```
int nr = 0;       # number of active readers
sem rw = 1;       # lock for access to the database
sem mutexR = 1;   # lock for reader access to nr
process Reader[i = 1 to m] {
  while (true) {
    ...
    P(mutexR);
      nr = nr+1;
      if (nr == 1) P(rw);  # if first, get lock
    V(mutexR);
    read the database;
    P(mutexR);
      nr = nr-1;
      if (nr == 0) V(rw);  # if last, release lock
    V(mutexR);
  }
}
process Writer[j = 1 to n] {
  while (true) {
    ...
    P(rw);
    write the database;
    V(rw);
  }
}
```

Figure 4.10 Readers and writers exclusion using semaphores.

Copyright © 2000 by Addison Wesley Longman, Inc.