

Project 1 Report

一、設計：

程式依輸入選擇 FIFO、SJF、PSJF 和 RR 四種排程方式，在時間執行到 ready time 時，依先後順序、execution time、preemptive 跟 time quantum 決定 ready queue 程序的順序，並執行 ready queue 中的第一個預備好的程序。

二、執行範例測資的結果

FIFO: FIFO_2.txt

P1 2279

P2 2280

P3 2281

P4 2282

```
[ 1458.624561] [project1] 2279 1556800816.422139314 1556800969.457111306
[ 1468.190676] [project1] 2280 1556800816.621428883 1556800979.028008834
[ 1470.106306] [project1] 2281 1556800816.813047858 1556800980.944596679
[ 1472.015448] [project1] 2282 1556800817.003735785 1556800982.854693301
```

SJF: SJF_2.txt

P1 2341

P2 2342

P3 2343

P4 2344

P5 2345

```
[ 2361.965649] [project1] 2341 1556801872.678296081 1556801873.249870475
[ 2363.428902] [project1] 2343 1556801873.228930456 1556801874.713855462
[ 2385.614885] [project1] 2342 1556801872.678390567 1556801896.910930007
[ 2400.330236] [project1] 2344 1556801873.229018918 1556801911.633640199
[ 2413.182590] [project1] 2345 1556801873.229062215 1556801924.492419712
```

PSJF: PSJF_2.txt

P1 2682

P2 2683

P3 2684

P4 2685

P5 2686

```
[ 4067.997574] [project1] 2683 1556811302.462166088 1556811304.388202865
[ 4067.997576] [project1] 2682 1556811300.533206594 1556811308.232567553
[ 4067.997577] [project1] 2685 1556811310.164061690 1556811314.007776936
[ 4067.997578] [project1] 2686 1556811314.007777376 1556811315.920549163
[ 4067.997579] [project1] 2684 1556811308.232567965 1556811321.688152229
```

RR: RR_2.txt

P1 2526

P2 2527

```
[ 3708.517413] [project1] 2526 1556803206.608272226 1556803219.929595742
[ 3712.303874] [project1] 2527 1556803206.988264930 1556803223.716056989
```

三、比較實際結果與理論結果，並解釋造成差異的原因

FIFO: FIFO_2.txt

理論：P1 -> P2 -> P3 -> P4

實際：P1 -> P2 -> P3 -> P4

SJF: SJF_2.txt

理論：P1 -> P3 -> P2 -> P4 -> P5

實際：P1 -> P3 -> P2 -> P4 -> P5

PSJF: PSJF_2.txt

理論：P2 -> P1 -> P4 -> P5 -> P3

實際：P2 -> P1 -> P4 -> P5 -> P3

RR: RR_2.txt

理論：P1 -> P2

實際：P1 -> P2

就上述四個測資的程序執行順序來看，理論與實際無差異，然而模擬執行時間與理論執行時間的差異來自於 context switch 與其他部分程式的執行。

四、各組員貢獻

王憲儀：撰寫FIFO程式碼、撰寫報告

巫尚謙：撰寫RR程式碼、撰寫報告

林子翔：撰寫SJF程式碼、撰寫報告

陳翰生：撰寫PSJF程式碼、撰寫報告

禰詠詩