

BankAccount Example

```
class BankAccount {
    private int balance = 0;
    private Lock lk = new Lock();

    protected int getBalance()      { return balance; }
    protected void setBalance(int x) { balance = x; }

    public void withdraw(int amount) {
        lk.acquire(); // may block
        int b = getBalance();
        if (amount > b)
            throw new WithdrawTooLargeException();
        setBalance(b - amount);
        lk.release();
    }

    // deposit() would also acquire/release lk
}
```

Stack Example

```
class Stack<E> {
    private E[] array = (E[])new Object[SIZE];
    private int index = -1;

    synchronized public boolean isEmpty() {
        return index == -1;
    }
    synchronized public void push(E val) {
        array[++index] = val;
    }
    synchronized public E pop() {
        if(isEmpty())
            throw new StackEmptyException();
        return array[index--];
    }
    public E peek() {
        E ans = pop();
        push(ans);
        return ans;
    }
}
```