Synchronized Methods

Different invocations of synchronized methods, on the same object, are guaranteed not to interleave.

When one thread is executing a synchronized method for an object, all other threads that invoke synchronized methods for the same object, block, and suspend their execution, until the first thread is done with the object.

When a synchronized method exits, it ensures that the state of the object is visible to all threads.

Critical Section

The critical section is the code that's referencing a shared resource like a variable.

Only one thread at a time should be able to execute a critical section.

When all critical sections are synchronized, the class is thread safe.