COL 331

Assignment 1 Report

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Part 1 a

Changed '**struct proc**' in '**proc.h**' to add a new attribute priority. The default value of 5 is set in **allocproc** in **proc.c**

modified to the **ps()** function in **proc.c** to print in the given format.

Part 1 b

Variables used:

● **arg1**, **arg2**: Store the value of the arguments pid and priority.

Procedure to add a syscall:

● #define **SYS_setpriority** in **syscall.h**

● Declare it with extern in **syscall.c** and update the array **syscalls[]**

● Declare int **setpriority()** in **user.h**

● Define int **sys_priority** in **sysproc.c**. This function gets the argument of the syscall and calls **setpriority()** in **proc.c**.

● Add SYSCALL(setpriority) in **usys.S**

Part 2

Get the process with highest priority by looping over all the processes. The process is only changed when it has a lower priority. This ensures round robbin is done with equal priorities with the help of the most outer looping which was doing round robbin.

Part 3

After **switchkvm();** in **scheduler()** age of all the runnable processes are incremented. If the age of any process reaches 50 then the age is reset and priority incremented.