

```
1 public class SimpleReentrantLock implements Lock{
2     Lock lock;
3     Condition condition;
4     int owner, holdCount;
5     public SimpleReentrantLock() {
6         lock = new SimpleLock();
7         condition = lock.newCondition();
8         owner = 0;
9         holdCount = 0;
10    }
11    public void lock() {
12        int me = ThreadID.get();
13        lock.lock();
14        try {
15            if (owner == me) {
16                holdCount++;
17                return;
18            }
19            while (holdCount != 0) {
20                condition.await();
21            }
22            owner = me;
23            holdCount = 1;
24        } finally {
25            lock.unlock();
26        }
27    }
28    public void unlock() {
29        lock.lock();
30        try {
31            if (holdCount == 0 || owner != ThreadID.get())
32                throw new IllegalMonitorStateException();
33            holdCount--;
34            if (holdCount == 0) {
35                condition.signal();
36            }
37        } finally {
38            lock.unlock();
39        }
40    }
41    ...
42 }
```

FIGURE 8.11 The SimpleReentrantLock class: lock() and unlock() methods.