Network Programming Assignment 1

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| Code | Output | |
| #define SFQFILE "seqno" /\* filename \*/  #define MAXBUFF 100  main(){  int fd, i, n, pid, seqno; char buff[MAXBUFF + 1]; pid = getpid();  if( (fd = open(SFQFILE, 2)) < 0) err\_sys("can't open %s", SFQFILE); for(i = 0; i < 20; i++){  **01:** my\_lock(fd); /\* lock the file \*/  **Don’t care:** lseek(fd, 0L, 0); /\* rewind before read \*/  **02:** if( (n = read(fd, buff, MAXBUFF)) <= 0) err\_sys("read error");  **03:** buff[n] = '\0'; /\* null terminate for scanf \*/  **04:** if( (n = sscanf(buff, "%d\n", &seqno)) != 1) err\_sys("sscanf error");  **05:** printf("pid = %d, seq# = %d\n", pid, seqno);  **06:** seqno++; /\* increment the sequence number \*/  **07:** sprinf(buff, "%03d\n", seqno);  **08:** n = strlen(buff);  **Don’t care:** lseek(fd, 0L, 0);  **09:** if(write(fd, buff, n) != n) errsys("write error");  **10:** my\_unlock(fd); /\* unlock the file \*/  }  } | pid=186, seq#=1  pid=186, seq#=2  **(1)**  pid=187, seq#=3  pid=187, seq#=4  pid=187, seq#=5  **(2)**  pid=186, seq#=6  pid=186, seq#=7  pid=186, seq#=8  **(3)**  pid=187, seq#=9  pid=187, seq#=10  pid=187, seq#=11  **(4)**  pid=186, seq#=9  pid=186, seq#=10  pid=186, seq#=11  pid=186, seq#=12  **(5)**  pid=187, seq#=12  pid=187, seq#=13  pid=187, seq#=14  pid=187, seq#=15  **(6)** | pid=186, seq#=13  pid=186, seq#=14  pid=186, seq#=15  pid=186, seq#=16  pid=186, seq#=17  **(7)**  pid=187, seq#=18  pid=187, seq#=19  pid=187, seq#=20  pid=187, seq#=21  (**8)**  pid=186, seq#=18  pid=186, seq#=19  pid=186, seq#=20  pid=186, seq#=21  pid=186, seq#=22  pid=186, seq#=23  **(9)**  pid=187, seq#=22  pid=187, seq#=23  pid=187, seq#=24  pid=187, seq#=25  pid=187, seq#=26  pid=187, seq#=27 |

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| **Switch** | **Execute Blocks of pid = 186** | **Execute Blocks of pid = 187** | **Description** |
| **(1)** | **Line 10-1** |  | **由(2) switch 回 pid=186，發現 pid=186 尚未讀取檔案**  **(Switch back to pid=186 at time (2), pid=186 has not read file yet.)** |
| **(2)** |  | **Line 10-1** | **由(2) switch 回 pid=187，發現 pid=187 尚未讀取檔案** |
| **(3)** | **Line 3-4** |  | **(186,#9)還是舊的值，所以應該是寫入後，讀完後，還沒印出。** |
| **(4)** |  | **Line 3-4** | **因為(186,#13)的值很明顯是已經讀了，所以表示(186,#12)已經寫入了，所以(187,#12)應該是 讀完了還沒印出字串。** |
| **(5)** | **Line3-4** |  | **因為(186,#13)的值很明顯是已經讀了，既然都印出字串且都先讀檔了，只是還沒印出。** |
| **(6)** |  | **Line10-1** | **(187,#18)顯示應該還沒讀所以在line1前switch。**  **而且應該是寫入了，如果還沒寫入的話，就會讀到自己寫入的值。** |
| **(7)** | **Line3-4** |  | **(187,#18)顯示應該是讀(186,#17)寫入後的值，所以應該寫入了。**  **(186,#18)沒有受到187的影響，所以應該是先讀了還沒印出** |
| **(8)** |  | **Line3-4** | **(187,#22)是接著(187,#21)的值，所以應該是寫了、讀了，但還沒印出。** |
| **(9)** | **Line6-10** |  | **(186,#23)印出了。因為(187,#22)已經先讀了，所以這裡寫不寫入看不出來。但因為是最後一次回圈，所以最後應該是結束在line10。** |