Please write some code for this problem. Any kind of pseudocode is fine, as long as its meaning is clear. You may assume common primitives such as hash tables and linked lists: you do not need to implement them.

In class we discussed synchronization using semaphores and monitors (mutex/condition variable pairs). Are these facilities equivalent in power, i.e., is there any synchronization problem that can be solved with either facility that cannot be solved with the other? Prove your answer.