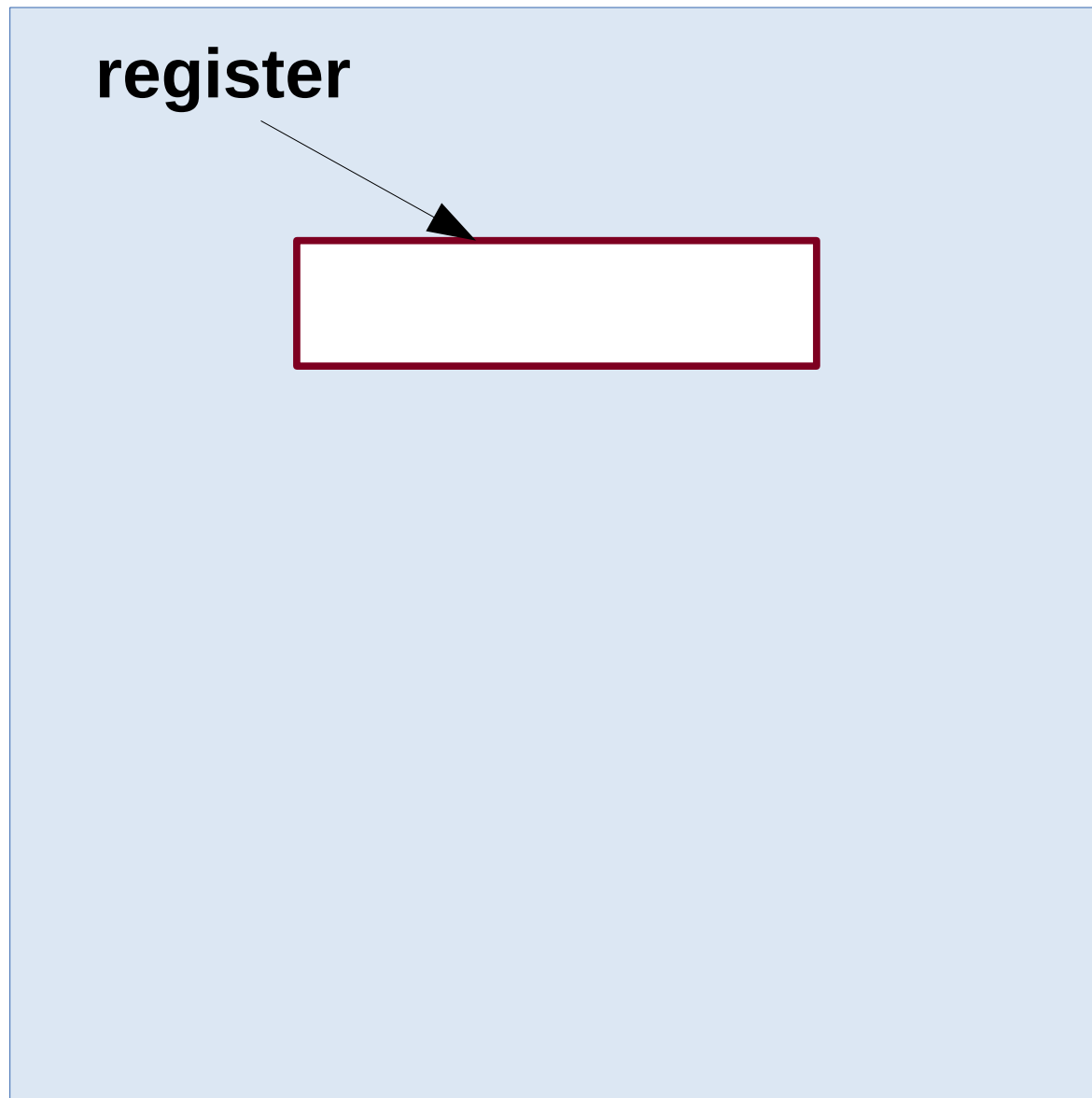
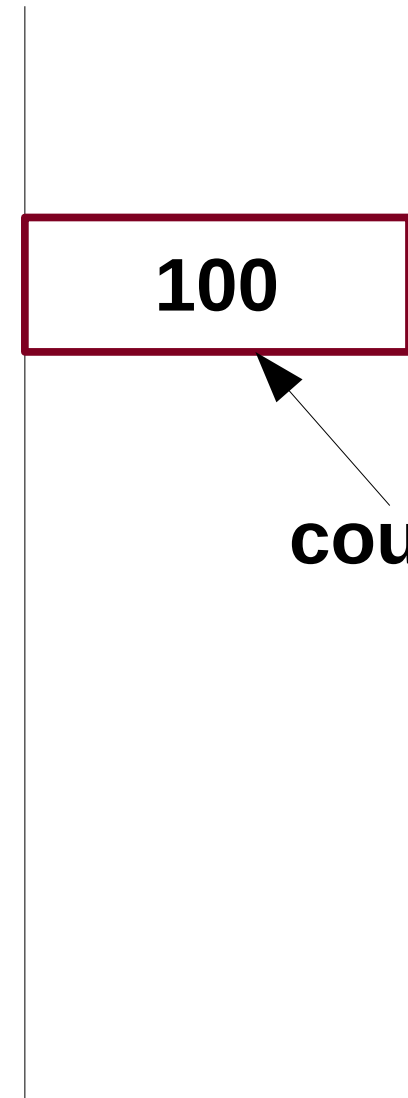


# Single Thread -



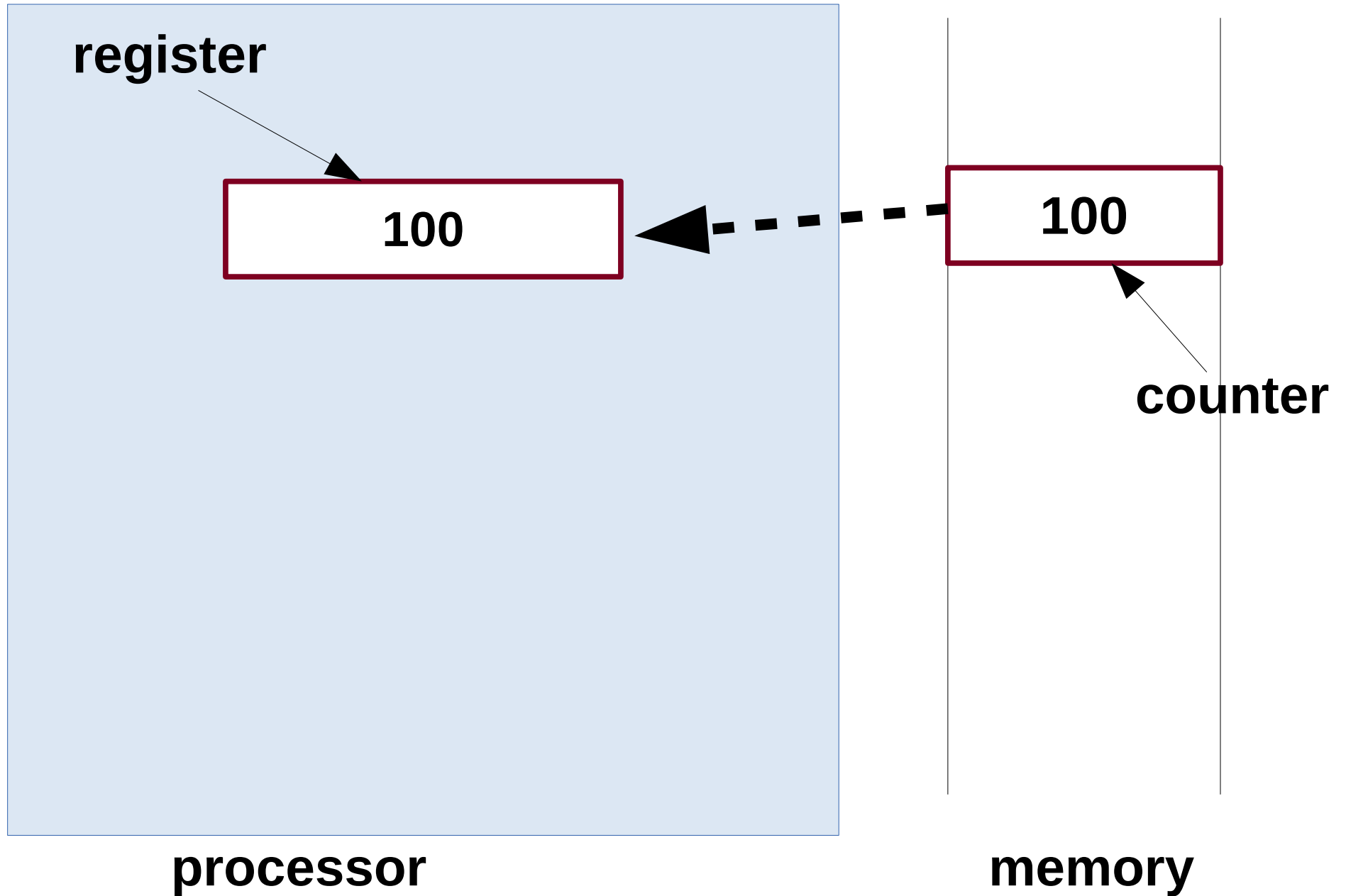
**processor**



**memory**

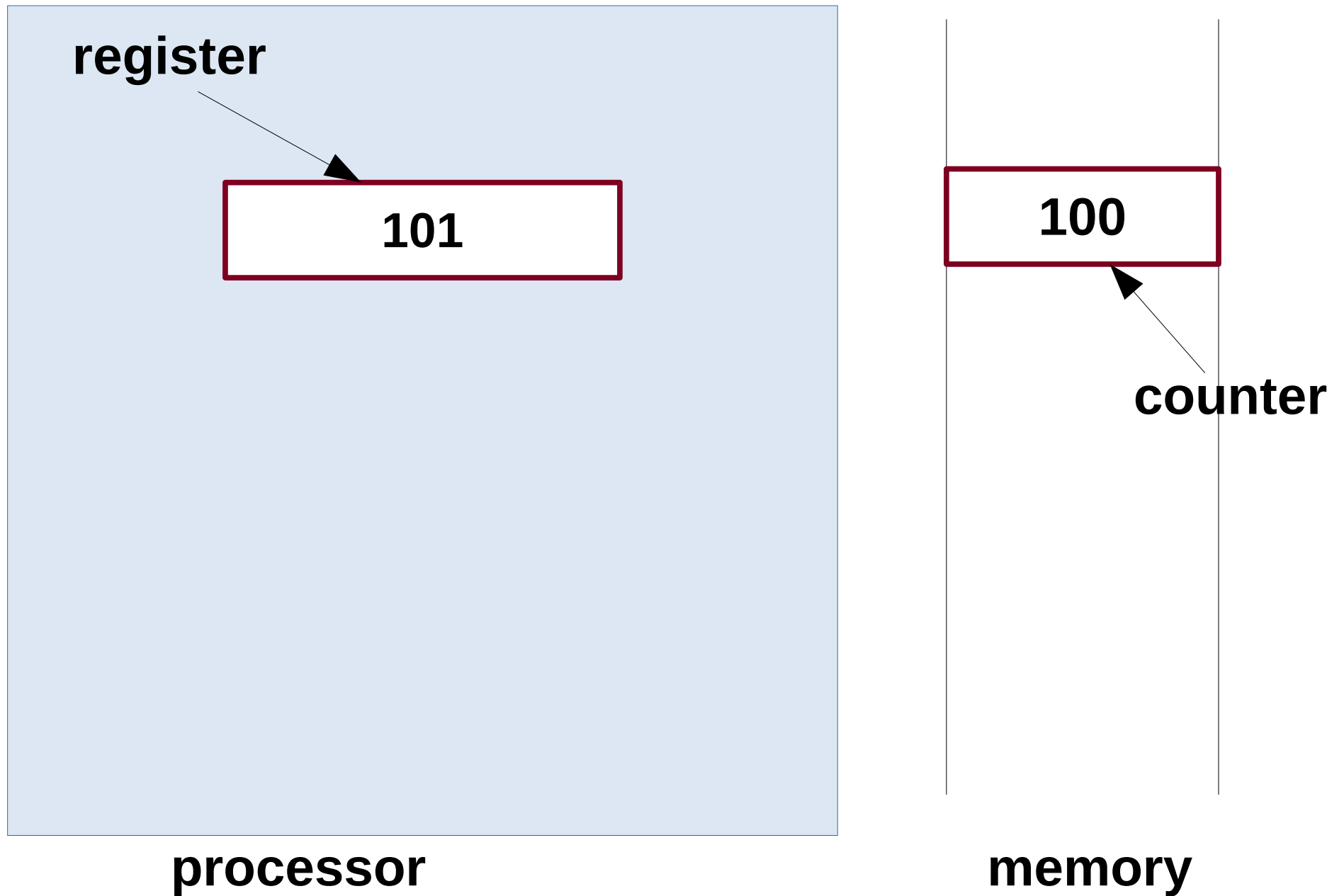
**Exec: counter++**

# Single Thread – copy 100 to register



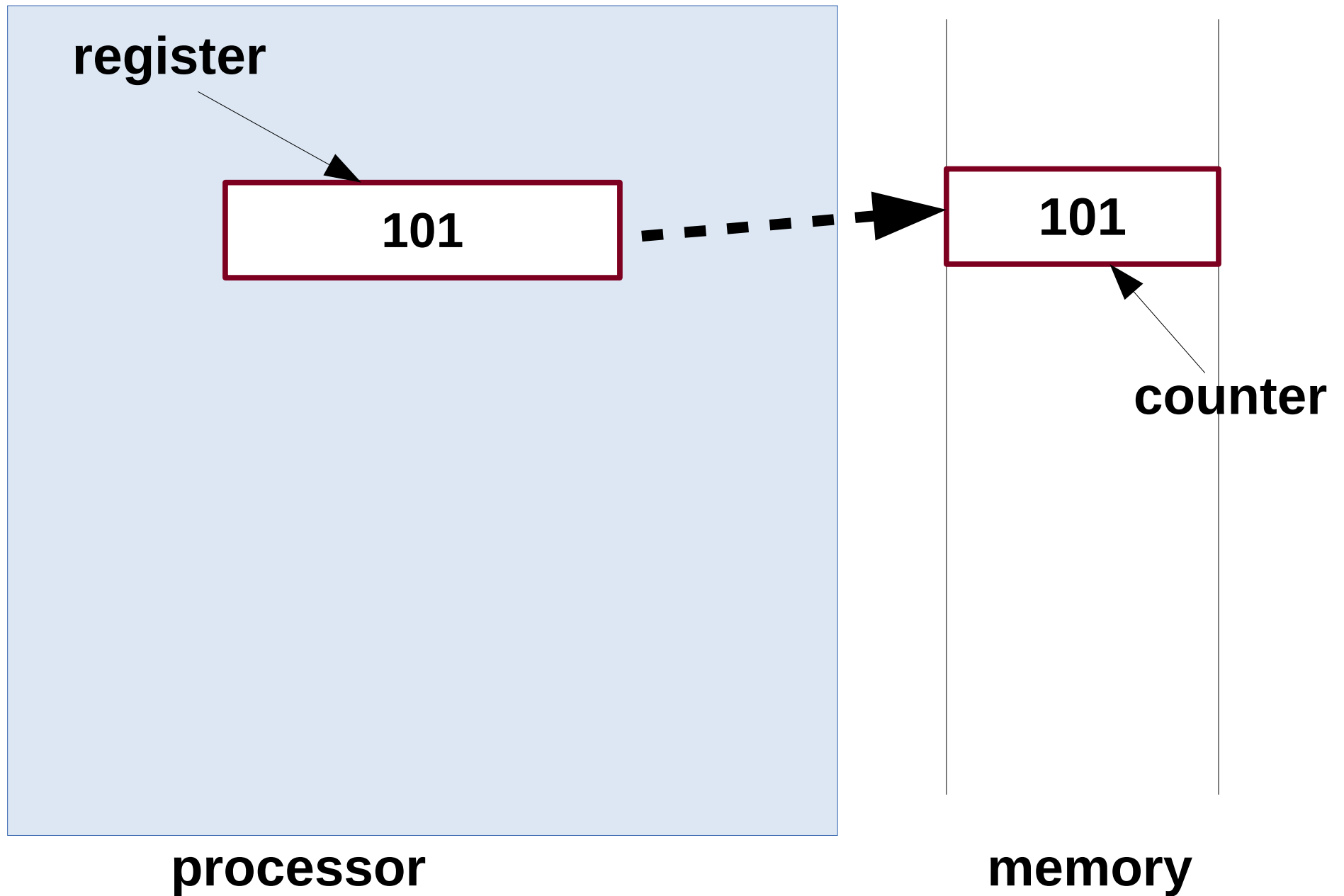
Exec: **counter++**

# Single Thread – increment register



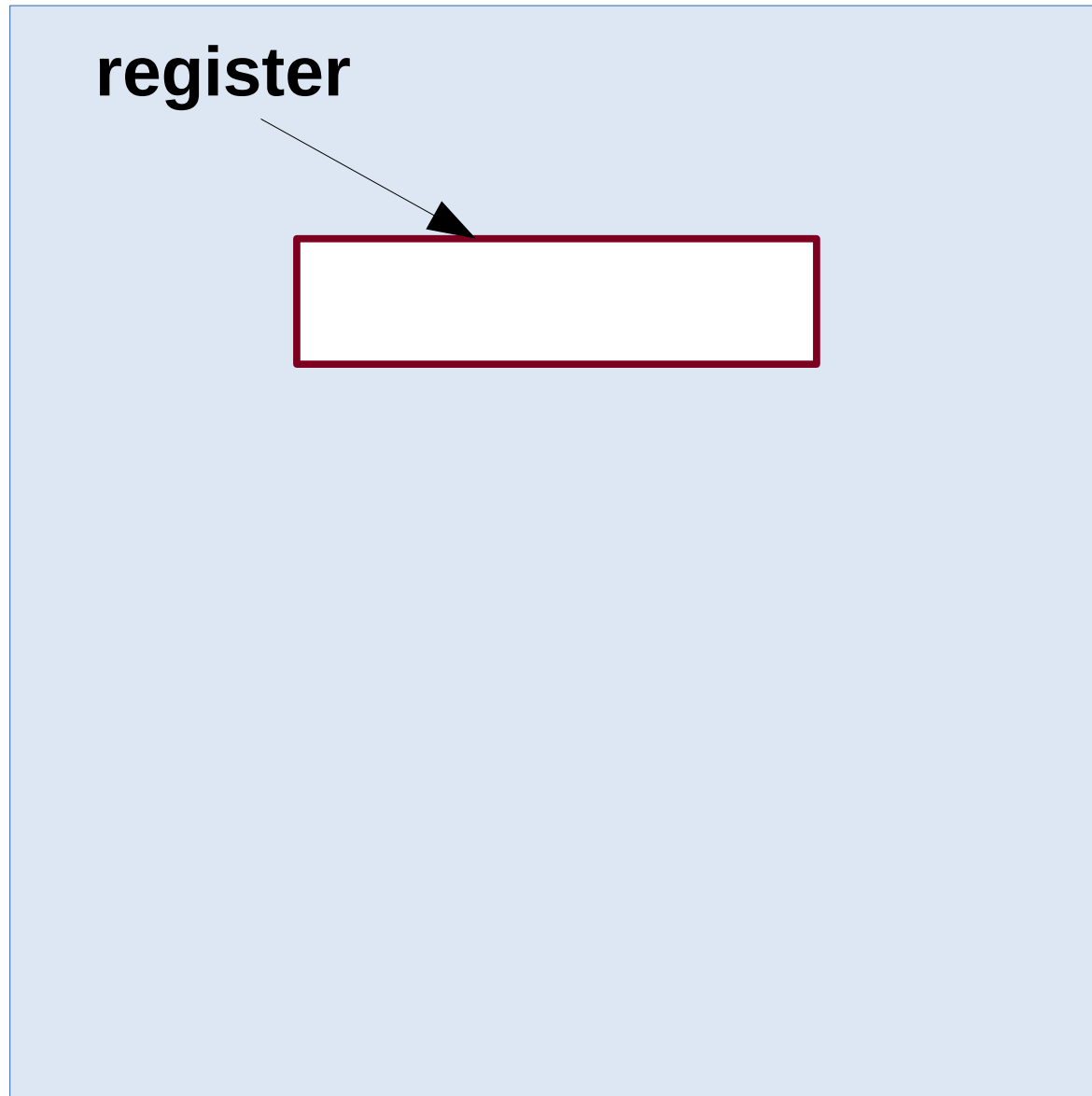
Exec: **counter++**

# Single Thread – write to memory

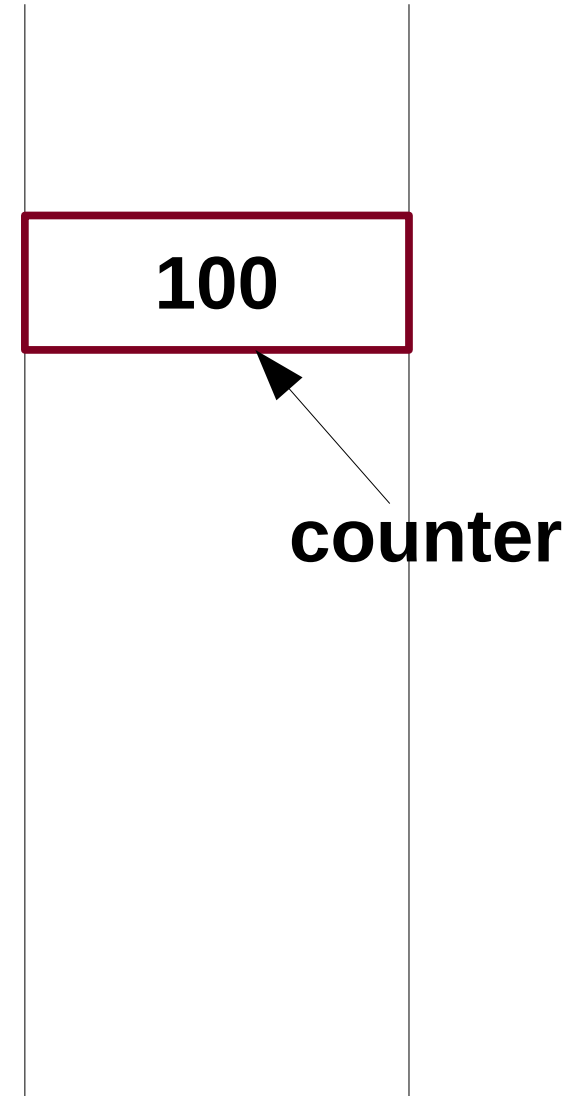


Exec: **counter++**

# Two Threads –



**processor**

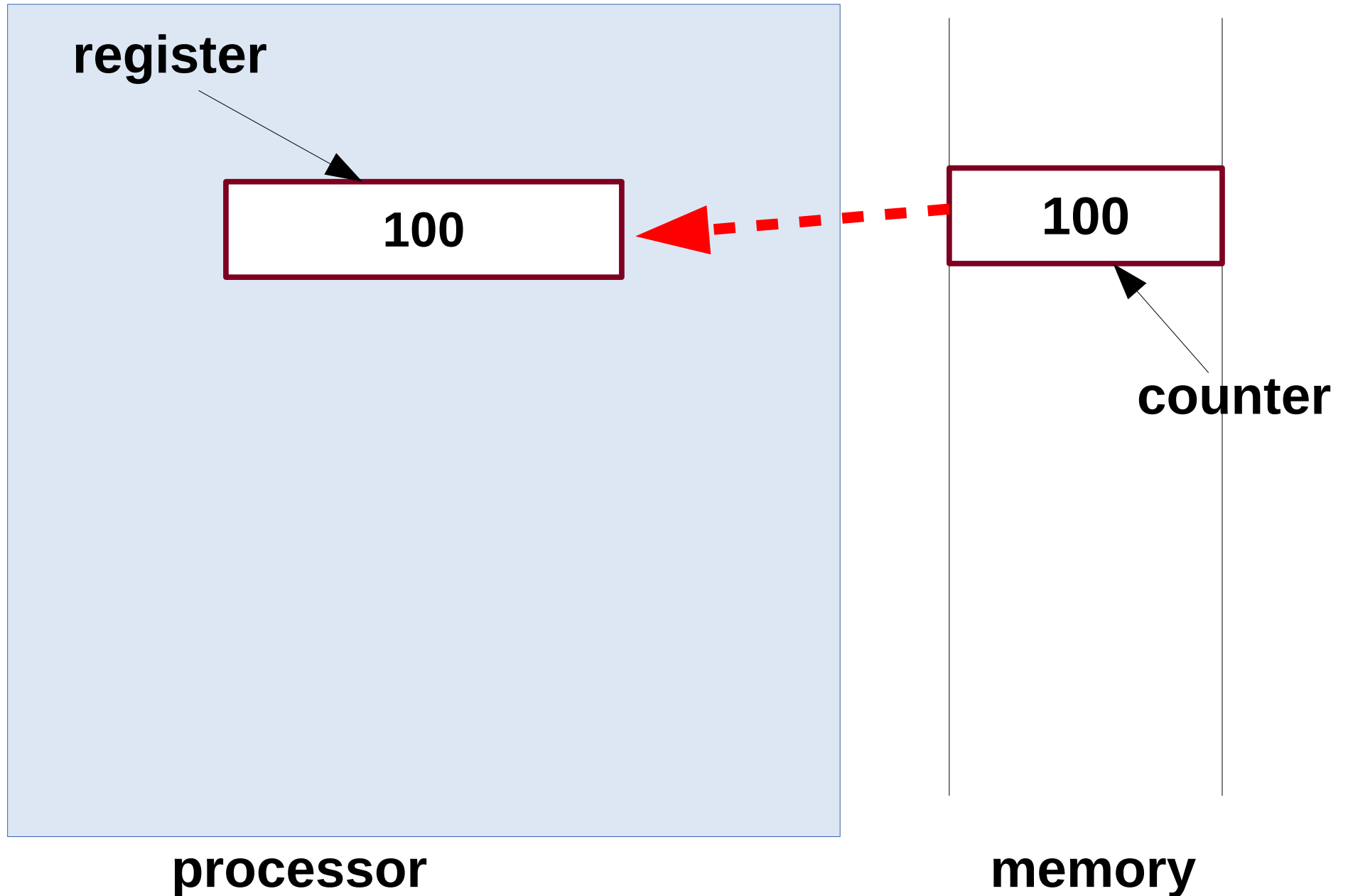


**memory**

**Exec: counter++**

**Scenario 1**

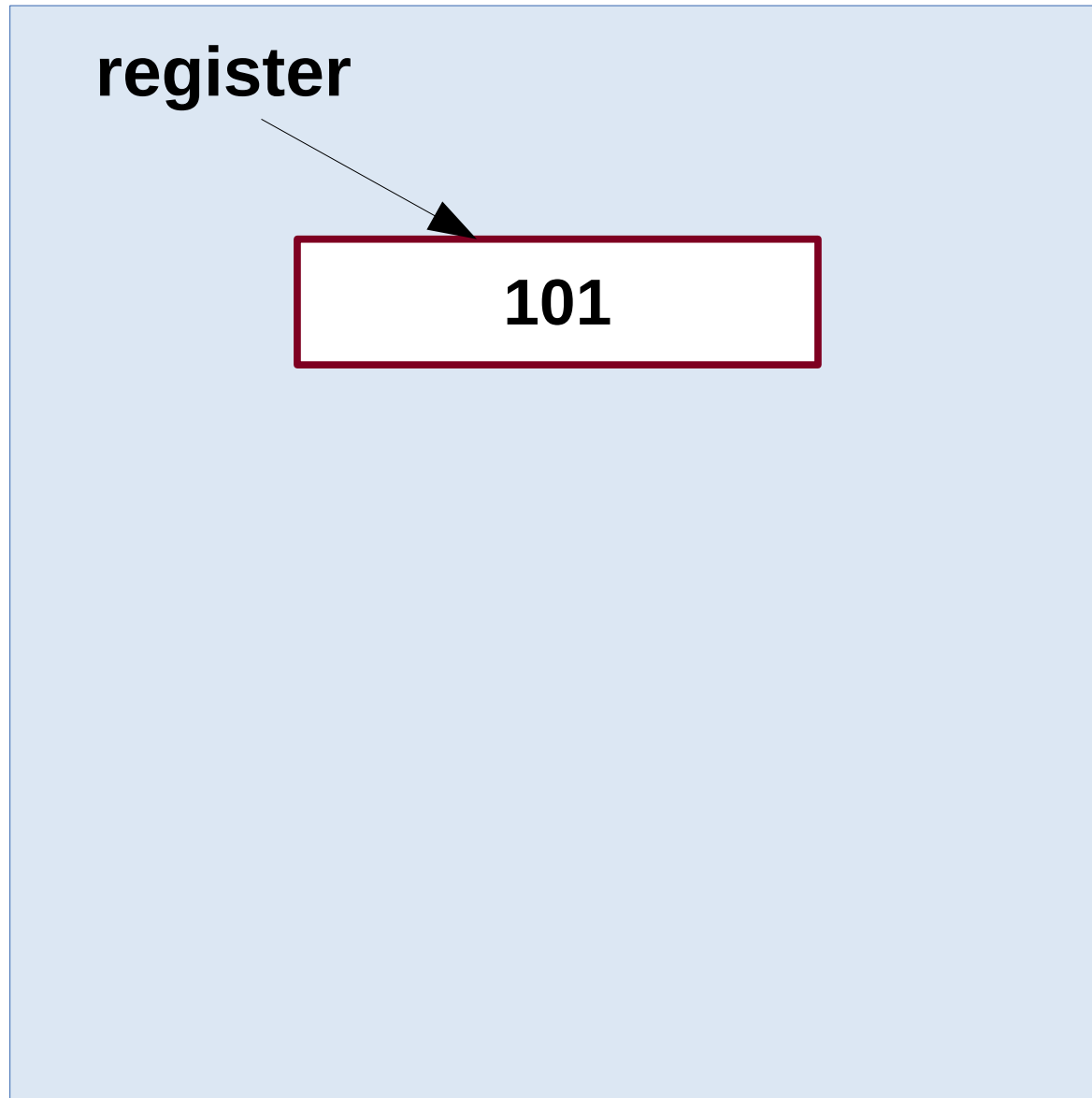
# Two Threads – thread 1 copies to register



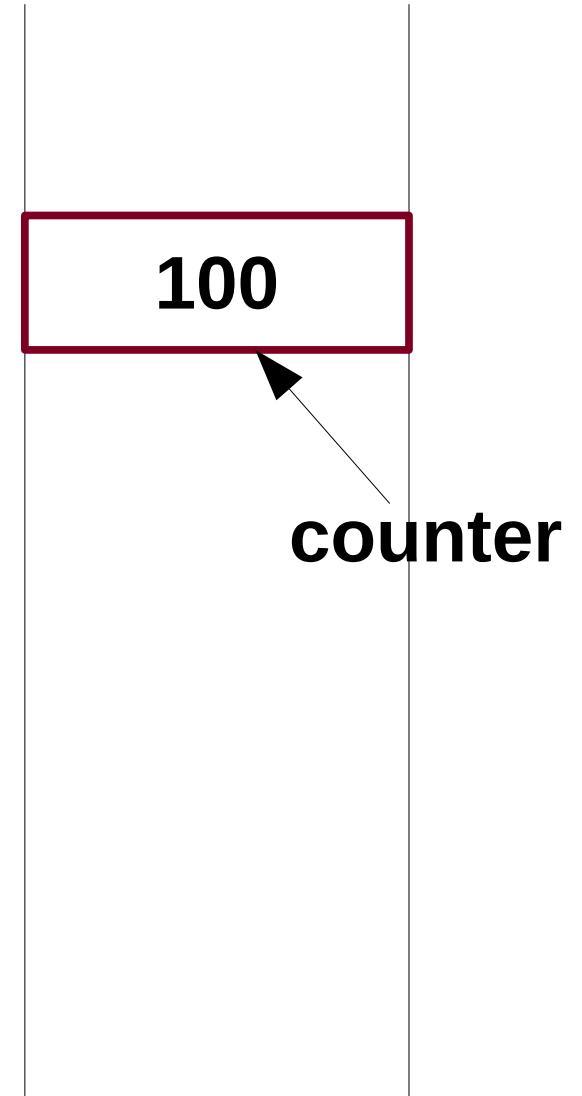
Exec: **counter++**

**Scenario 1**

# Two Threads – thread 1 adds 1 to register



processor

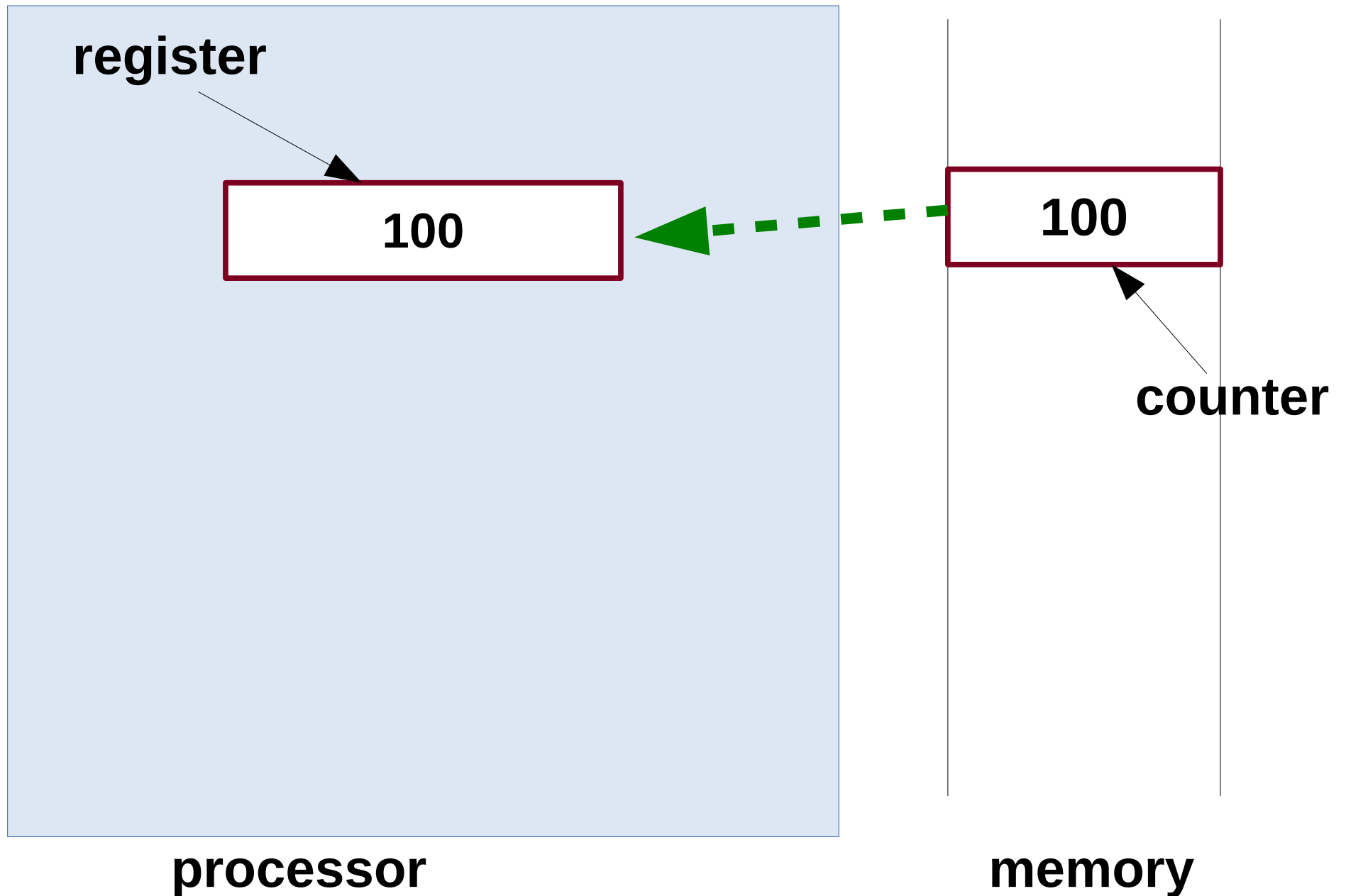


memory

Exec: **counter++**

**Scenario 1**

# Two Threads – thread 2 copies to register

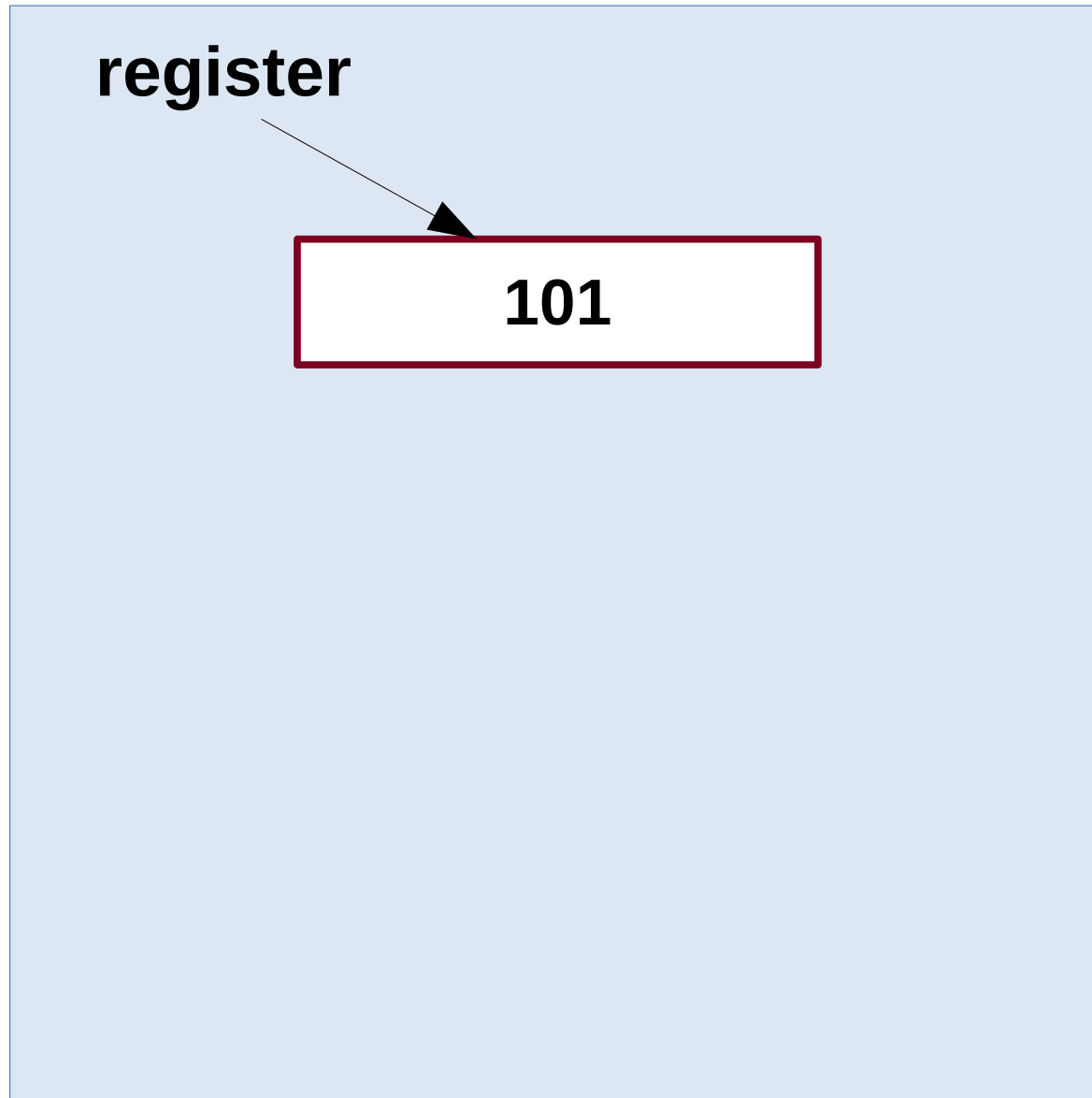


Exec: **counter++**

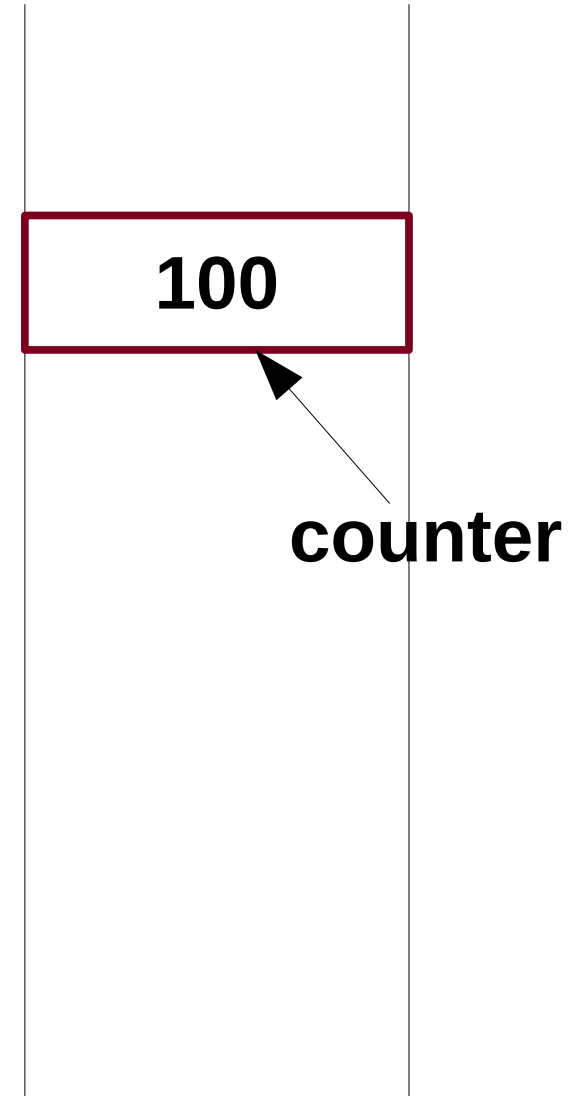
**Scenario 1**



# Two Threads – thread 2 adds 1 to register



processor

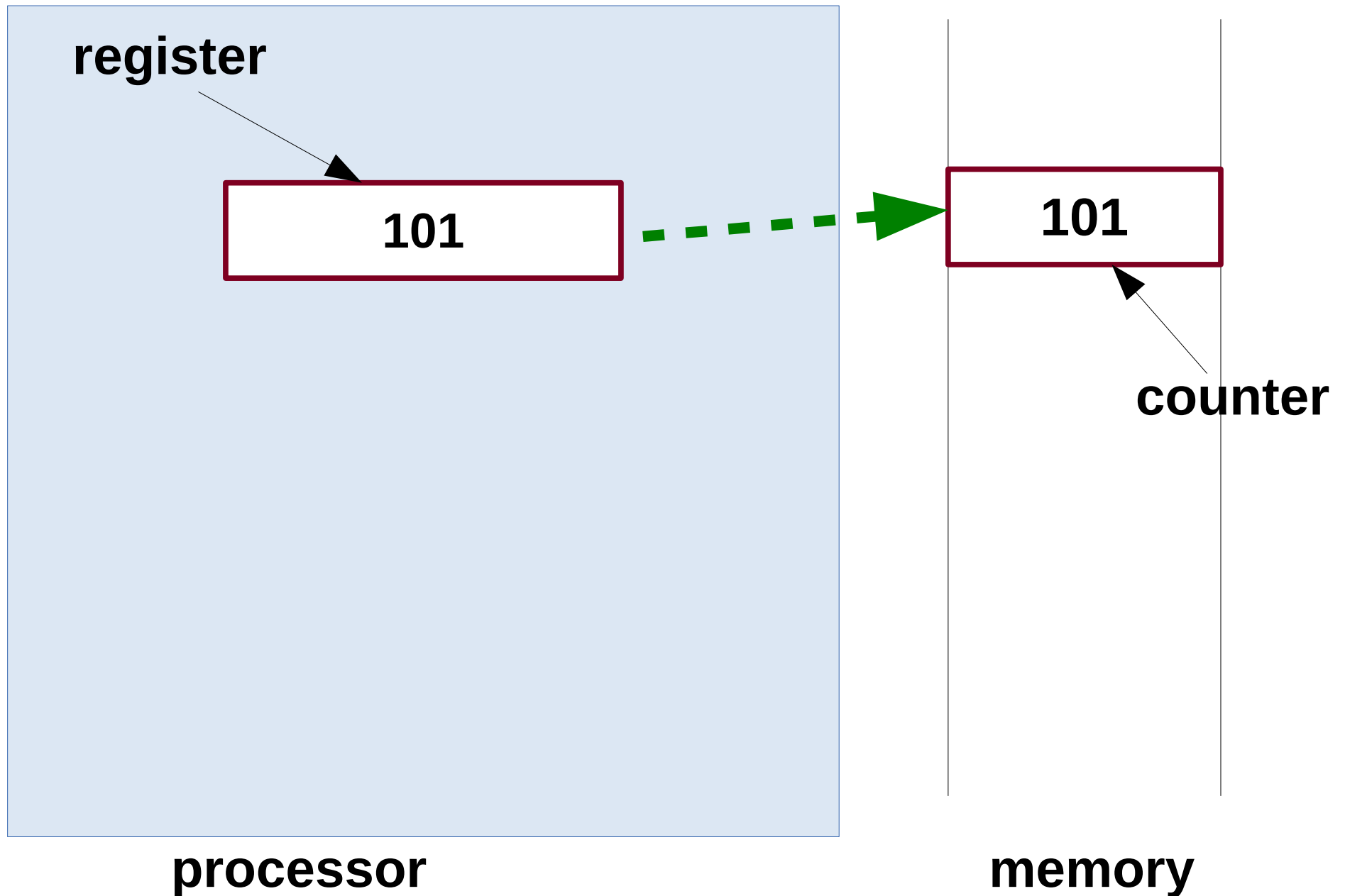


memory

Exec: **counter++**

**Scenario 1**

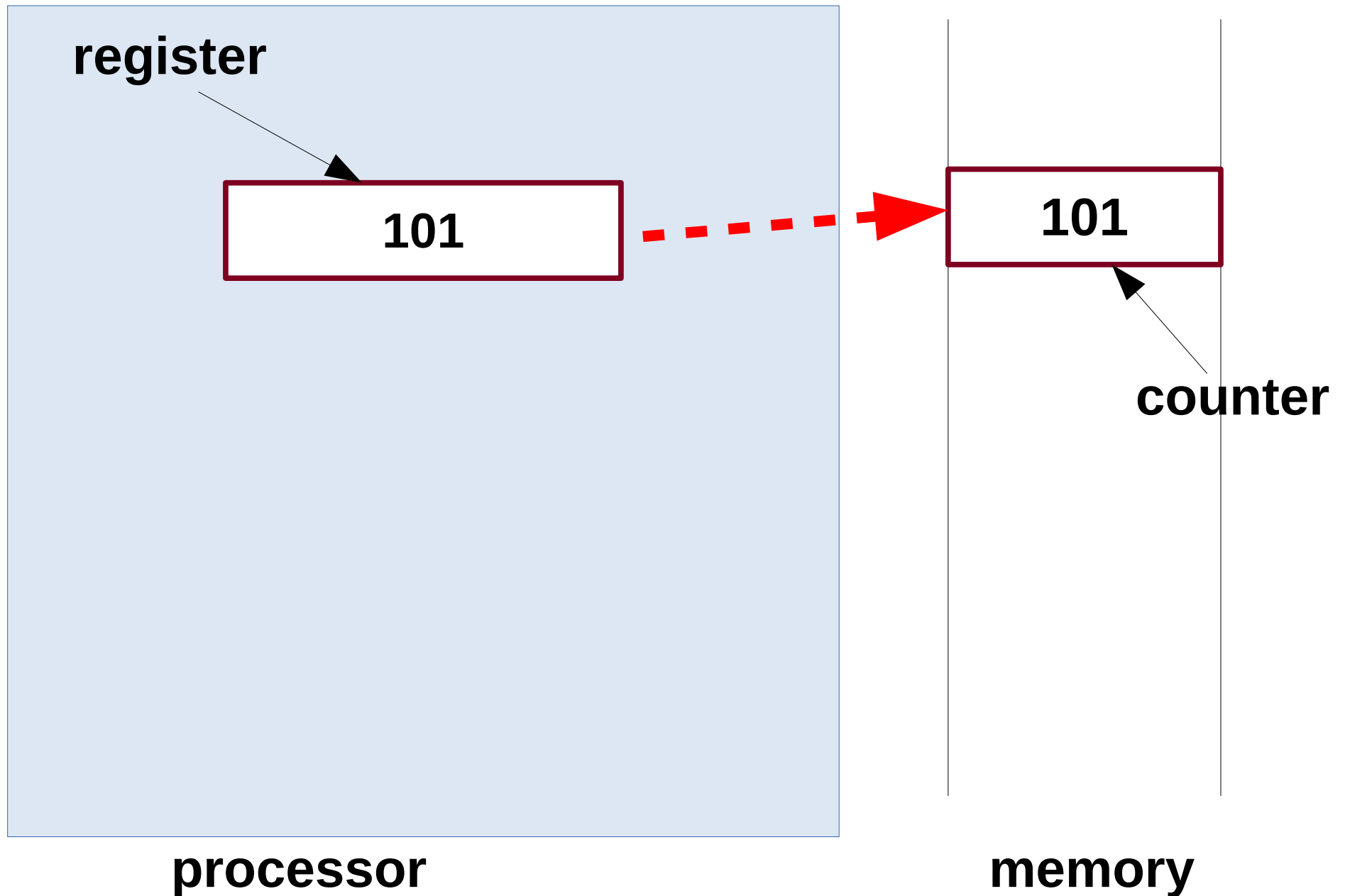
# Two Threads – thread 2 writes to counter



Exec: **counter++**

**Scenario 1**

# Two Threads – thread 1 writes to counter



Exec: **counter++**

**Scenario 1**