CS3.301 **Assignment-5**

Computer Systems Engineering

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1 Objective

To add functionalities to xv6 and compare scheduling times of different algorithms.

1.1 Waitx

For implementing waitx, 4 additional parameters *ctime,etime,rtime,iotime,clicks* in proc.h *ctime* is updated at the start. *etime* is updated at the exit function. *rtime* is updated every time a process's state is made RUNNING.*iotime* is updated when process's state is SLEEPING.

1.2 Getpinfo

`pstat.h` defines *struct pstat* structure which is passed as a parameter to getpinfo function. Thereafter it sets the appropriate values.

2 Scheduling Policies

2.1 FCFS

When iterating over *ptable*, the process with lowest *ctime* is used.

2.2 PBS

Each process is assigned a default value of 60 when allocated. The scheduler function selects the process with lowest priority number. The function *set_priority* sets the priority of the process to the priority passed as parameter.

2.3 MLFQ

5 queues are kept . The scheduler selects a RUNNABLE process and assigns it a queue. It then selects the process in the queue which arrived first and gives it a time-quantum after which the process is pre-empted to give control back to other process. It is pushed to lower queue.