         6
PROCESSES READY TO EXECUTE:
Queue of processes with priority 0 is empty
Queue of processes with priority 1 :
PID Priority Value Start Time Total CPU time
               1
Queue of processes with priority 2 :
PID Priority Value Start Time Total CPU time
     2
                42
Queue of processes with priority 3 is empty
```

Time 15 Output

The current system state is as follows: ************************************
CURRENT TIME: 15
RUNNING PROCESS: PID Priority Value Start Time Total CPU time 10 0 20 11 0
BLOCKED PROCESS: Queue of processes Blocked for resource 0 is empty Queue of processes Blocked for resource 1: PID Priority Value Start Time Total CPU time 5 0 6 11 0 Queue of processes Blocked for resource 2: PID Priority Value Start Time Total CPU time 3 0 7 6 1
PROCESSES READY TO EXECUTE: Queue of processes with priority 0 is empty Queue of processes with priority 1: PID Priority Value Start Time Total CPU time 4 1 1 6 1 6 1 6 11 1 8 1 9 11 1 9 1 8 11 1
Queue of processes with priority 2: PID Priority Value Start Time Total CPU time 2 2 42 5 3 Queue of processes with priority 3 is empty ************************************

Time 118 Output

CURRENT TIME:	118				
RUNNING PROCE PID Priority 31 1		Start Time	Total CPU		
	esses Bl Value	Start Time	Total CPU		
19 0 21 0 8 1 Queue of proce	1 8 9 esses Bl	77 77 11 Locked for re	0 0 4esource 1:) :	
PID Priority 3 1 Queue of proc	Value 3 esses Bl	Start Time 6 Locked for re	Total CPU 4 esource 2:	time :	
PID Priority 5 0 25 0	Value 6 70	Start Time 11 88	Total CPU 2 1		
PROCESSES READY TO EXECUTE:					
32 0 Queue of proc	Value 125 esses wi	Start Time 118 th priority	Total CPU 0 1 is empt		
Queue of proce PID Priority	Value	Start Time	Total CPU		
20 2 22 2 23 2	25 15	77 82	3		
	135	83	3	;	
10 2 24 2 26 2	135 20 105 15	83 11 84 90	3 5 3 3		
10 2 24 2	135 20 105	11 84	3 5 3 3 3		
10 2 24 2 26 2 27 2 28 2 29 2 30 2 Queue of proc	135 20 105 15 1350 135 112 125 esses wi	11 84 90 93 96 106 110	3 5 3 3 3 3 3 3		
10 2 24 2 26 2 27 2 28 2 29 2 30 2 Queue of proc	135 20 105 15 1350 135 112 125 esses wi	11 84 90 93 96 106 110	3 5 3 3 3 3 3 3	time	

Time 125 Output

```
******************
The current system state is as follows:
************************************
CURRENT TIME: 125
RUNNING PROCESS:
PID Priority Value Start Time Total CPU time
                 62
                         121
                                          2
BLOCKED PROCESS:
Queue of processes Blocked for resource 0:
PID Priority Value Start Time Total CPU time
                          77
21
      0
                          77
                                          0
                  8
8
     1
                  9
                          11
                                          4
Queue of processes Blocked for resource 1:
PID Priority Value Start Time Total CPU time
                 .3
                           6
Queue of processes Blocked for resource 2:
PID Priority Value Start Time Total CPU time
25
                 70
                          88
PROCESSES READY TO EXECUTE:
Queue of processes with priority 0 :
PID Priority Value Start Time Total CPU time
                 6
    0
                         11
Queue of processes with priority 1 is empty
Queue of processes with priority 2 :
PID Priority Value Start Time Total CPU time
                          77
20
      2
                 25
      2
22
                15
23
      2
                135
                          83
                                          3
10
      2
                                          5
                20
                          11
24
      2
                105
                                          3
      2
26
                          90
                                          3
                15
27
      2
               1350
                          93
      2
                                          3
28
                135
                          96
29
      2
                         106
                                          3
                112
30
      2
                125
                         110
      2
31
                250
                         115
32
      2
                125
                         118
Queue of processes with priority 3 :
PID Priority Value Start Time Total CPU time
                299
                          31
13
     3
                                          7
      3
17
                 10
                          51
9
      3
                 10
                          11
                                         15
```

The average Turnaround Time: 23.5455

Extra information you might want to know:

11 Processes finished in a total of 259 seconds

Counting everything:

33 Processes with a total of 1460 seconds

Turn around time: 44.2424