

Activity: What is the balance at the end?

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Two threads run: one withdrawing 100, another withdrawing 75, (Assume initial balance = 150)

```
class BankAccount {
    private int balance = 0;
    int getBalance() { return balance; }
    void setBalance(int x) { balance = x; }

    void withdraw(int amount) {
        int b = getBalance();
        if (amount > b)
            throw new WithdrawTooLargeException();
        setBalance(b - amount);
    }
    ... // other operations like deposit, etc.
}
```

Thread 1
`x.withdraw(100);`

Thread 2
`x.withdraw(75);`

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Almost-correct pseudocode

Note: 'Lock' is not an actual Java class

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

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