

OS ASSIGNMENT - 5

Roll Number – 20171188

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TEST – BENCH :- demo.c

Priority Based Scheduler -

Priority Based scheduling involves priority assignment to every process, and processes with higher priorities (having lower priority number) are carried out first, whereas tasks with equal priorities are carried out in round-robin basis (In our design model).

COMPARISON -

1. Round-robin allocates time slices to each process in a cyclic manner and avoids starvation.
2. Priority Scheduling can cause starvation to lower priority processes (high priority number).

ROUND-ROBIN :

```

ayush@ayush: ~/Downloads/Operating Systems/Assignments/Assignment5-12
ayush@ayush: ~/Downloads/Operating Systems/Assignments/Assignments5 (copy)
ayush@ayush:~/Downloads/Operating Systems/Assignments/Assignments5 (copy)$ make qemu-nox
qemu-system-i386 -nographic -drive file=fs.img,index=1,media=disk,format=raw -drive file=xv6.img,index=0,media=disk,format=raw -smp 2 -m 512
xv6...
cpu1: starting 1
cpu0: starting 0
sb: size 1000 nblocks 941 ninodes 200 nlog 30 logstart 2 lnodestart 32 bmap start 58
init: starting sh
$ demo 4 &; demo 5 &;
$ Parent 7 creatiChld 8 created
ng chld 8
Parent 5 creating child 9
chld 9 created
ps
name      pid      state      priority
init       1      SLEEPING      1
sh         2      SLEEPING      1
demo       8      RUNNING       60
demo       9      RUNNABLE       60
demo       5      SLEEPING       60
demo       7      SLEEPING       60
ps         10      RUNNING       60
$ ps
name      pid      state      priority
init       1      SLEEPING      1
sh         2      SLEEPING      1
demo       8      RUNNING       60
demo       9      RUNNING       60
demo       5      SLEEPING       60
demo       7      SLEEPING       60
ps         14      RUNNING       60
$ set priority 9 10
*Priority of Process with pid 9 set to 105
$ ps
name      pid      state      priority
init       1      SLEEPING      1
sh         2      SLEEPING      1
demo       8      RUNNING       60
demo       9      RUNNABLE       10
demo       5      SLEEPING       60
demo       7      SLEEPING       60
ps         14      RUNNING       60
$

```

PRIORITY-BASED :

```
ayush@ayush: ~/Downloads/Operating Systems/Assignments/Assignment5
ayush@ayush: ~/Downloads/Operating Systems/Assignments/Assignment5-12
ayush@ayush: ~/Downloads/Operating Systems/Assignments/Assignment5

qemu-system-i386 -nographic -drive file=fs.img,index=1,media=disk,format=raw -drive file=xv6.img,index=0,media=disk,format=raw -smp 2 -M 512
main-loop: WARNING: I/O thread spun for 1000 iterations
xv6...
cpu1: starting 1
cpu0: starting 0
sb: size 1000 nblocks 941 ninodes 200 nlog 30 logstart 2 inodestart 32 bnep start 58
init: starting sh
$ demo 4 & demo 4 &
$ Parent 7 creating child 8Child 8 created
Child 9 created
Parent 5 creating child 9
ps
name pid state priority
init 1 SLEEPING 1
sh 2 SLEEPING 1
demo 8 RUNNABLE 60
demo 9 RUNNING 60
demo 5 SLEEPING 60
demo 7 SLEEPING 60
ps 10 RUNNING 60
$ set_priority 8 19
Priority of Process with pid 8 set to 19$
$ ps
name pid state priority
init 1 SLEEPING 1
sh 2 SLEEPING 1
demo 8 RUNNING 19
demo 9 RUNNABLE 60
demo 5 SLEEPING 60
demo 7 SLEEPING 60
ps 13 RUNNING 60
$ ps
name pid state priority
init 1 SLEEPING 1
sh 2 SLEEPING 1
demo 8 RUNNING 19
demo 9 RUNNABLE 60
demo 5 SLEEPING 60
demo 7 SLEEPING 60
ps 14 RUNNING 60
$ ps
name pid state priority
init 1 SLEEPING 1
sh 2 SLEEPING 1
demo 8 RUNNING 19
demo 9 RUNNABLE 60
demo 5 SLEEPING 60
demo 7 SLEEPING 60
ps 15 RUNNING 60
$ ps
name pid state priority
init 1 SLEEPING 1
sh 2 SLEEPING 1
demo 8 RUNNING 19
demo 9 RUNNABLE 60
demo 5 SLEEPING 60
demo 7 SLEEPING 60
ps 16 RUNNING 60
$
```