

Operating System Review

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1 2.3 Interprocess Communication

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disable interrupts too much privilege, cannot be applied to multicore processors.

lock variables race is still there.

busy waiting the lock is called the spin lock, 但是 Process A 会在 Process B 不在 critical region 的时候等待, 导致浪费了时间。

```
1      while (TRUE) {
2          while (turn != 0) /    loop    / ;
3          critical region();
4          turn = 1;
5          noncritical region();
6      }
7      while (TRUE) {
8          while (turn != 1) /    loop    / ;
9          critical region();
10         turn = 0;
11         noncritical region();
12     }
13
```

Peterson's solution 这个不错, 但是似乎只能用于两个 Processes?

```
1      #define FALSE 0
2      #define TRUE 1
3      #define N 2 /    number of processes    /
4      int turn; /    whose turn is it?    /
5      int interested[N]; /    all values initially 0 (FALSE)    /
6      void enter region(int process); /    process is 0 or 1    /
7      {
8          int other; /    number of the other process    /
9          other = 1 - process; /    the opposite of process    /
10         interested[process] = TRUE; /    show that you are interested    /
11         turn = process; /    set flag    /
12         while (turn == process && interested[other] == TRUE) /    null statement
13     / ;
14     }
15     void leave region(int process) /    process: who is leaving    /
16     {
17         interested[process] = FALSE; /    indicate departure from critical region
18     /
19     }
```