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;
44. }
45. }
46. **if**(count == 0) {
47. send(writer.id,"OK");
48. receive(finished,msg);
49. count = 100;
50. }
51. **while**(count < 0) {
52. receive(finished,msg);
53. count++;
54. }
55. }
56. }