

1. Yes, it will print "Mares do eat oats" every time because the sleep method in the CorrectorThread class ends before the sleep method in the main. This means that the thread wakes up and proceeds through the run method in CorrectorThread, which updates the static message, during the time the main thread is asleep. This updates the static message to "Mares do eat oats". This is then printed instead of "Mares do not eat oats".

2. The Producer: Front desk

The Consumer: Doctors

The shared Variable: Patient next in line

A possible race condition: The multiple doctors that try to get the next patient to check

Condition to dequeue a patient: A doctor has finished examining the current patient