OS Project1 Report

1. The following is the description of each function:

   main：This function scans the input and handles them properly then call scheduler to start running processes.

   assign_cpu：This function use sched_setaffinity to make sure every process run on fixed cpu(scheduler on #1 and others on #0).

   procexec：This function fork a new process and use for loop to execute it. It also keeps track of start time and end time. It uses system call “printk” to write them to dmesg before exit.

   create_mid：This function fork an additional process that have medium priority to prevent improper process get cpu when an old process just ended.

   block_proc/p_wakeup：block and wakeup process.

   nextproc：Decide which process should get cpu next based on policy.

   scheduler：This function first sort each process’s information by their ready time(however it seems unnecessary since the input is already sorted).Then do while loop. Each loop update new

process to cpu.

2. linux ubuntu 16.04
3. Since scheduler and each process run on different cpu and their unit_time are recorded asynchronously, and scheduler takes longer to do each loop, the time error may grows greater as time goes on. The result is also influenced by context switch time. Due to these two reasons, the result would not be totally same as theory.