In multithreading, a stamped lock is a more sophisticated lock mechanism introduced in Java 8 as part of the java.util.concurrent.locks package. It provides better performance for scenarios involving frequent reads and occasional writes compared to traditional locks like ReentrantLock or synchronized blocks. The StampedLock offers three modes of locking:

1. Optimistic Read Lock: A non-blocking read lock, which allows multiple threads to read concurrently. It’s "optimistic" because it assumes there will be no interference. If interference is detected later, the operation can be retried. This is useful when you expect few write operations.
2. Pessimistic Read Lock: A traditional read lock that ensures no other thread can write. It blocks write operations but allows multiple readers concurrently. This is safer but less performant compared to optimistic reads.
3. Write Lock: A standard write lock that blocks both read and write operations. Only one thread can acquire the write lock at any given time.