Why Semaphores?

We don't need semaphores to solve synchronization problems, but there are some advantages to using them:

▶ Semaphores impose deliberate constraints that help programmers avoid errors.

▶ Solutions using semaphores are often clean and organized, making it easy to demonstrate their correctness.

▶ Semaphores can be implemented efficiently on many systems, so solutions that use semaphores are portable and usually efficient.