



W/W

```
void writer(int j)
```

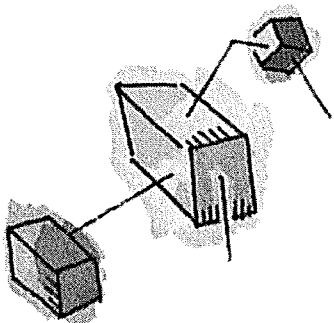
```
void controller()
{
```

```
while (true)
```

```

if (count > 0) {
    if (!empty (finished)) {
        receive (finished, msg);
        count++;
    }
    else if (!empty (writerequest)) {
        receive (writerequest, msg);
        writer_id = msg.id;
        count = count - 100;
    }
    else if (!empty (readrequest)) {
        receive (readrequest, msg);
        count--;
        send (msg.id, "OK");
    }
}
if (count == 0) {
    send (writer_id, "OK");
    receive (finished, msg);
    count = 100;
}
while (count < 0) {
    receive (finished, msg);
    count++;
}

```

Writers Have Priority Message Passing

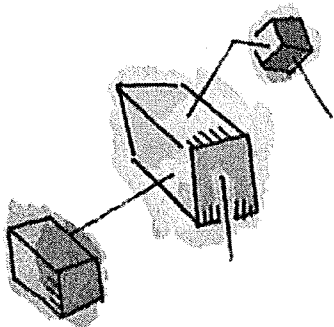
RW

```
void reader(int i)
{
    message rmsg;
    while (true) {
        rmsg = i; (1)
        send (readrequest, rmsg); (2)
        receive (mbox[i], rmsg); (3)
        READUNIT (); (4)
        rmsg = i; (5)
        send (finished, rmsg); (6)
    }
}

void writer(int j)
{
    message rmsg;
    while(true) {
        rmsg = j; (10)
        send (writerequest, rmsg); (11)
        receive (mbox[j], rmsg); (12)
        WRITEUNIT (); (13)
        rmsg = j; (14)
        send (finished, rmsg); (15)
    }
}
```

```
void controller()
{
    while (true)
    {
        if (count > 0) { (4) (13)
            if (!empty (finished)) {
                receive (finished, msg);
                count++;
            }
            else if (!empty (writerequest)) { (14)
                receive (writerequest, msg); (15)
                writer_id = msg.id; (16)
                count = count - 100; (17) count = -1
            }
            else if (!empty (readrequest)) { (5)
                receive (readrequest, msg); (6)
                count--; (7) count = -99
                send (msg.id, "OK"); (8)
            }
        }
        if (count == 0) { (23)
            send (writer id, "OK"); (24)
            receive (finished, msg); (25)
            count = 100; (26) count = 100
        }
        while (count < 0) { (18)
            receive (finished, msg); (19)
            count++; (22) count = 0
        }
    }
}
```

count = 100, initially



Writers Have Priority Message Passing

WR

```
void reader(int i)
{
    message rmsg;
    while (true) {
        rmsg = i; (13)
        send (readrequest, rmsg); (14)
        receive (mbox[i], rmsg); (15)
        READUNIT (i); (24)
        rmsg = i; (25)
        send (finished, rmsg); (26)
    }
}

void writer(int j)
{
    message rmsg;
    while(true) {
        rmsg = j; (1)
        send (writerequest, rmsg); (2)
        receive (mbox[j], rmsg); (3)
        WRITEUNIT (j); (12)
        rmsg = j; (16)
        send (finished, rmsg); (17)
    }
}
```

```
void controller()
{
    count = 100, initially
    while (true)
    {
        if (count > 0) { (4) (18) (27)
            if (!empty (finished)) { (28)
                receive (finished, msg); (28)
                count++; (30) count=100
            }
            else if (!empty (writerequest)) { (5)
                receive (writerequest, msg); (6)
                writer_id = msg.id; (7)
                count = count - 100; (8) count=0
            }
            else if (!empty (readrequest)) { (20)
                receive (readrequest, msg); (21)
                count--; (22) count=99
                send (msg.id, "OK"); (23)
            }
        }
        if (count == 0) { (9)
            send (writer id, "OK"); (10)
            receive (finished, msg); (11)
            count = 100; (18) count=100
        }
        while (count < 0) {
            receive (finished, msg);
            count++;
        }
    }
}
```