output = 0

Thread 1

Thread 2

READ
output = 0

READ
output = 0

Stale Read
(premature read)

COMPUTE
output + x[1]

WRITE
output = x[1]

COMPUTE
output + x[2]

WRITE
output = x[2]

Lost Update
(result from thread 1
overwritten)

FINAL RESULT
output = x[2]
(wrong)