2threadfraction

Craig Scratchley, SFU, 2020

two threads access a fraction object in an unsafe manner
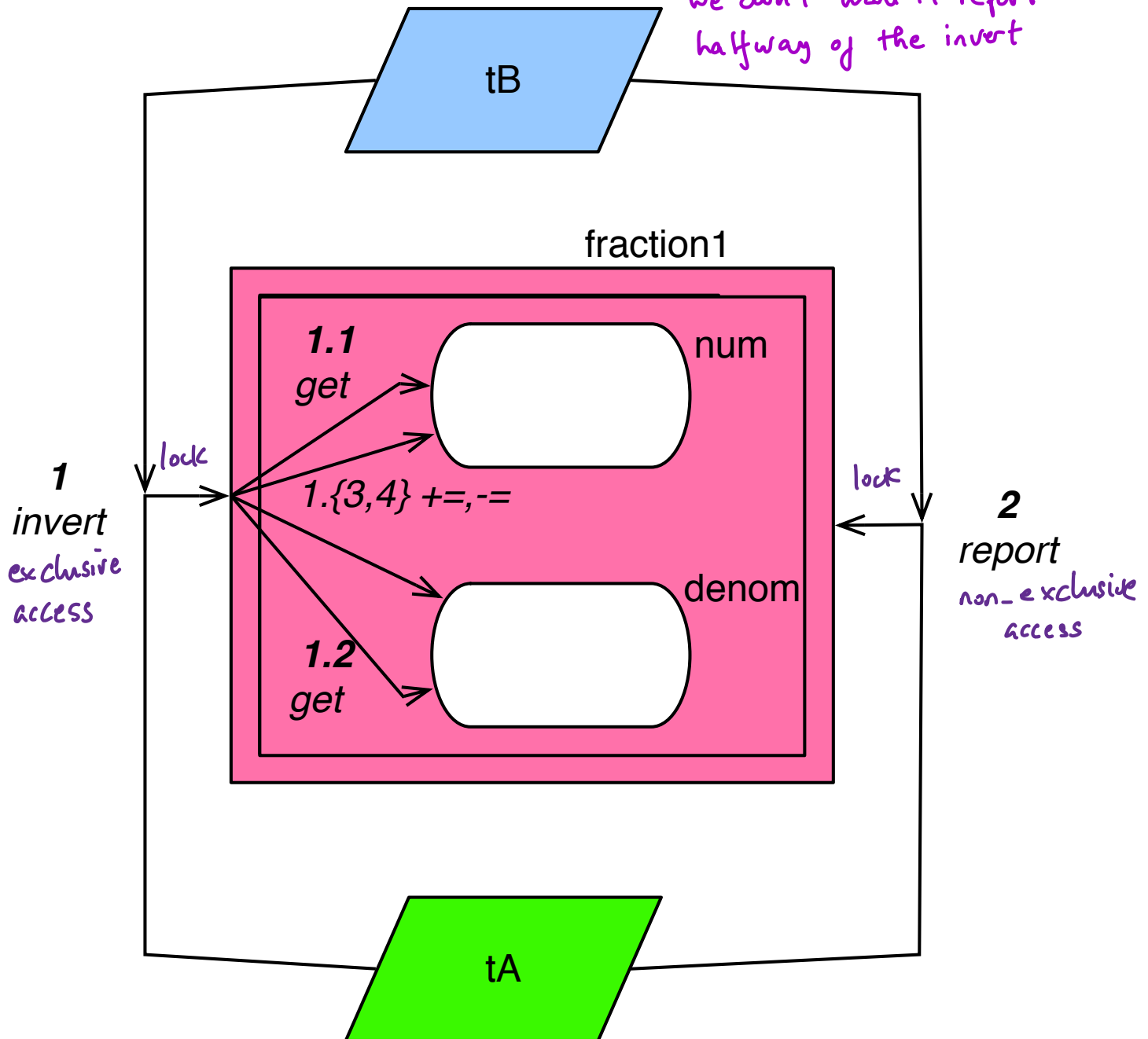
Craig Scratchley, SFU, 2021
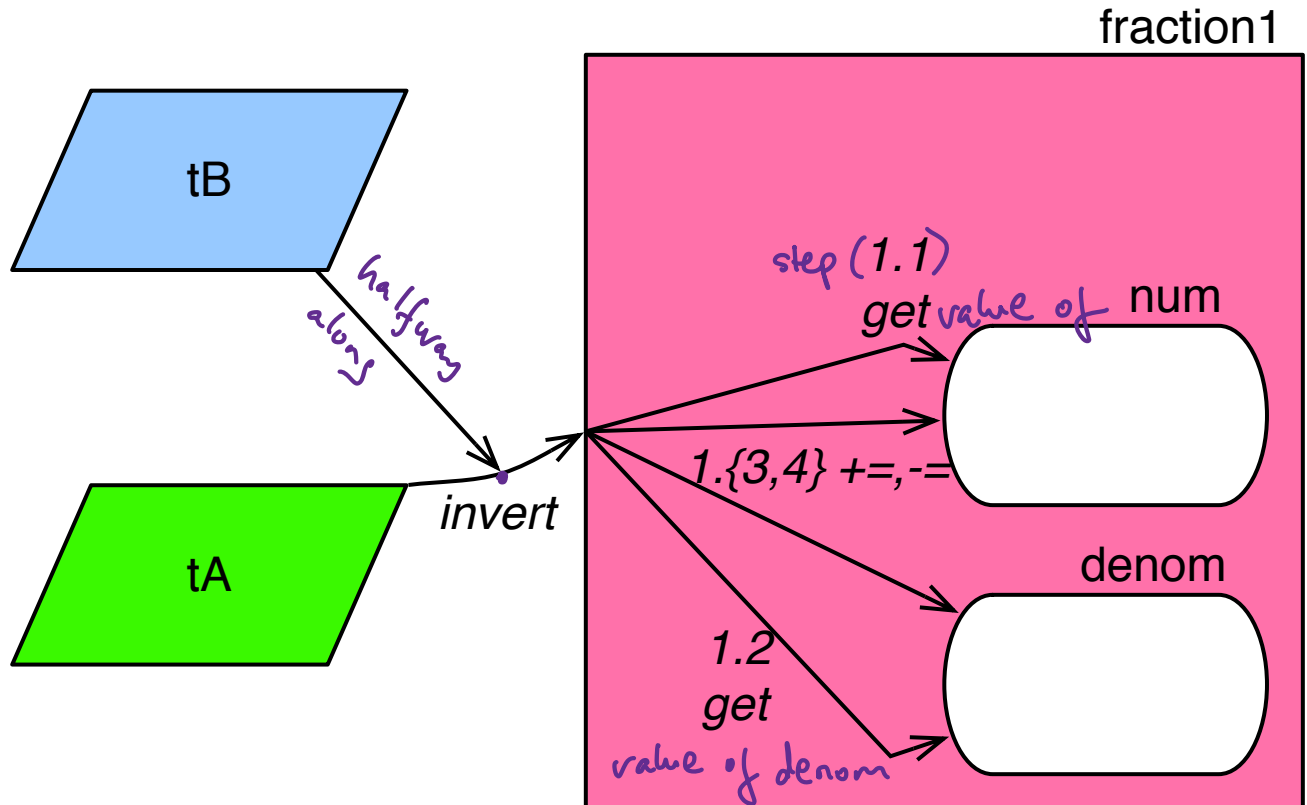
two threads access a fraction object protected by a mutex

fraction1

tB

tA

invert

1.0 lock → ● myMutex

1.5 unlock

1.1 get

num

1.{3,4} +=,-=

denom

1.2 get

two threads access a fraction object
in a protected manner

Craig Scratchley, SFU, 2020
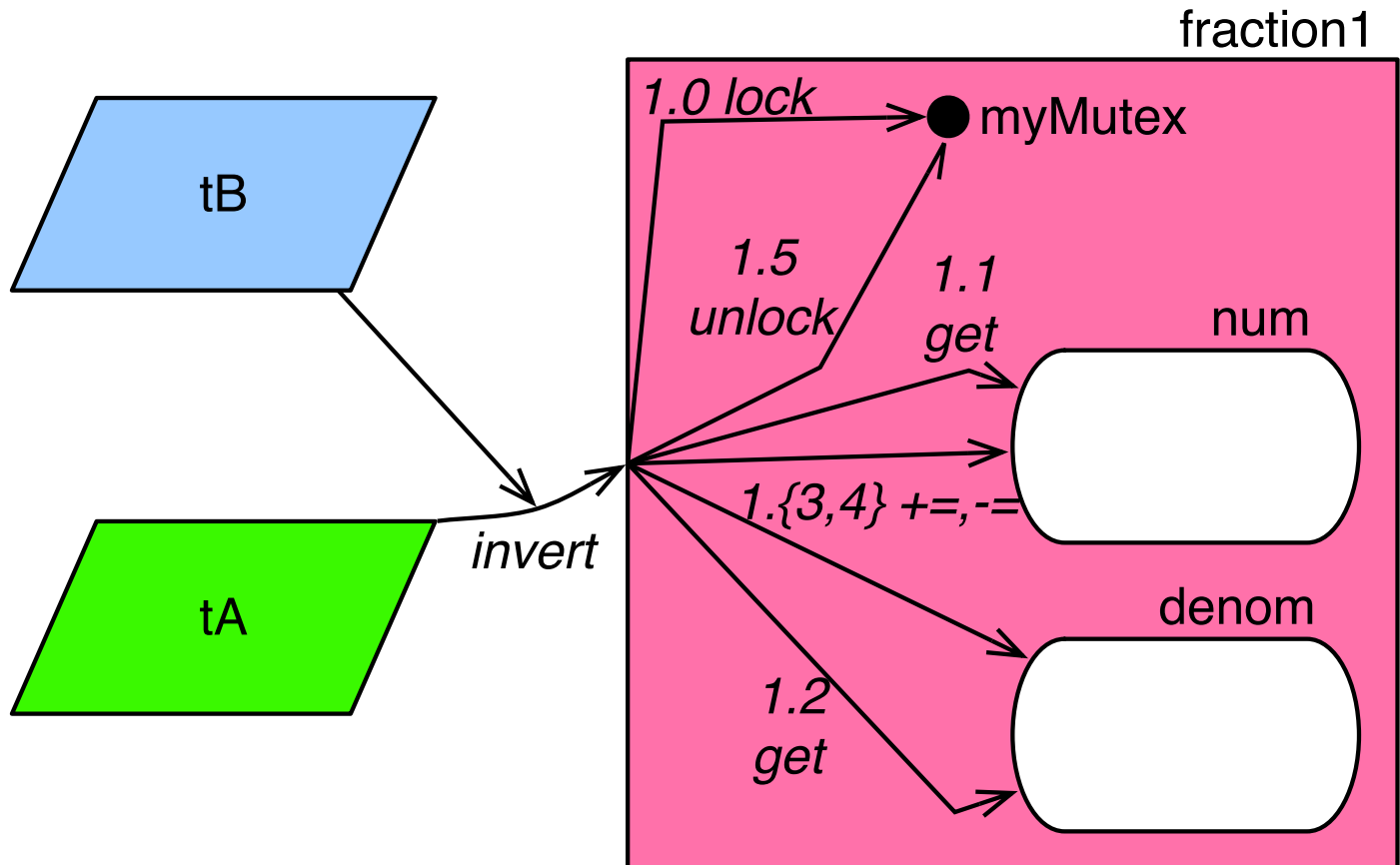
2thread fraction Protected w Report

more report() called than invert() → sharedmutex

we don't want it report
halfway of the invert

tB

fraction1

1.1
get

num

lock

lock

1
invert

exclusive
access

1.{3,4} +=,-=

2
report

non-exclusive
access

denom

1.2
get

tA

2thread Protected

Craig Scratchley, SFU, 2020

two threads access a fraction object
in a protected manner

fraction1

tB

tA

invert

1.1
get

1.{3,4} +=,-=

1.2
get

num

denom

↑ double outline