

# CSC 262

## Homework 5

Due Nov. 4, 2008

1. **Process Scheduling** The table below is a representation of the OS's internal process table. Each process has a stack, PID, a status, a priority and a next field. The next field is used to store two circular linked list. One list contains all the ready and running processes and one list contains all the blocked processes. Assume that a higher priority value means a higher priority (i.e. this table isn't using UNIX-style nice values).

<i>Stack</i>	<i>Stack</i>	<i>Stack</i>	<i>Stack</i>	<i>Stack</i>
PID: 4	PID: 5	PID: 7	PID: 11	PID: 13
Status: Ready	Status: Blocked	Status: Running	Status: Ready	Status: Ready
Priority: 1	Priority: 10	Priority: 7	Priority: 5	Priority: 8
Next: 4	Next: 1	Next: 0	Next: 2	Next: 3

- A) Suppose that round-robin scheduling is being used. What process would be run after the current time slice expires?
- B) Suppose that priority scheduling is being used and process 7 makes a blocking request. What process would be run next?
- C) Suppose that process 7 makes a blocking request and round robin scheduling is being used. What would the table look like?

<i>Stack</i>	<i>Stack</i>	<i>Stack</i>	<i>Stack</i>	<i>Stack</i>
PID: 4	PID: 5	PID: 7	PID: 11	PID: 13
Status:	Status:	Status:	Status:	Status:
Priority: 1	Priority: 10	Priority: 7	Priority: 5	Priority: 8
Next:	Next:	Next:	Next:	Next:

- D) Suppose that while process 7 is running, process 5's blocking request is satisfied and it is not longer blocking. What would the process table look like (just before the next process context switch).

<i>Stack</i>	<i>Stack</i>	<i>Stack</i>	<i>Stack</i>	<i>Stack</i>
PID: 4	PID: 5	PID: 7	PID: 11	PID: 13
Status:	Status:	Status:	Status:	Status:
Priority: 1	Priority: 10	Priority: 7	Priority: 5	Priority: 8
Next:	Next:	Next:	Next:	Next: