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
}
```

Note: 'Lock' is not an actual Java class

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;
  }
}
```