

```
14 #define P sem_wait
15 #define V sem_post
16 int readcnt, writecnt;
17 sem_t rmutex, wmutex, read, _mutex;
18
19 void reader(void)
20 {
21     while (1) {
22         P(&read);
23         P(&rmutex);
24         readcnt++;
25         if (readcnt == 1)
26             P(&_mutex);
27         V(&rmutex);
28         V(&read);
29
30         /* Reading happens here */
31
32         P(&rmutex);
33         readcnt--;
34         if (readcnt == 0)
35             V(&_mutex);
36         V(&rmutex);
37     }
38 }
39
40 void writer(void)
41 {
42     while (1) {
43         P(&wmutex);
44         writecnt++;
45         if (writecnt == 1)
46             P(&read);
47         V(&wmutex);
48
49         P(&_mutex);
50         /* Writing happens here */
51         V(&_mutex);
52
53         P(&wmutex);
54         writecnt--;
55         if (writecnt == 0)
56             V(&read);
57         V(&wmutex);
58     }
59 }
```