

Code:

Readers/Writers:Message Passing

Solution:Readers have Priority

```
1. void reader(int i)
2. {
3.     message rmsg;
4.     while(ture) {
5.         rmsg = i;
6.         send (readrequest, rmsg);
7.         receive (mbox[i], rmsg);
8.         READUNIT ();
9.         rmsg = i;
10.        send (finished, rmsg);
11.    }
12. }
13. void writer(int j)
14. {
15.     message rmsg;
16.     while(ture) {
17.         rmsg = j;
18.         send (writerequest, rmsg);
19.         receive (mbox[j], rmsg);
20.         READUNIT ();
21.         rmsg = j;
22.         send (finished, rmsg);
23.    }
24. }
25. void controller()
26. {
27.     int count = 100; //100 equals to n+1(number of readers+1)
28.     while(ture) {
29.         if(count > 0) {
30.             if(!empty(finished)) {
31.                 receive(finished, msg);
32.                 count++;
33.             }
34.             else if(!empty(readrequest)) {
35.                 receive(readrequest, msg);
36.                 count--;
37.                 send(msg.id, "OK");
38.             }
39.             else if(!empty(writerequest)) {
40.                 receive(writerequest, msg);
41.                 writer.id=msg.id;
42.                 count=count-100;
43.             }
44.         }
45.     }
46.     if(count == 0) {
47.         send(writer.id, "OK");
```

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48.         receive(finished,msg);
49.         count = 100;
50.     }
51.     while(count < 0) {
52.         receive(finished,msg);
53.         count++;
54.     }
55. }
56. }
```