

## Algorithm 6.13: Barz's algorithm for simulating general semaphores

```
binary semaphore  $S \leftarrow 1$   
binary semaphore gate  $\leftarrow 1$   
integer count  $\leftarrow k$ 
```

loop forever

non-critical section

p1: wait(gate)

p2: wait( $S$ )

// Simulated wait

p3: count  $\leftarrow$  count  $- 1$

p4: if count  $> 0$  then

p5: signal(gate)

p6: signal( $S$ )

critical section

p7: wait( $S$ )

// Simulated signal

p8: count  $\leftarrow$  count  $+ 1$

p9: if count  $= 1$  then

p10: signal(gate)

p11: signal( $S$ )