CSIE_OS-project 1

資工二 b07902046 高長聖

1. Design:

   The following programs are run in double core system.

   There are four program files:

   (1) main.c: Dealing with the input, specifying which type of CPU scheduling .

   (2) config.h: Record the data structure (ex. Process) and define the functions in scheduler.c and process.c

   (3) process.c: Contains the functions in which determined how the process works.

      a. unit_time(): run a for loop, representing the unit time.

      b. proc_assign_cpu(int pid, int cpu): assign different process the different CPU's, mainly use sched_setaffinity().

      c. proc_get_ready(int pid): assign the process with high priority so that the process can enter cpu, mainly use sched_setscheduler().

      d. proc_exec(Process p): execute a new process, and return pid.

      e. Proc_exit_cpu(int pid): assign the process with low priority so that the pcocess can exit cpu, mainly use sched_setscheduler().

   (4) scheduler.c: Contains the functions in which determined how to assigned the processes.

      a. schd_FIFO: determined the FIFO mode of cpu scheduling.

      b. select_SJF: determined the next process to be assigned in SJF mode.

      c. schd_SJF: determined the SJF mode of cpu scheduling.

      d. select_PSJF: determined the next process to be assigned in PSJF mode.

      e. schd_PSJF: determined the PSJF mode of cpu scheduling.

      f. select_RR: determined the next process to be assigned in RR mode.

      g. Schd_RR: determined the RR mode of cpu scheduling.

2. Core version:

   Kernel: linux-4.14.25

   Host: ubuntu 16.04

3. Compare with reality: