

Operating Systems Fall, 2019

Programming Assignment 2

系級： 資科四

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實驗結果圖：

```
time 89
Student 72 comes.
time 90
Student 73 comes.
time 91
Student 74 comes.
time 92
Student 75 comes.
time 93
Student 76 comes.
time 94
Student 77 comes.
time 95
Student 78 comes.
time 96
Student 79 comes.
time 97
Student 80 comes.
time 98
Student 81 comes.
time 99
Student 82 comes.
time 100
No student come.
waitingTime 698.000000
waitingStudents 60
11.633333
k9nn53o5@k9nn53o5-VirtualBox:~/Documents/2019-OS-PG2-DOC/105703037/src$
```

程式運作流程：

(請描述一下你的程式如何運作，如何計算出結果)

It will start from reading file which have 1 and 0 to represent students coming to find TA in each period of time. Then we create a thread call TA it will check if there is any student available that need to be teach, if there is student are waiting. TA will teach student in 2 msec, and -1 to the occupied chairs outside and then keep waiting student. And we also create threads called student_id[i], it represent student start to wait at chair and make occupied chair number +1 and the waiting for TA. The time a student wait for TA will be occupied chair number * 2(sitting on chair waiting) + 2(being tauch in TA office)

心得：

(請寫下完成本次作業的心得、學到哪些東西、困難點的部分。)

弄懂題目及各個鎖及變數是這次做業花最長時間的地方，打起程式還蠻快的，把程式做填空，可是最後 debug 才發現原來 pthread_join 是容易出錯的地方，student_id[i] 的 thread 要注意是 studentPerTime[i] == 1 的才要 join，然後 TA 的 thread 不要 join，不然程式會卡在無窮迴圈。