Operating Systems Assignment 7

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Aim:

To explore various scheduling options available in Linux with the given test program.

Results:

Test case 1:

k = 2, Process 1: Scheduler (FIFO) and Priority HIGHEST, Process 2: Scheduler (FIFO) and Priority LOWEST

Result:

Process 1 will run first followed by process 2 because process 1 comes into the queue first.

Test case 2:

k=2, Process 1: Scheduler (FIFO) and Priority HIGHEST, Process 2: Scheduler (FIFO) and Priority HIGHEST

Result:

Process 1 will run and then process 2. Note here that priority in case of FIFO doesnt matter. The process which comes first, will be executed first.

Test case 3:

k=2; Process 1: Scheduler (RR) and Priority HIGHEST, Process 2: Scheduler (RR) and Priority LOWEST

Result:

First process 1 will run for one time quantum, followed by process 2 which runs for the next quantum. It alternates between process 1 and process 2, until both these processes finish execution.

Test case 4:

k=2; Process 1: Scheduler (RR) and Priority HIGHEST, Process 2: Scheduler (RR) and Priority HIGHEST

Result:

First process 1 will run for one time quantum, followed by process 2 which runs for the next quantum. It alternates between process 1 and process 2, until both these processes finish execution.

Test case 5:

k=3; Process 1: Scheduler (SCHED_OTHER) and Priority 0, Process 2: Scheduler (RR) and Priority LOWEST, Process 3: Scheduler (RR) and Priority HIGHEST

Result:

First process 1 runs for one time quantum, then process 2 will run until its completion. After which, process 3 starts and completes its execution. Now process 1 will start again from where it left and run until it completes.

Test case 6:

k=3; Process 1: Scheduler (SCHED_OTHER) and Priority 0, Process 2: Scheduler (RR) and Priority LOWEST, Process 3: Scheduler (RR) and Priority HIGHEST

Result:

First process 1 will run for one time quantum then there is alternation between processes 2 and 3 after each time quantum until both the processes completes. The alteration between processes 2 and 3 will start from process 2. After completion, process 1 will start from where it left off and run until the task is completed.