

# Consensus Number

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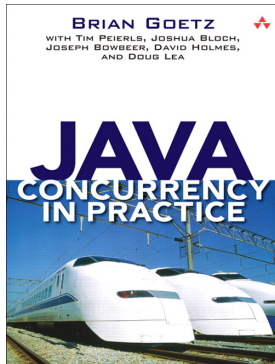
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Are you Familiar with Concurrent Programming?



The Key: Synchronization!



Using the Synchronization Primitives  
Provided by Your Favorite Languages.

synchronized  
Semaphore

BlockingQueue  
ConcurrentMap

Phaser  
Barrier

synchronized  
Semaphore

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```
class AtomicInteger:
    get()
    set(int newValue)

    getAndIncrement()
    getAndDecrement()
    getAndSet(int newValue)

    compareAndSet(int expectedValue, int newValue)
```

```
compareAndSet(int expectedValue, int newValue)  
compareAndSwap(int expectedValue, int newValue)
```

## CAS — CMPXCHG

**impl.**

**usage**

# Consensus



"It looks like we have a consensus."

"It looks like we have a consensus."



## Definition (The Consensus Problem)









Thank  
You!