Restrooms and Semaphores

restroom  cut (shared resource or variable)

person 1 thread 1

person 2 thread 2

no. of keys on the table s (semaphore)

initially: one key s = 1

How to go to the restroom?

if key on table
    take it and go
else wait until key on table
    then take it and go
<go to restroom>
return key

P(s)

Q(s)

Deadlocks:

2 semaphores: s0: key for restroom
              s1: key for bathroom

person 1: always acquires s0, then s1
person 2: never

Based on a discussion with Vas Chellappa