

1. Locks

mutex = mutual exclusion, only one thread can hold the lock at any time

```
pthread_mutex_t lock = PTHREAD_MUTEX_INITIALIZER;  
...  
Pthread_mutex_lock(&lock); // wrapper; exits on failure  
balance = balance + 1;  
Pthread_mutex_unlock(&lock);
```

How to implement?

Issues: Correctness (even on multiprocessors), Performance (time overhead), Fairness (no starve)