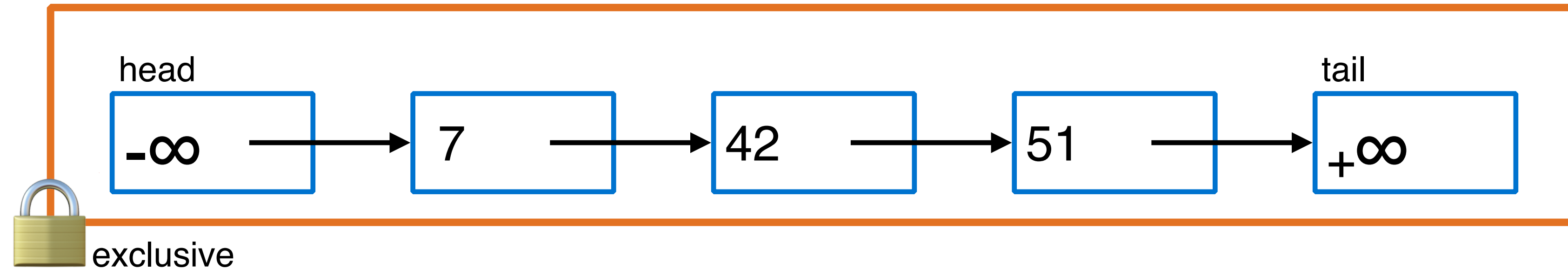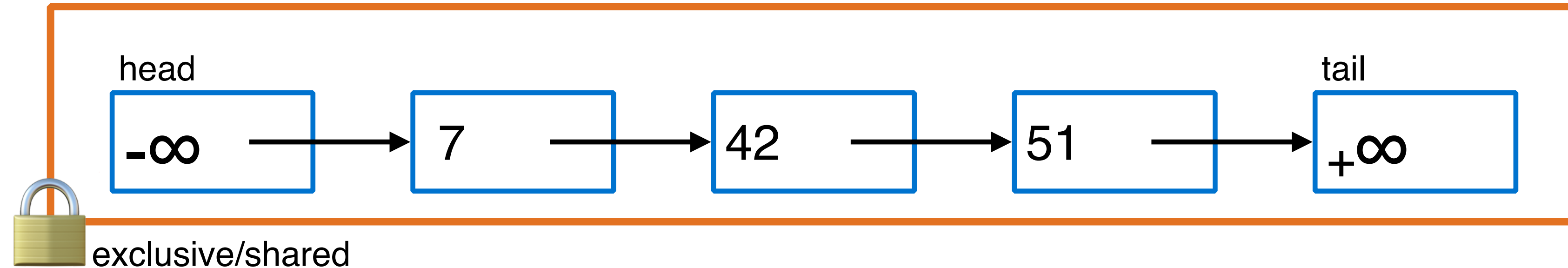# Assignment 5

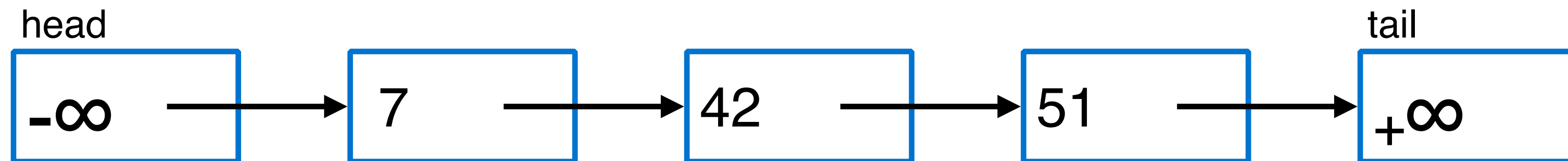## Implementation - Coarse-Grained Locking

Assignment 5

Implementation - Coarse-Grained Locking with read/write lock

Assignment 5
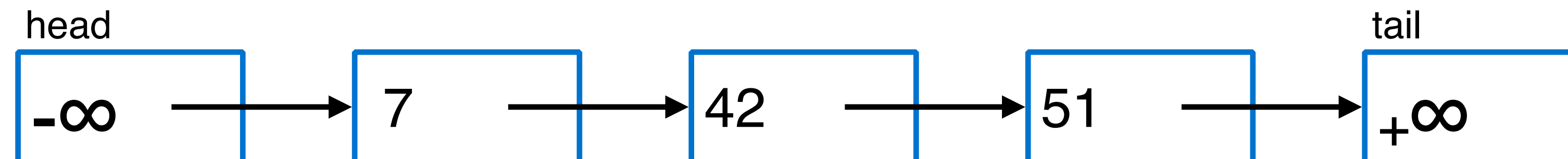
Implementation - Lock Coupling (with read/write locks)

Insert 49

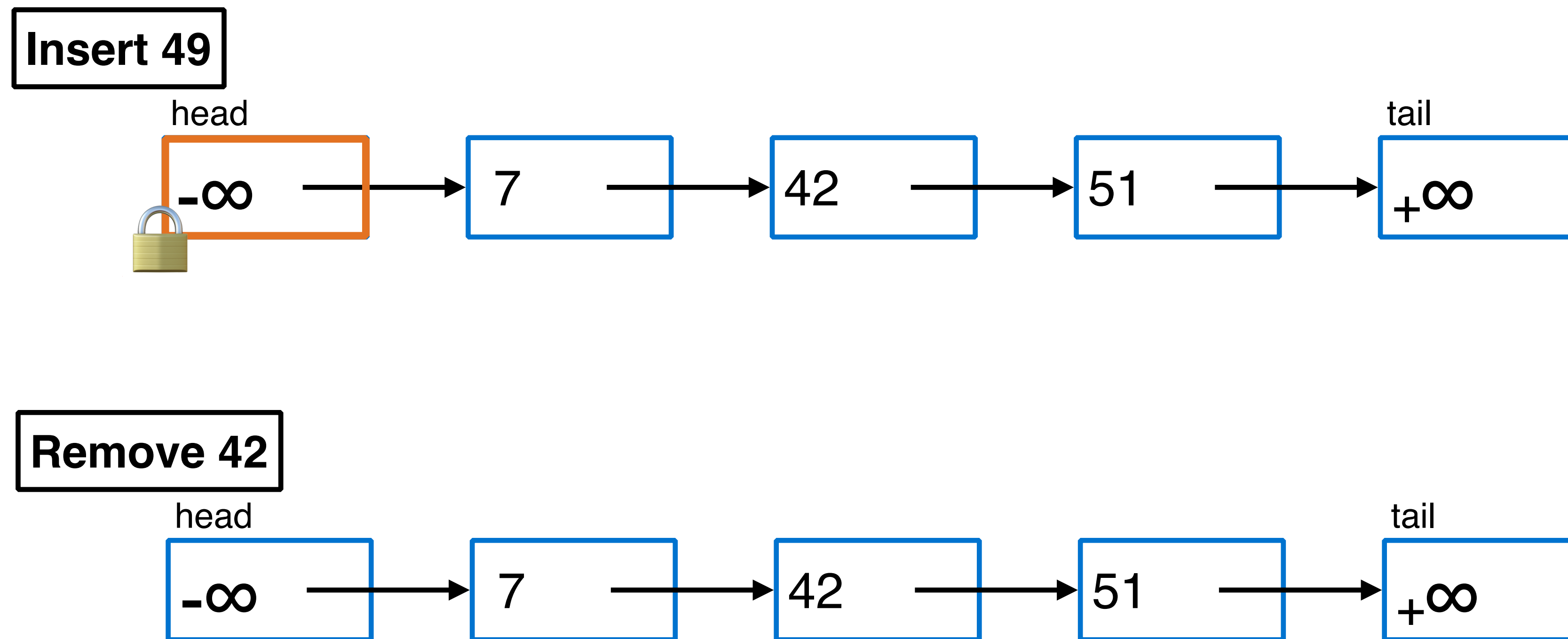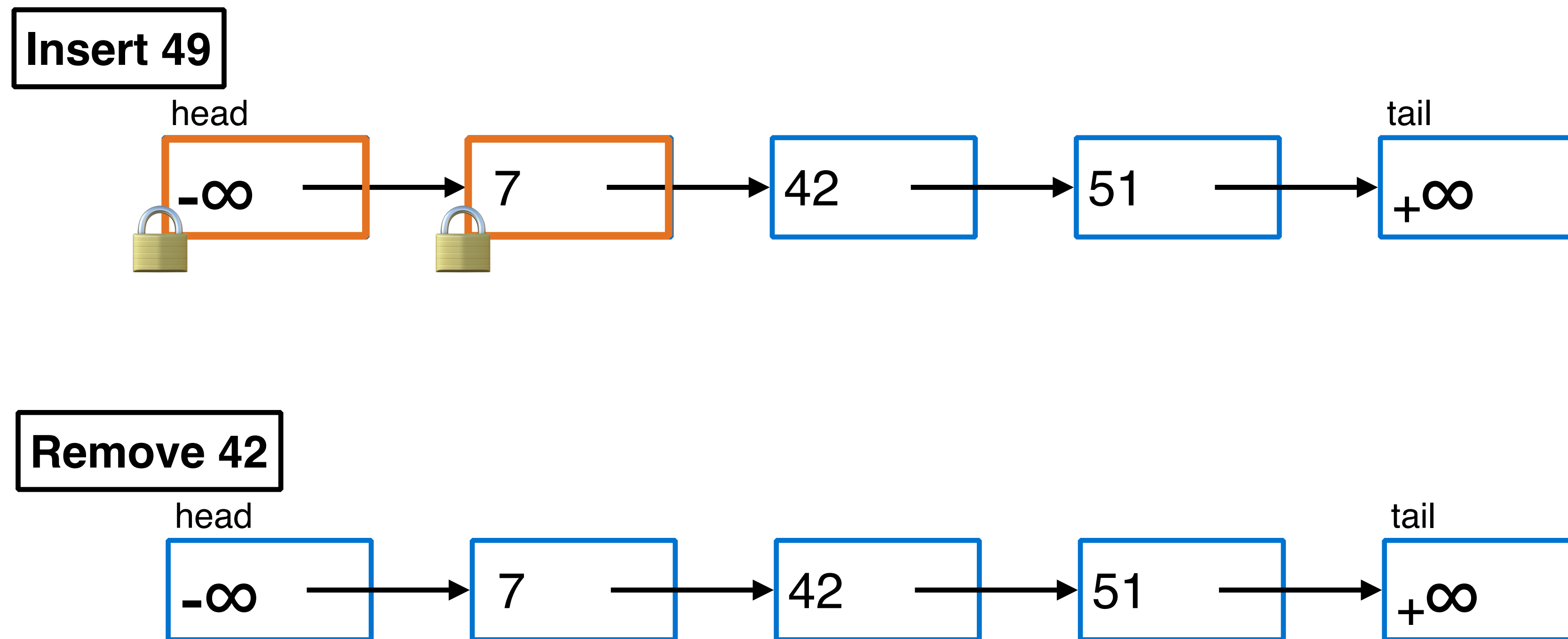head   tail

| -∞ | → | 7 | → | 42 | → | 51 | → | +∞ |

Remove 42

head   tail

| -∞ | → | 7 | → | 42 | → | 51 | → | +∞ |

Assignment 5

Implementation - Lock Coupling (with read/write locks)

Insert 49

head   tail

| -∞ | → | 7 | → | 42 | → | 51 | → | +∞ |

Remove 42

head   tail

| -∞ | → | 7 | → | 42 | → | 51 | → | +∞ |

Assignment 5

Implementation - Lock Coupling (with read/write locks)

Insert 49

head

-∞ → 7 → 42 → 51 → +∞

tail

Remove 42

head

-∞ → 7 → 42 → 51 → +∞

tail

Assignment 5

Implementation - Lock Coupling (with read/write locks)

Insert 49

head

| -∞ | → | 7 | → | 42 | → | 51 | → | +∞ |

tail

Remove 42

head

| -∞ | → | 7 | → | 42 | → | 51 | → | +∞ |

tail

Assignment 5

Implementation - Lock Coupling (with read/write locks)

Assignment 5

Implementation - Lock Coupling (with read/write locks)

Assignment 5

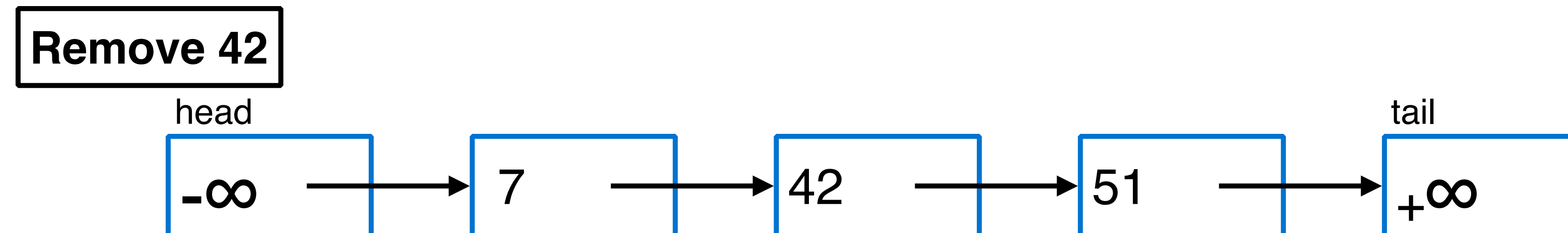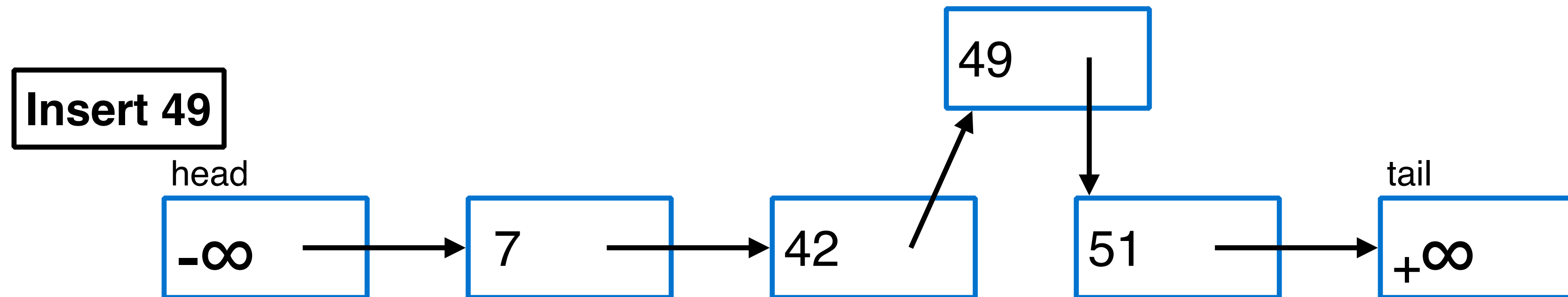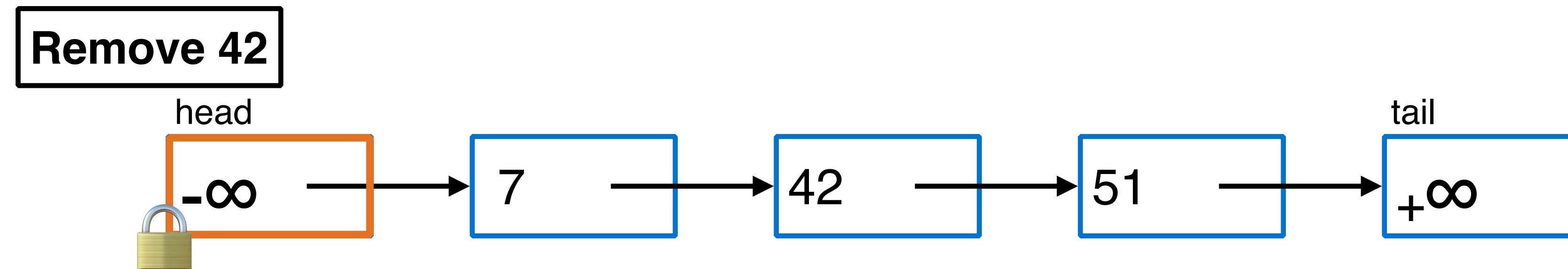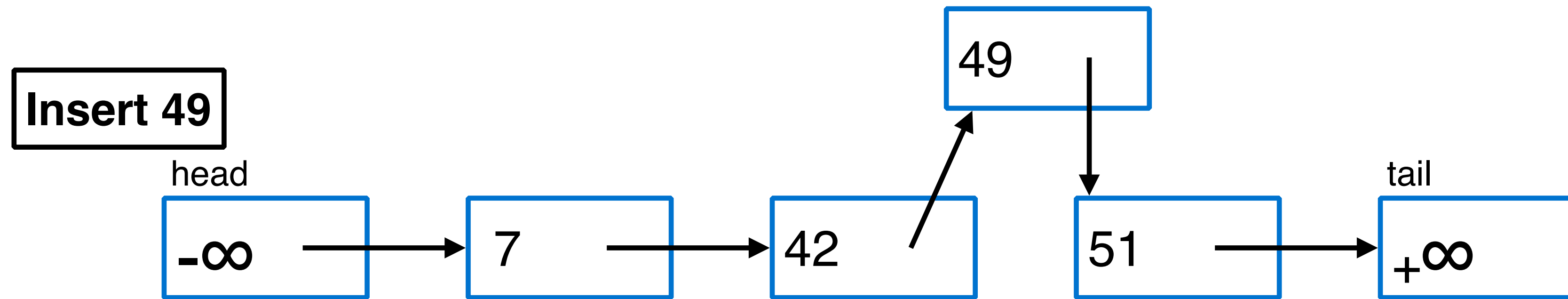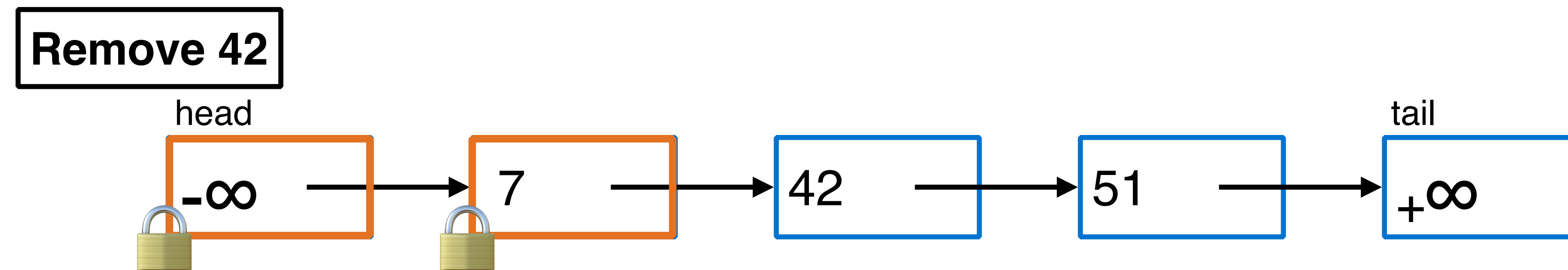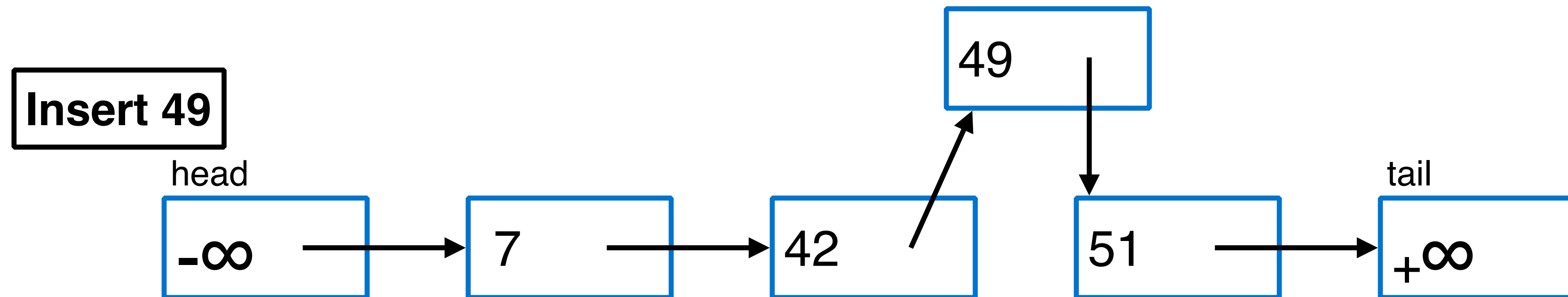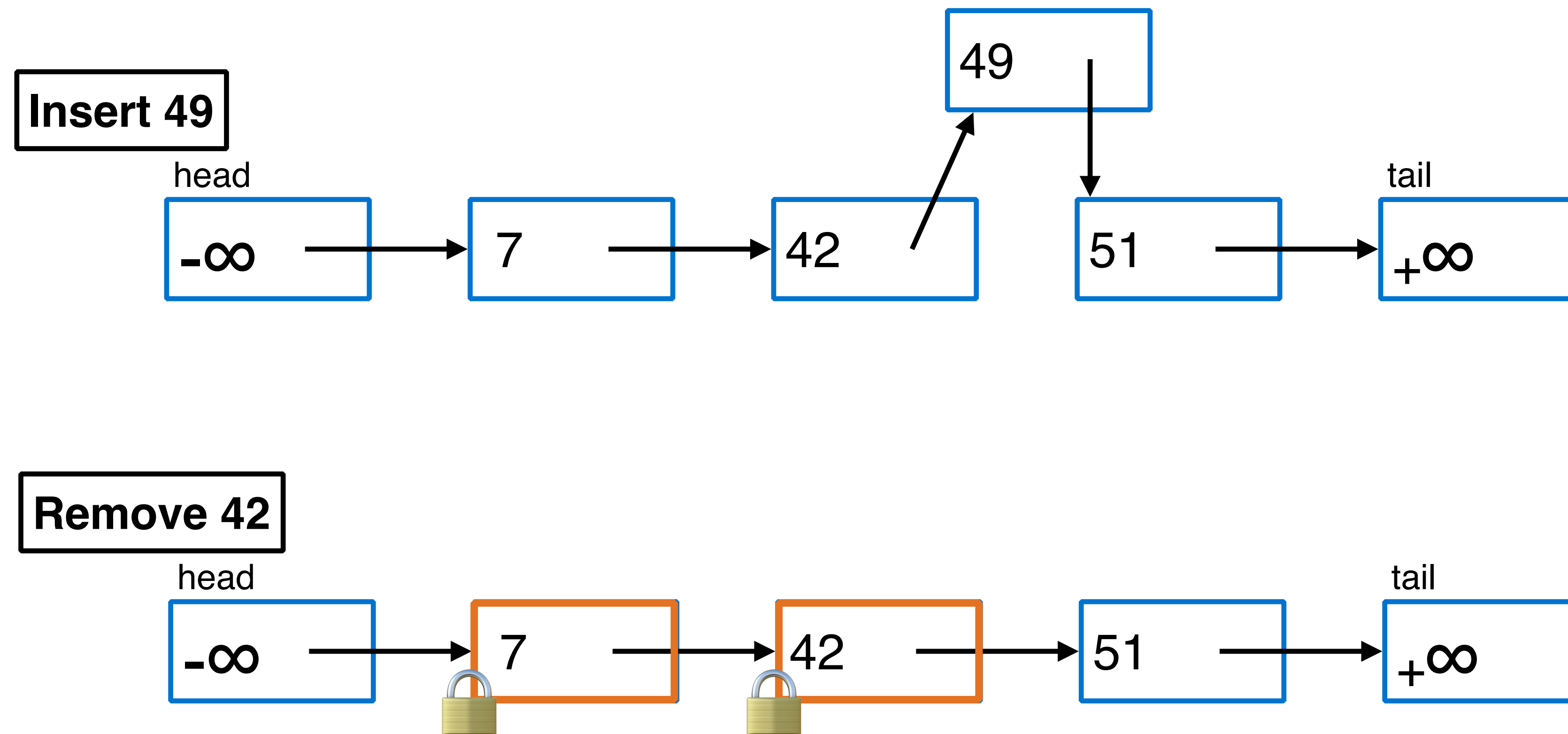## Implementation - Lock Coupling (with read/write locks)
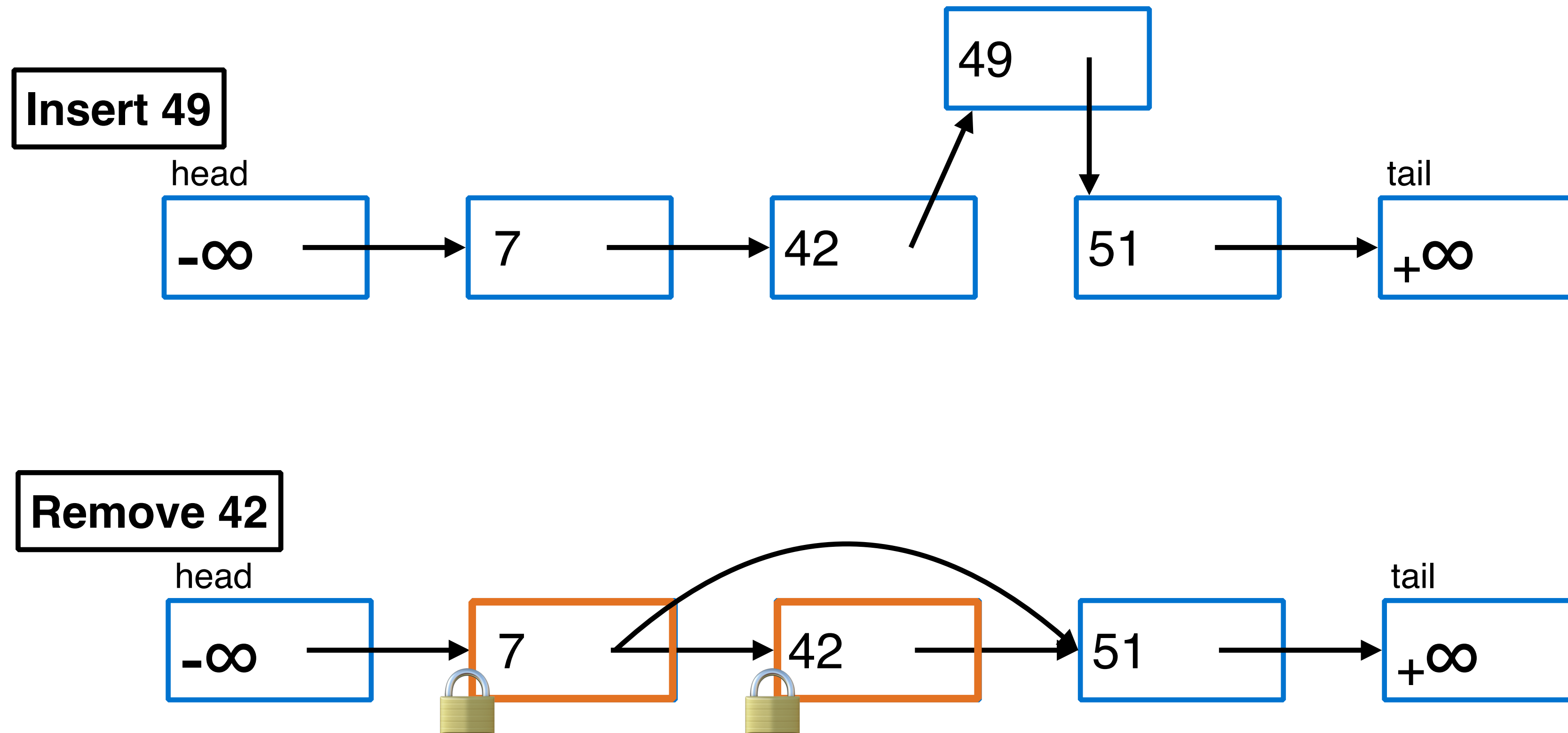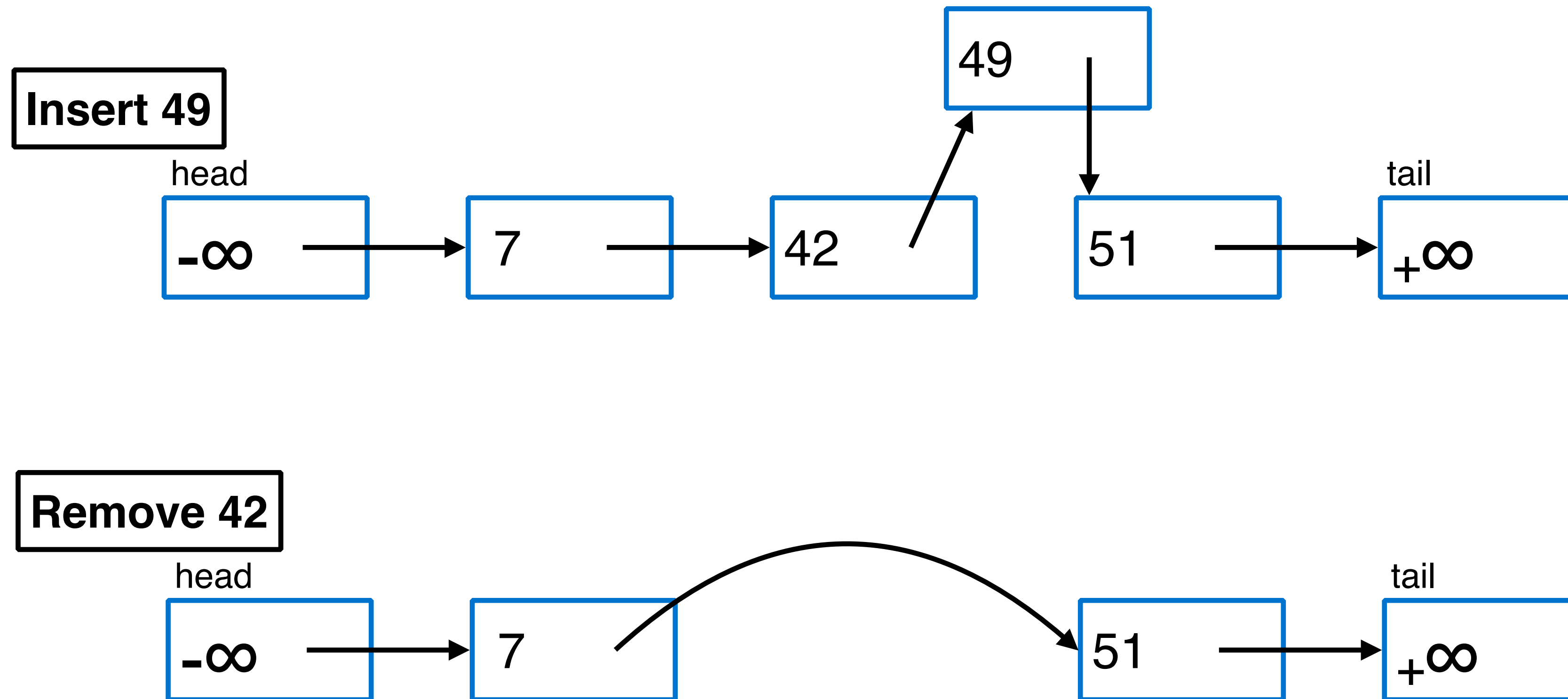
Assignment 5

Implementation - Lock Coupling (with read/write locks)

Assignment 5

Implementation - Lock Coupling (with read/write locks)

Assignment 5

Implementation - Lock Coupling (with read/write locks)

Assignment 5

Implementation - Lock Coupling (with read/write locks)

Assignment 5

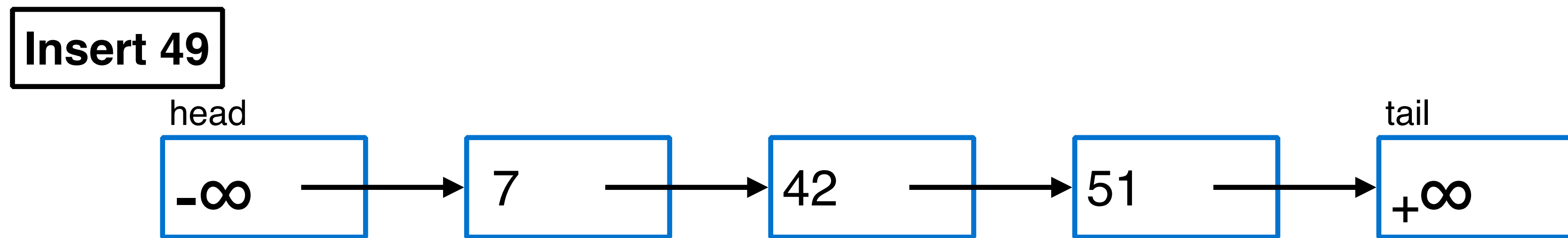## Implementation - Lock Coupling (with read/write locks)
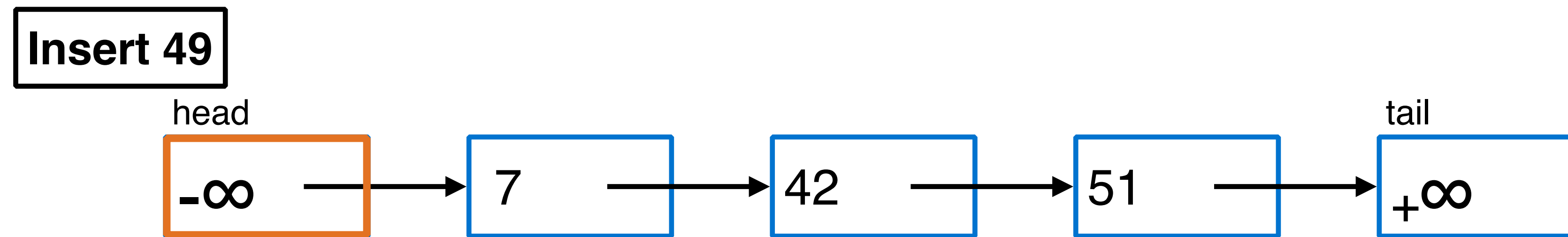
Assignment 5

Implementation - Lock Coupling (with read/write locks)

Insert 49

Remove 42

Assignment 5

Implementation - Optimistic Locking
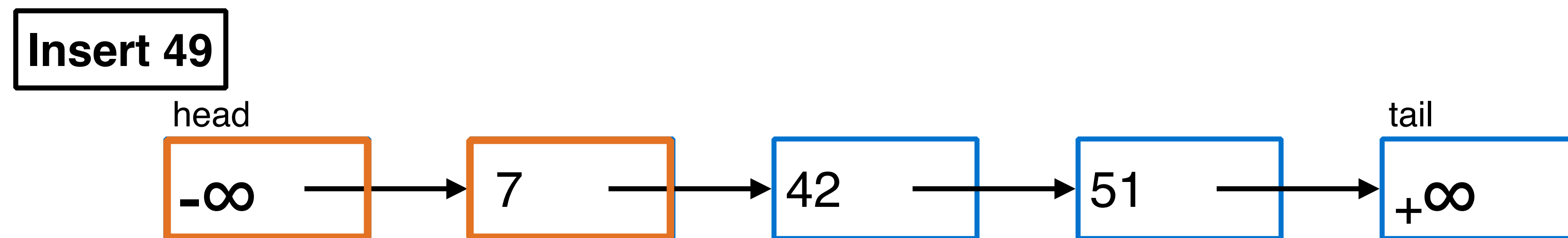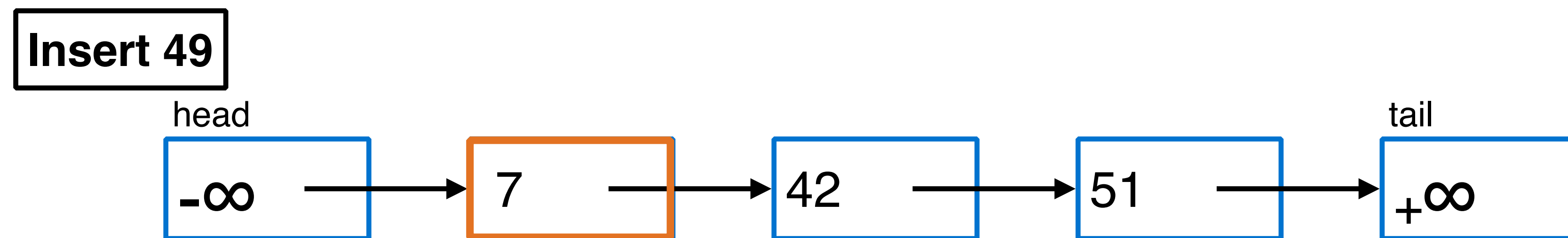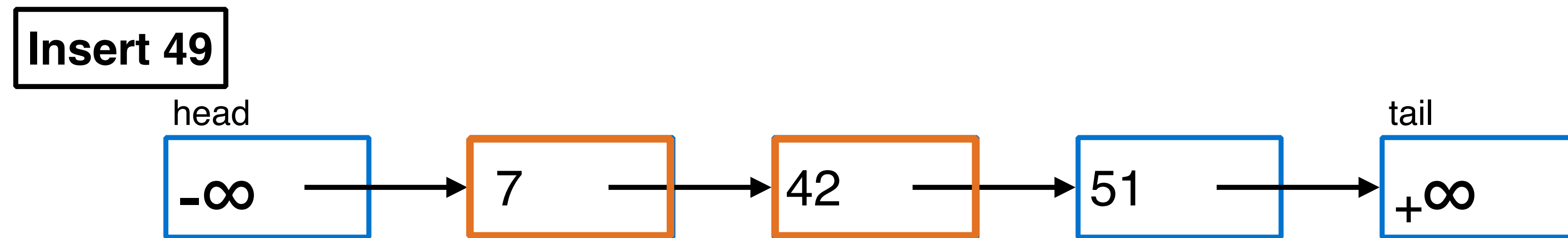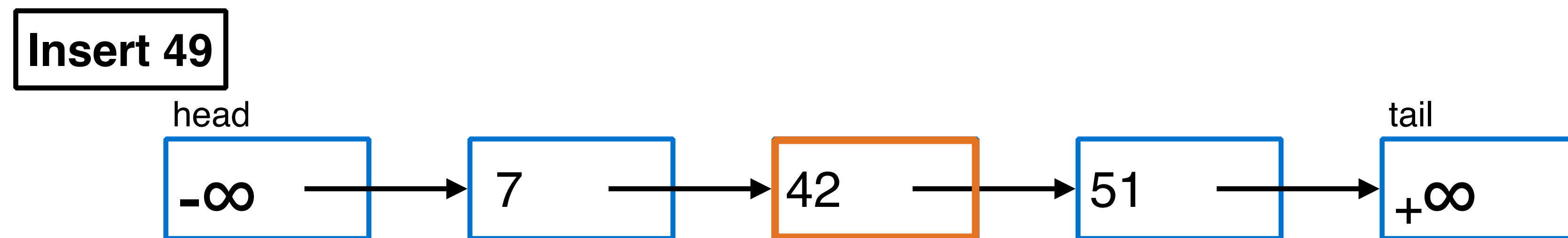
Insert 49

Assignment 5

Implementation - Optimistic Locking

Assignment 5

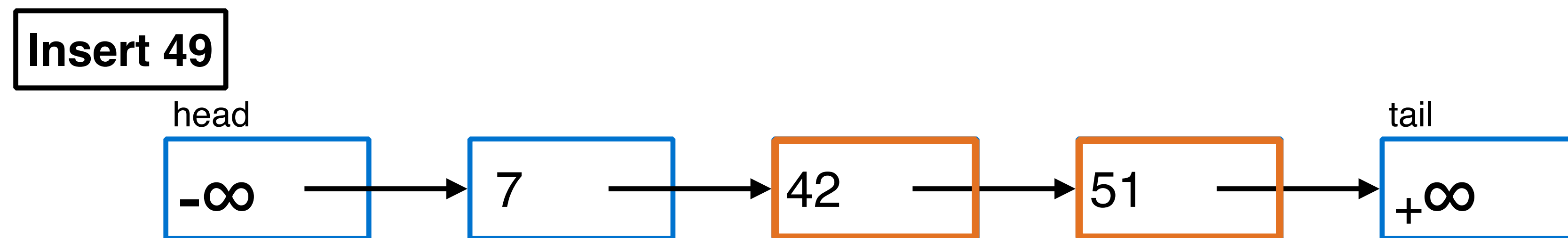## Implementation - Optimistic Locking

Assignment 5

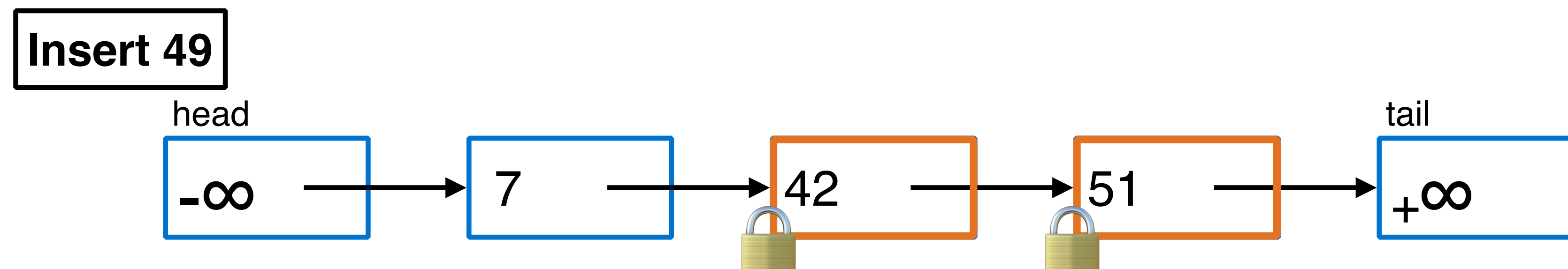## Implementation - Optimistic Locking

Assignment 5

Implementation - Optimistic Locking

Assignment 5

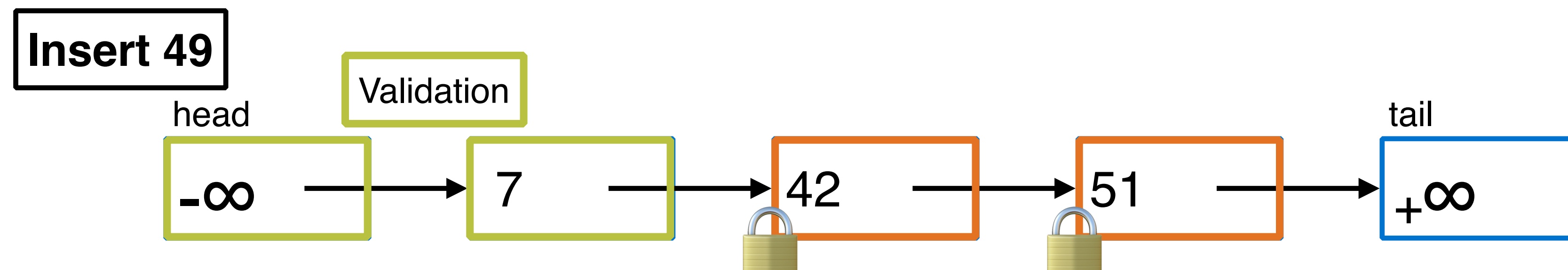## Implementation - Optimistic Locking

Assignment 5

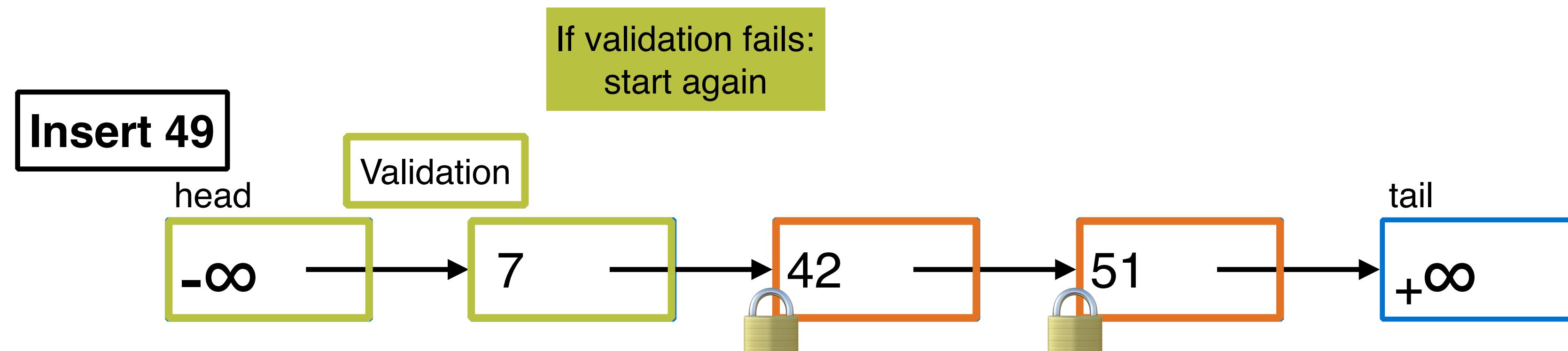## Implementation - Optimistic Locking

Assignment 5

Implementation - Optimistic Locking

Assignment 5

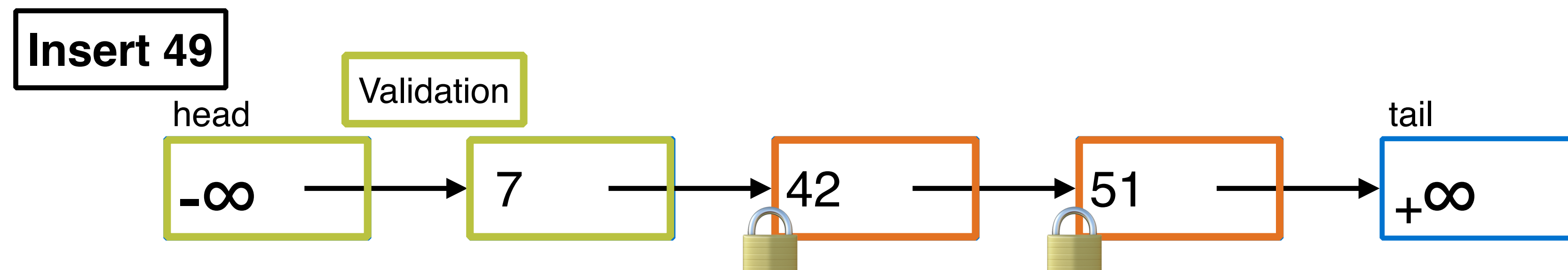## Implementation - Optimistic Locking

Assignment 5

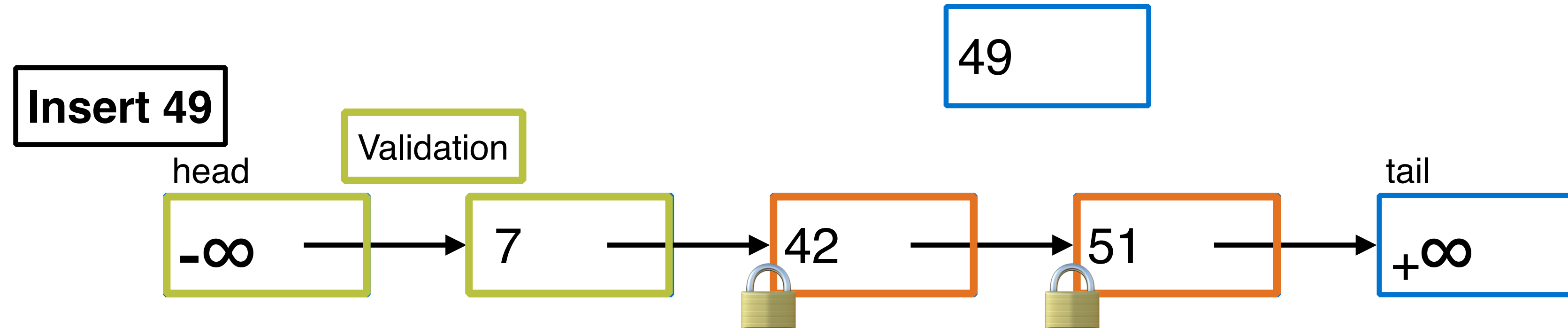## Implementation - Optimistic Locking

Assignment 5

Implementation - Optimistic Locking

Assignment 5

Implementation - Optimistic Locking

Assignment 5

Implementation - Optimistic Locking

Assignment 5

Implementation - Optimistic Locking

Assignment 5

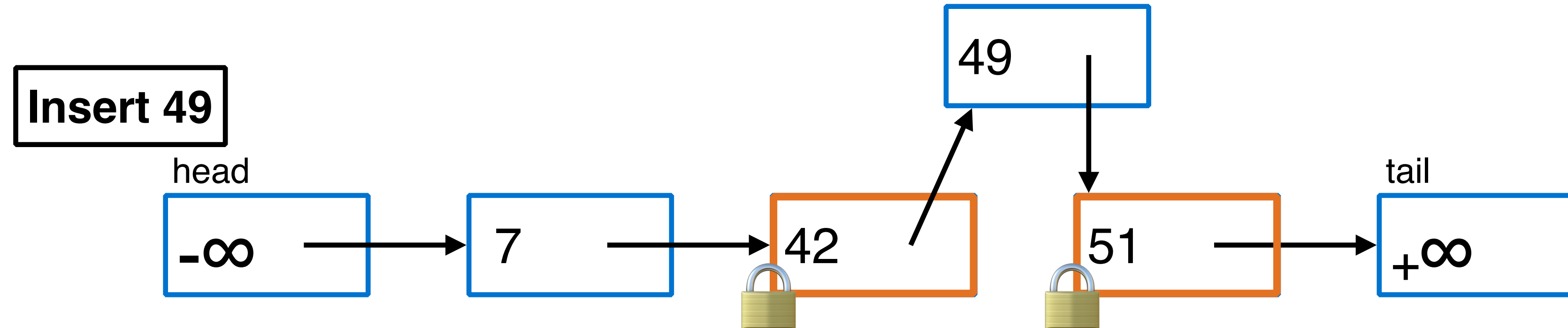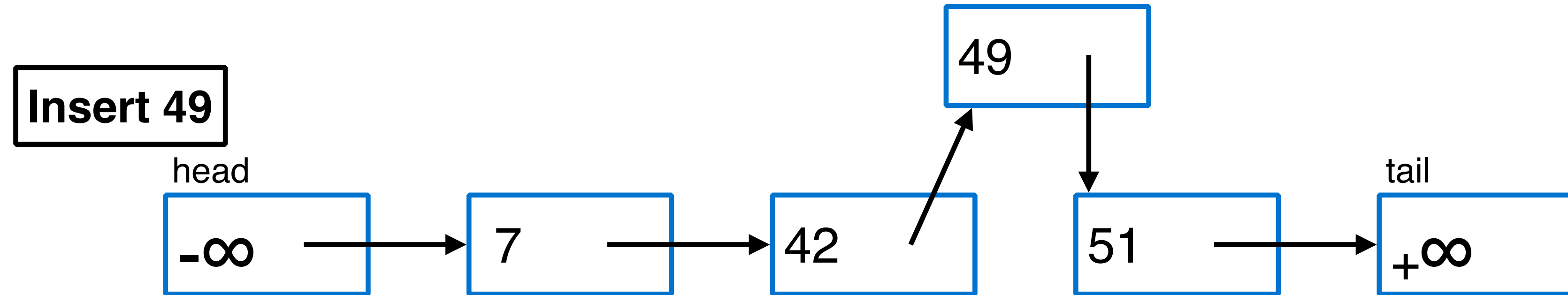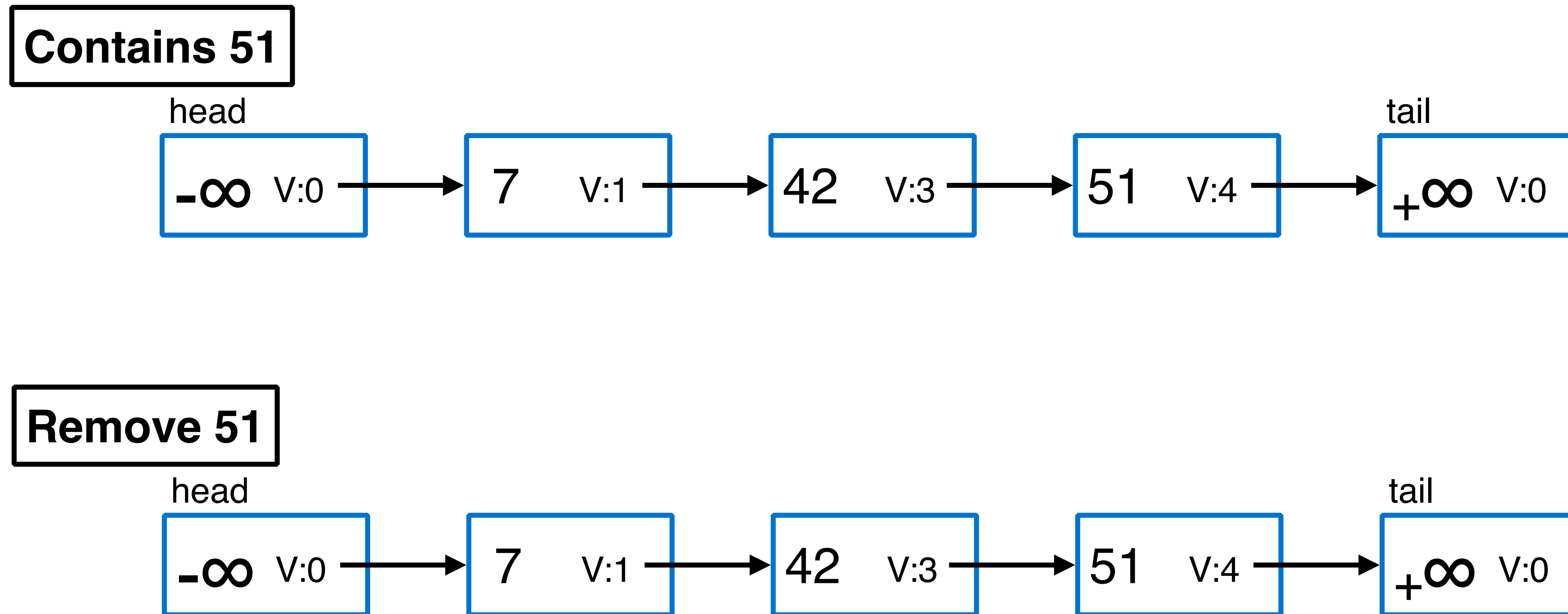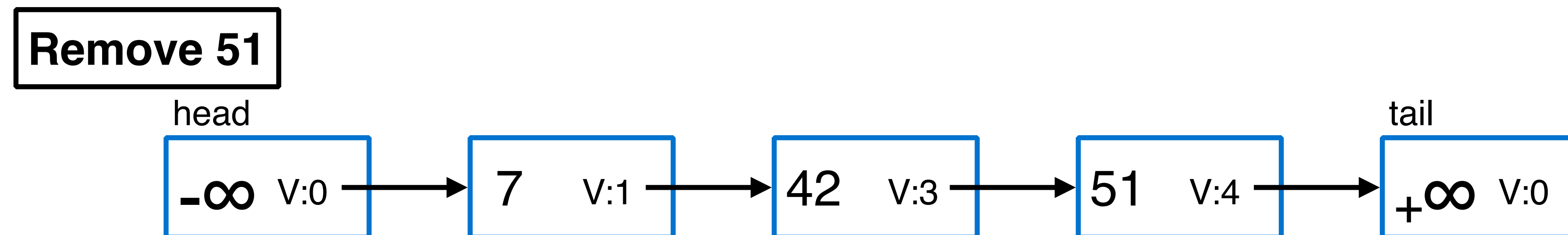## Implementation - Optimistic Lock Coupling

Contains 51

head

| $-\infty$ V:0 | → | 7 V:1 | → | 42 V:3 | → | 51 V:4 | → | $+\infty$ V:0 |

tail

Remove 51

head

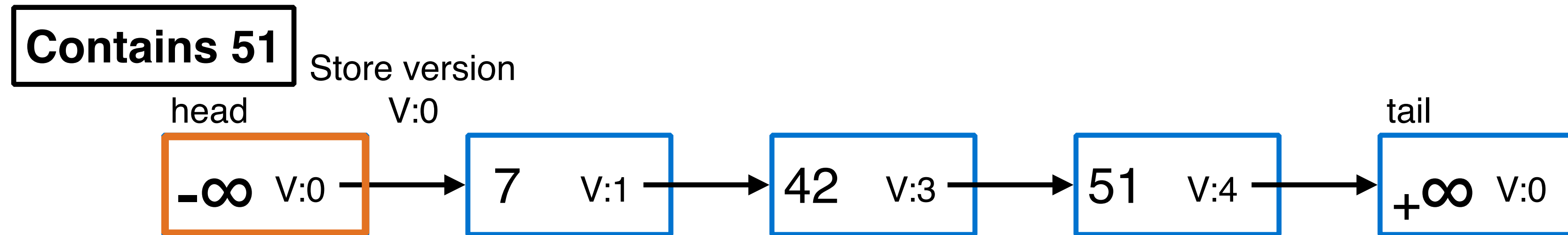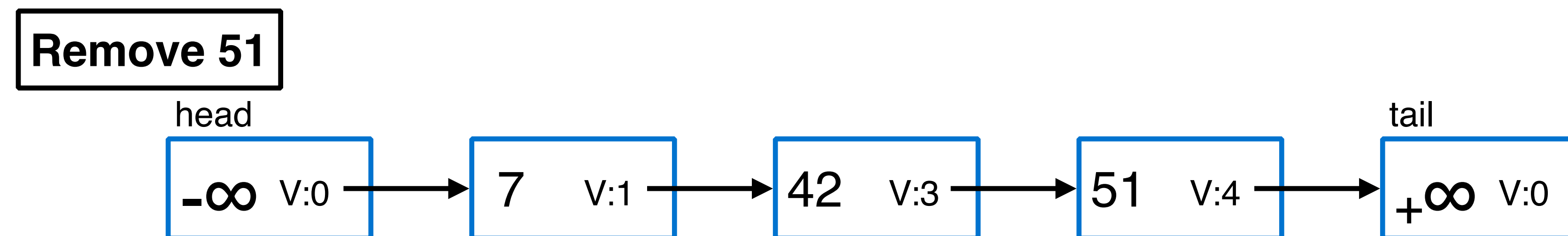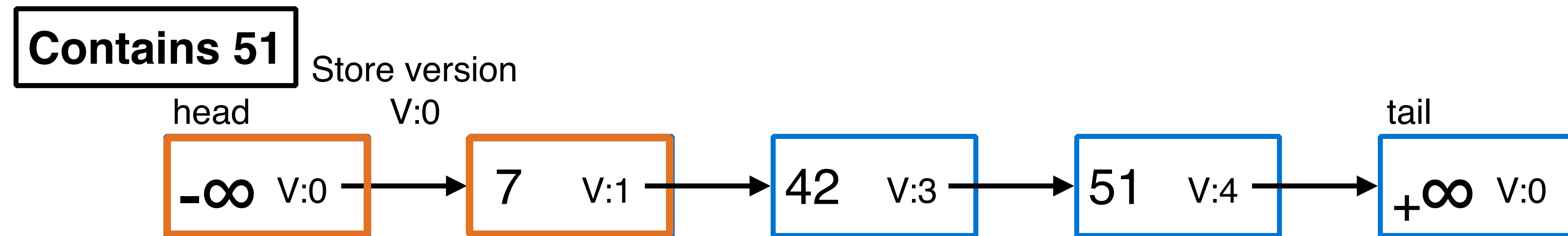| $-\infty$ V:0 | → | 7 V:1 | → | 42 V:3 | → | 51 V:4 | → | $+\infty$ V:0 |

tail

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Contains 51

Store version
V:0

head

tail

| $-\infty$ V:0 | → | 7 V:1 | → | 42 V:3 | → | 51 V:4 | → | $+\infty$ V:0 |

Remove 51

head

tail

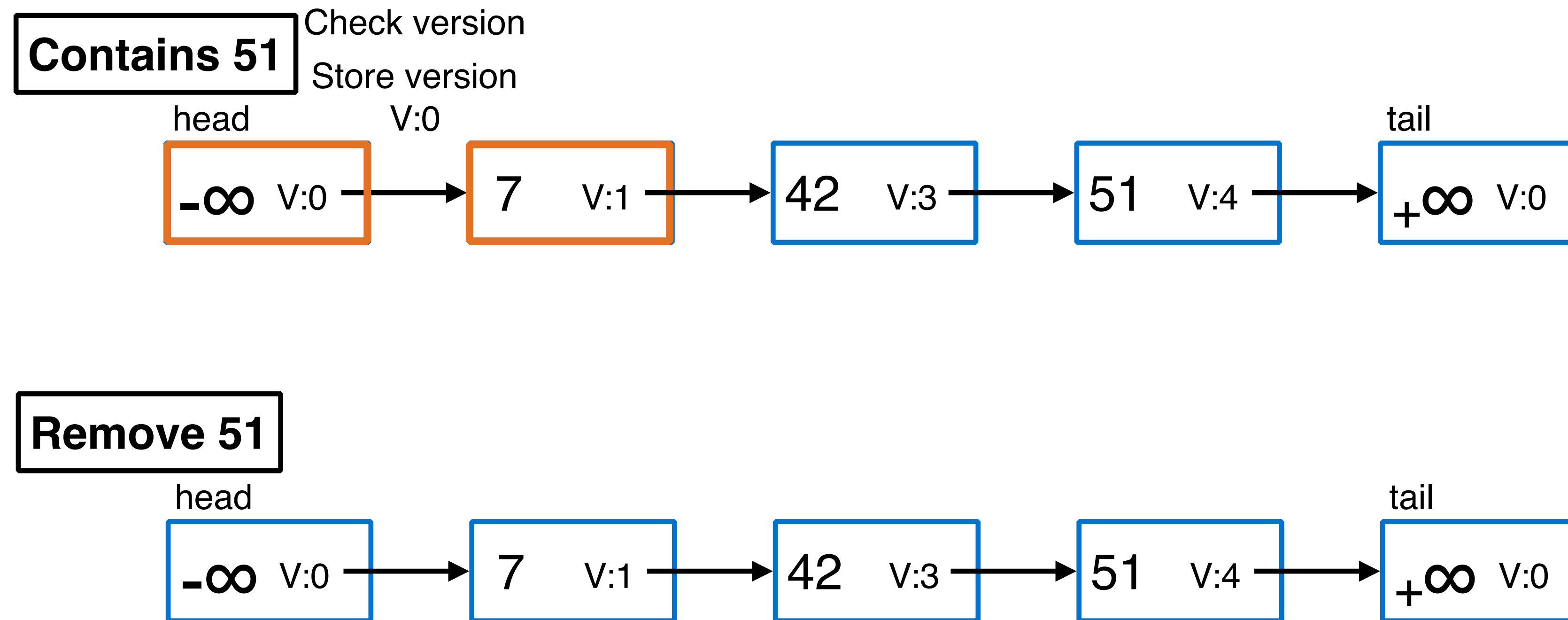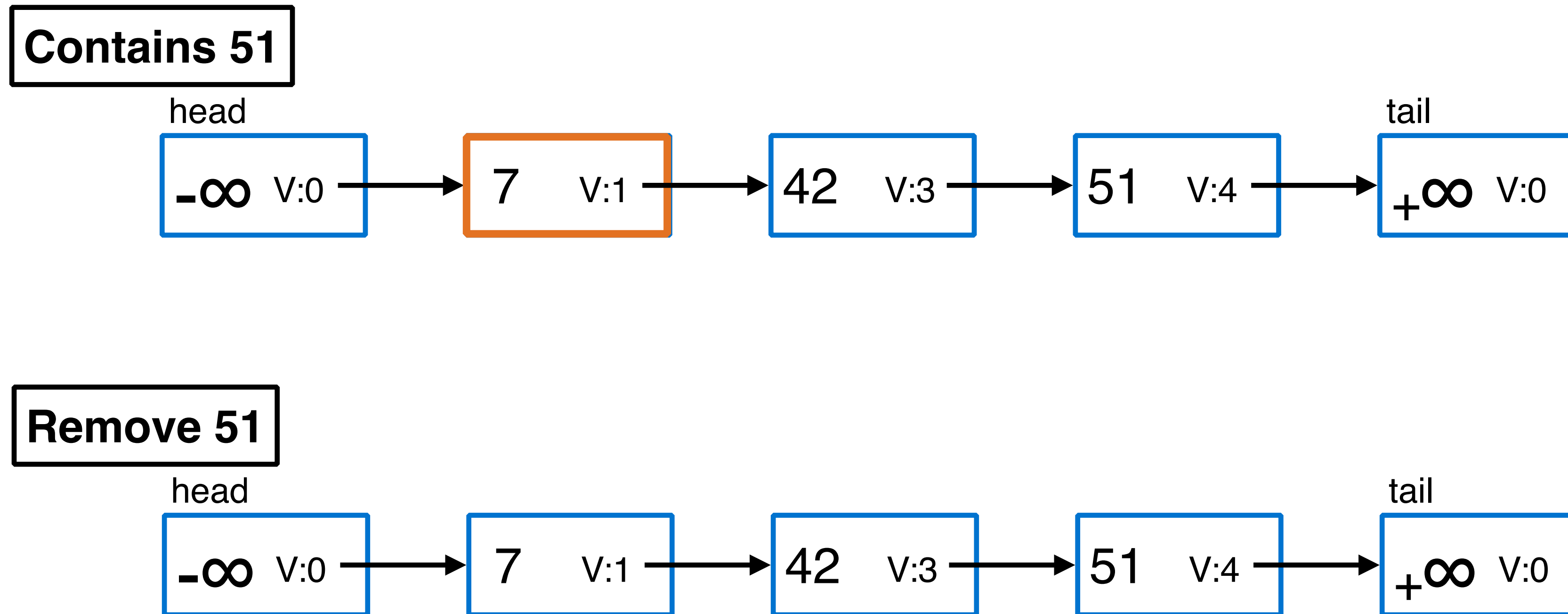| $-\infty$ V:0 | → | 7 V:1 | → | 42 V:3 | → | 51 V:4 | → | $+\infty$ V:0 |

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Contains 51

Remove 51

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5
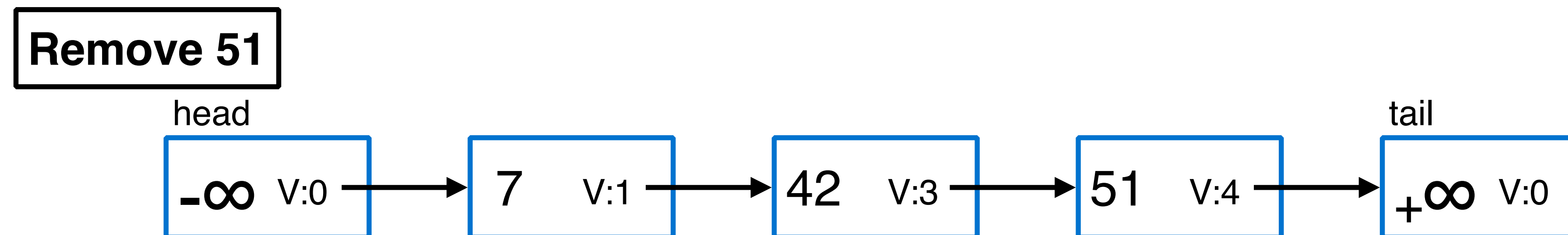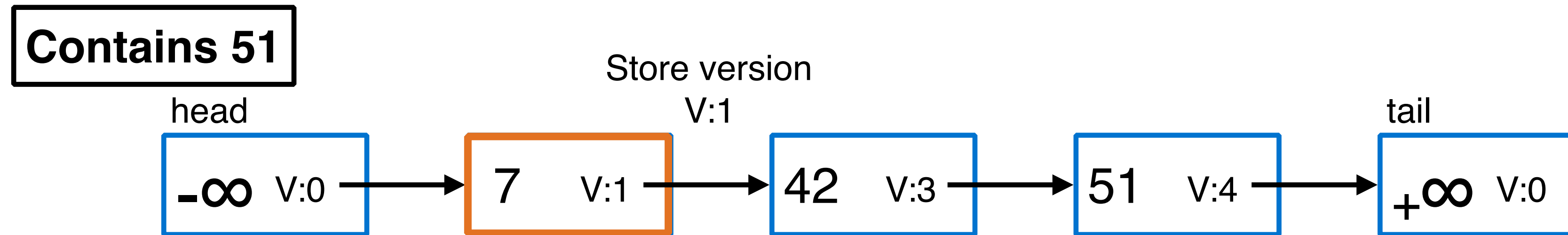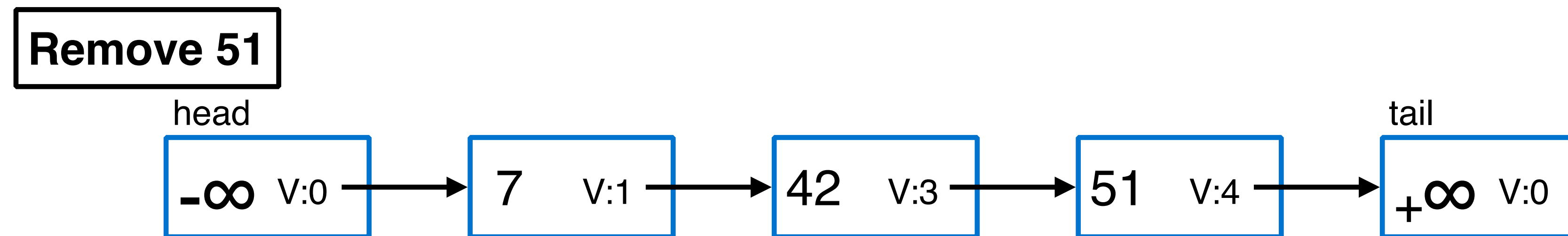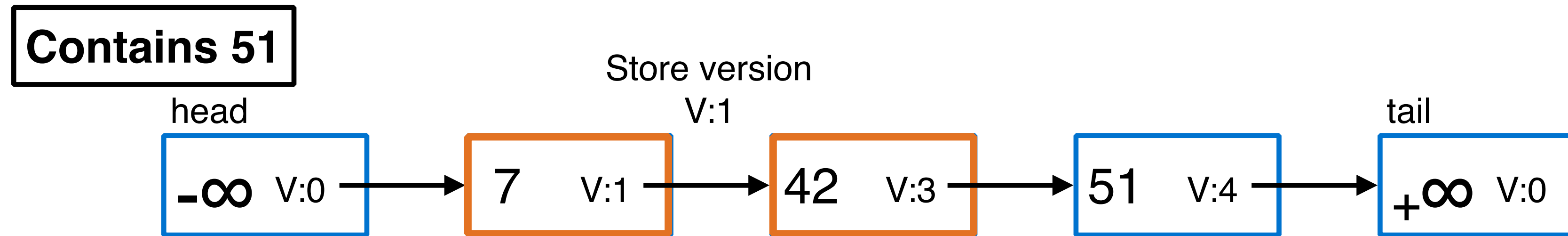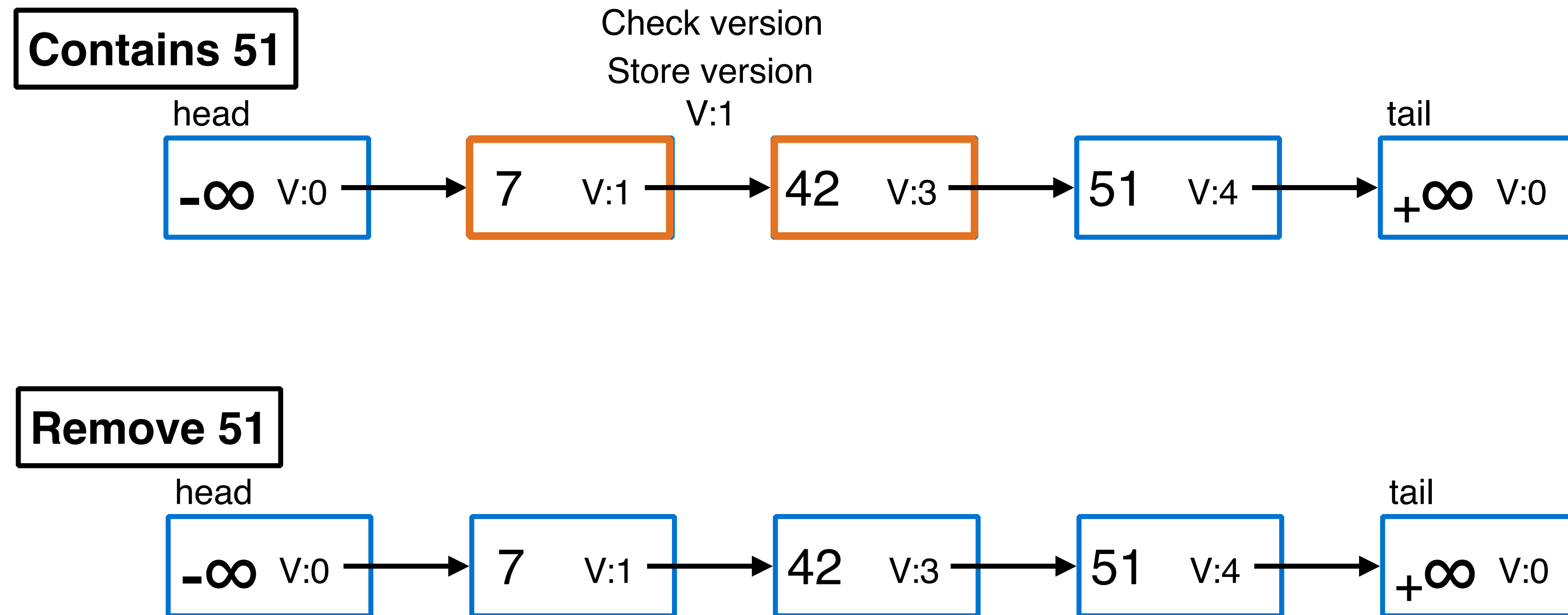
Implementation - Optimistic Lock Coupling

Contains 51

Check version
Store version
V:1

head

| -∞ V:0 | → | 7 V:1 | → | 42 V:3 | → | 51 V:4 | → | +∞ V:0 |

tail

Remove 51

head

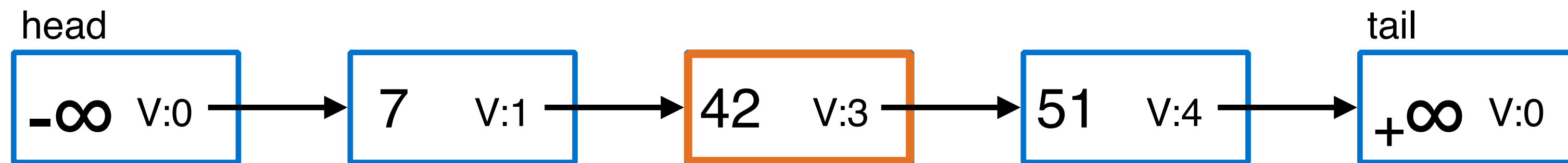| -∞ V:0 | → | 7 V:1 | → | 42 V:3 | → | 51 V:4 | → | +∞ V:0 |

tail

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

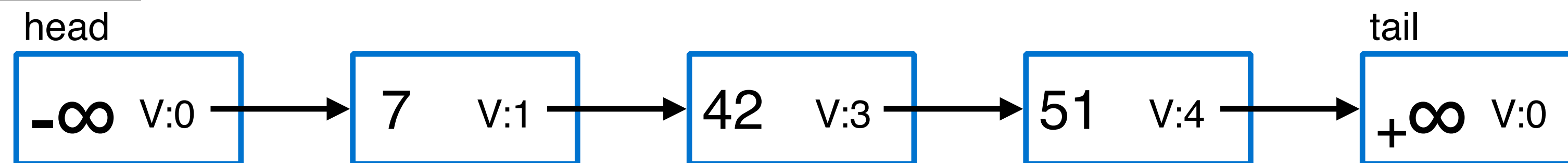# Assignment 5

Implementation - Optimistic Lock Coupling
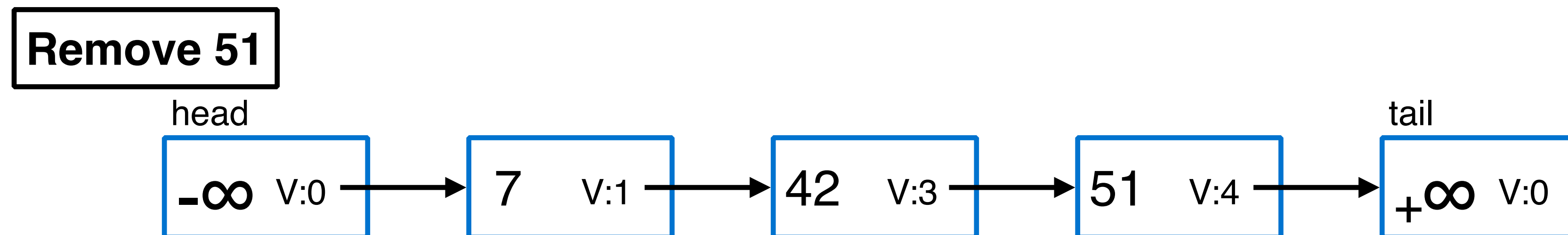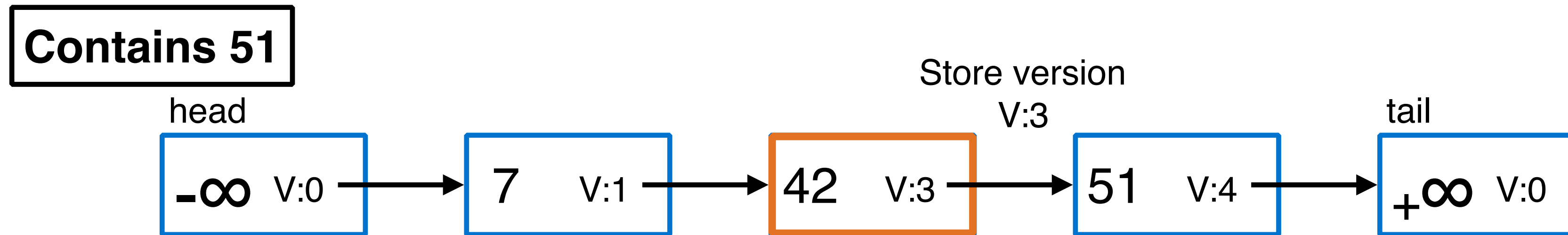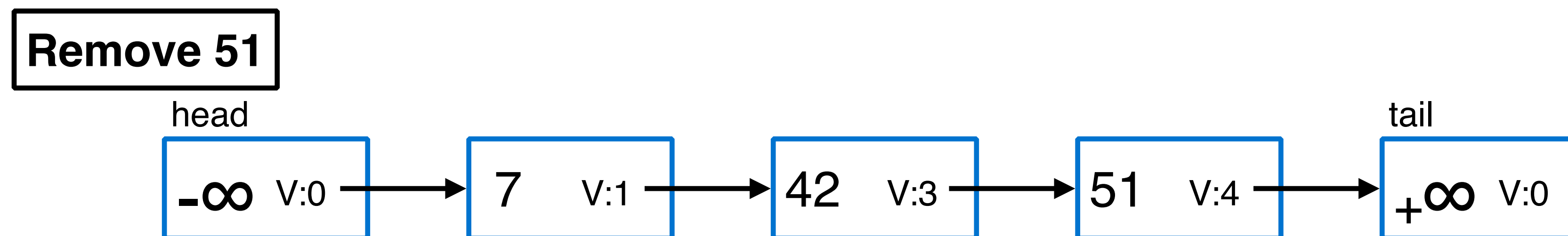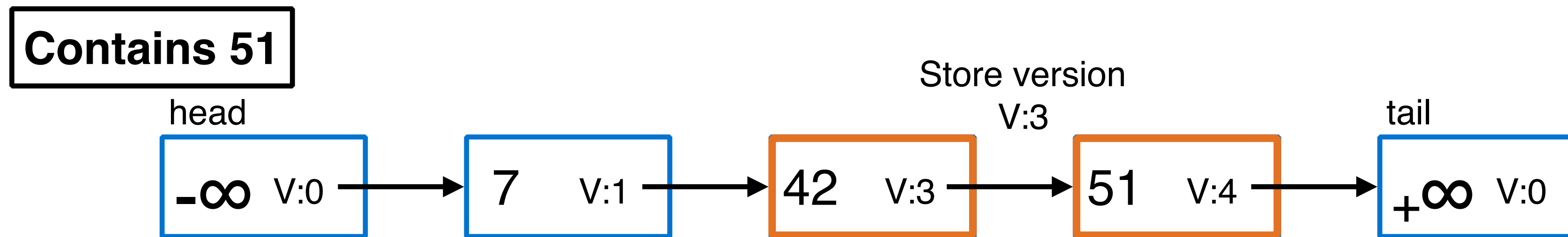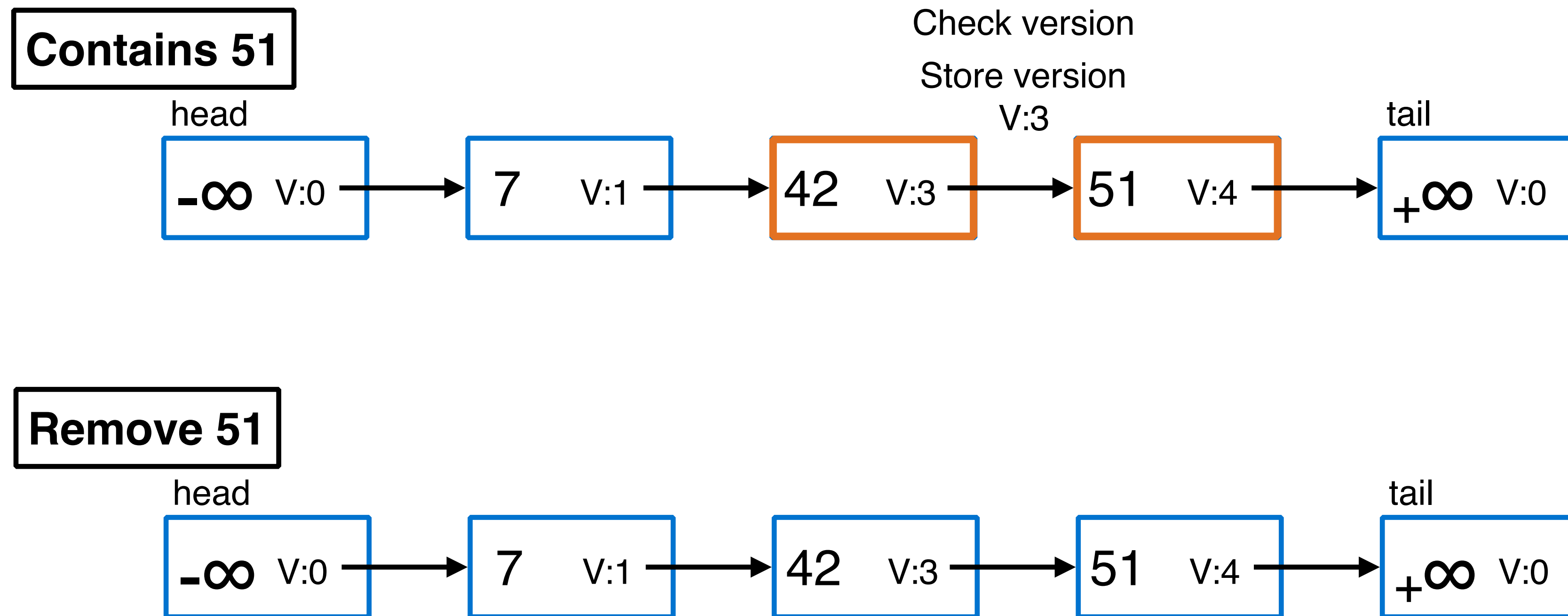
Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

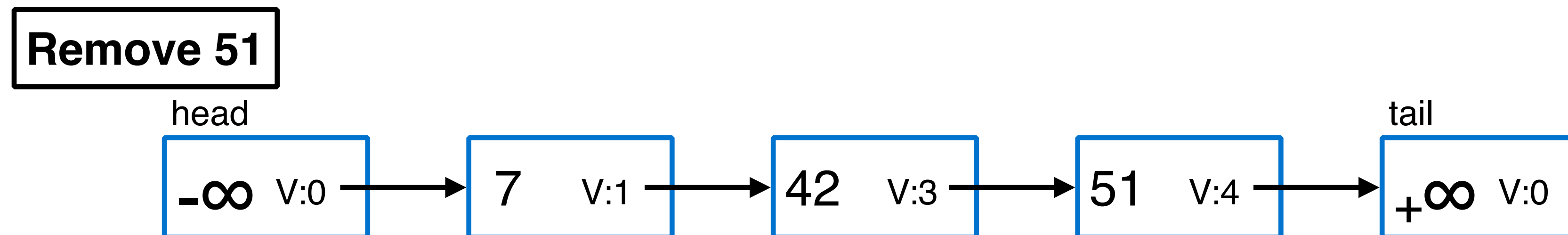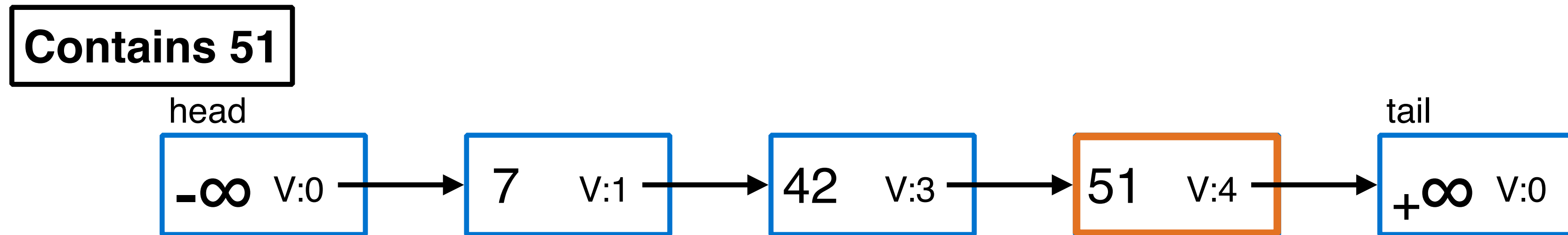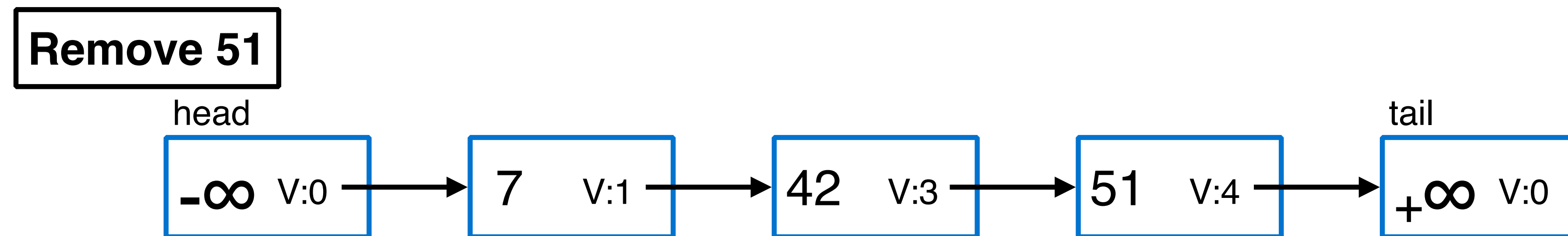## Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Contains 51

return result

head

tail

| -∞ V:0 | → | 7 V:1 | → | 42 V:3 | → | 51 V:4 | → | +∞ V:0 |

Remove 51

Check version

Store version

V:0

head

tail

| -∞ V:0 | → | 7 V:1 | → | 42 V:3 | → | 51 V:4 | → | +∞ V:0 |

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5
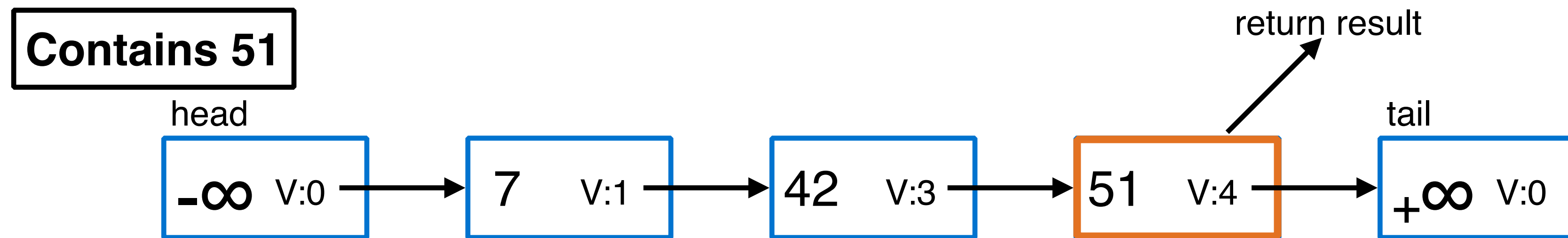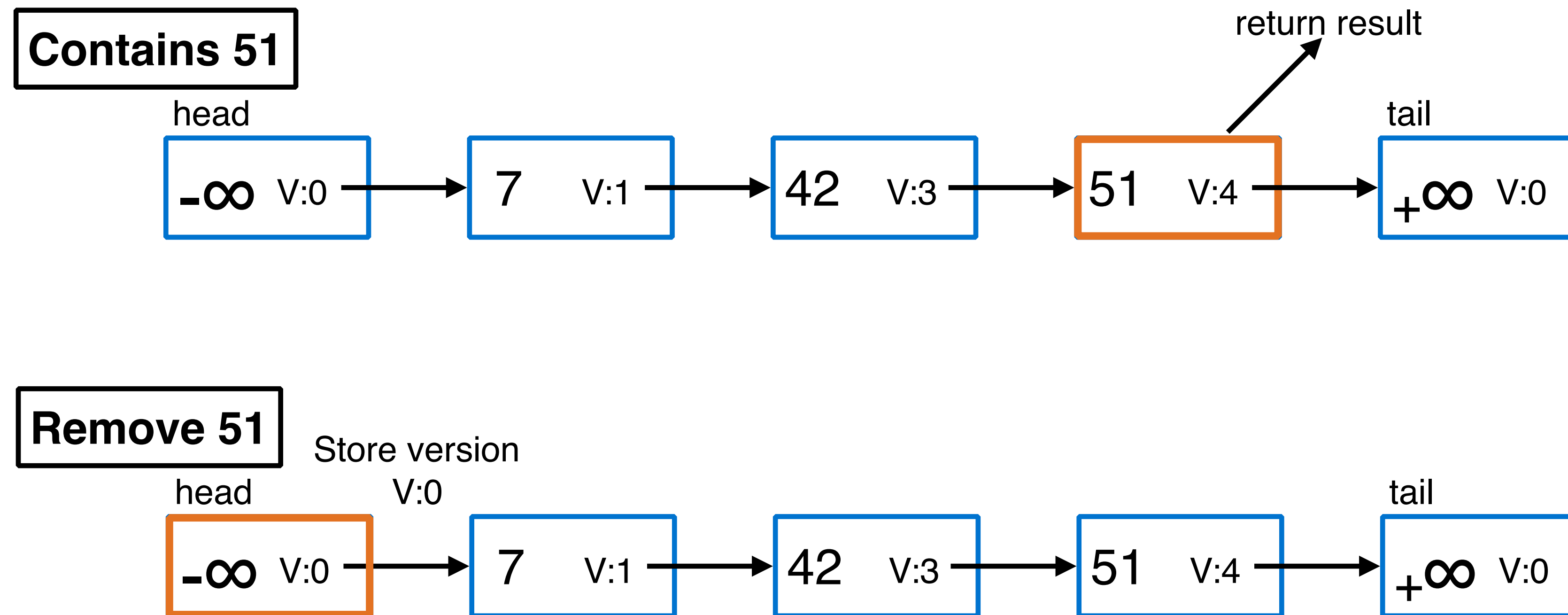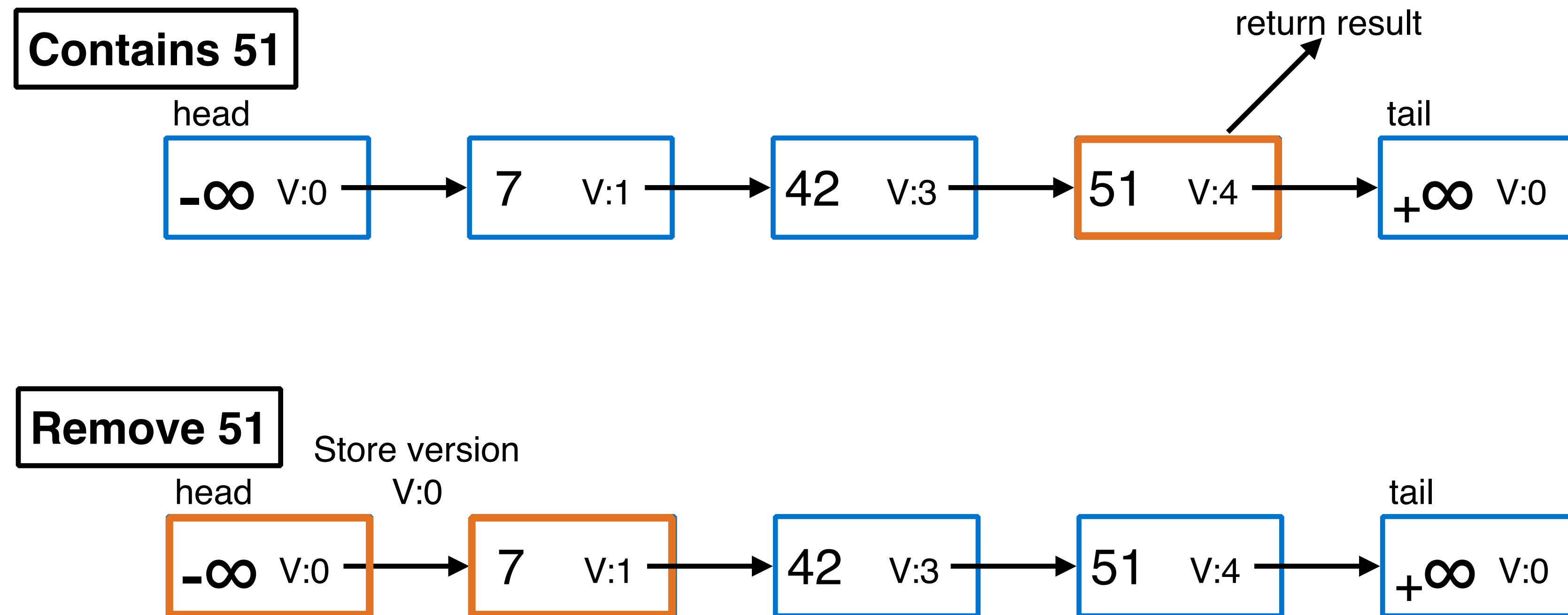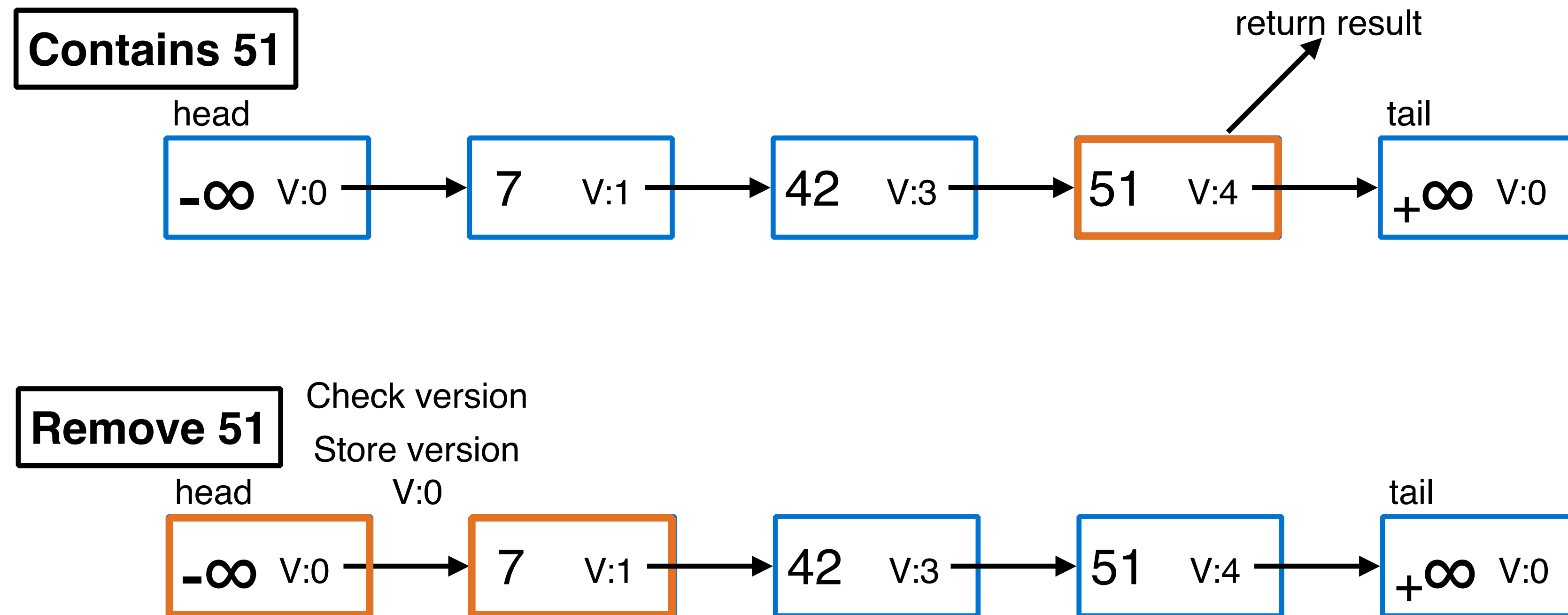
Implementation - Optimistic Lock Coupling

Contains 51

return result

head

$-\infty$ V:0 → 7 V:1 → 42 V:3 → 51 V:4 → $+\infty$ V:0

tail

Remove 51

Store version
V:1

head

$-\infty$ V:0 → 7 V:1 → 42 V:3 → 51 V:4 → $+\infty$ V:0
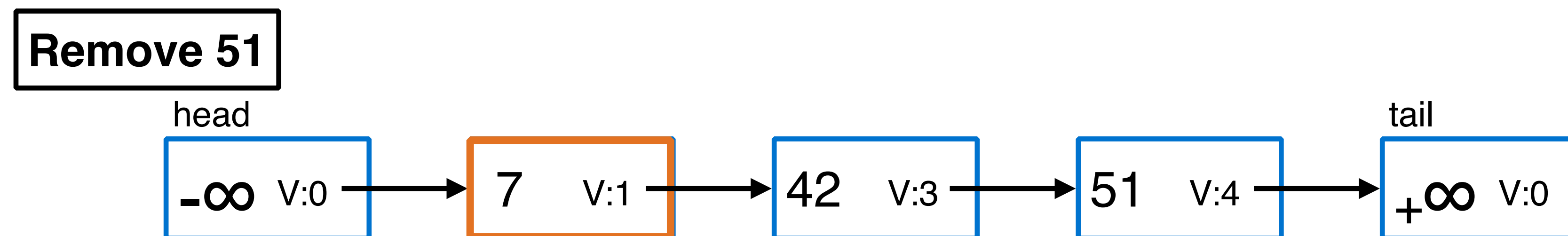
tail

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Contains 51

return result

head

tail

$-\infty$ V:0 → 7 V:1 → 42 V:3 → 51 V:4 → $+\infty$ V:0

Remove 51

Check version
Store version
V:1

head

tail

$-\infty$ V:0 → 7 V:1 → 42 V:3 → 51 V:4 → $+\infty$ V:0

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5
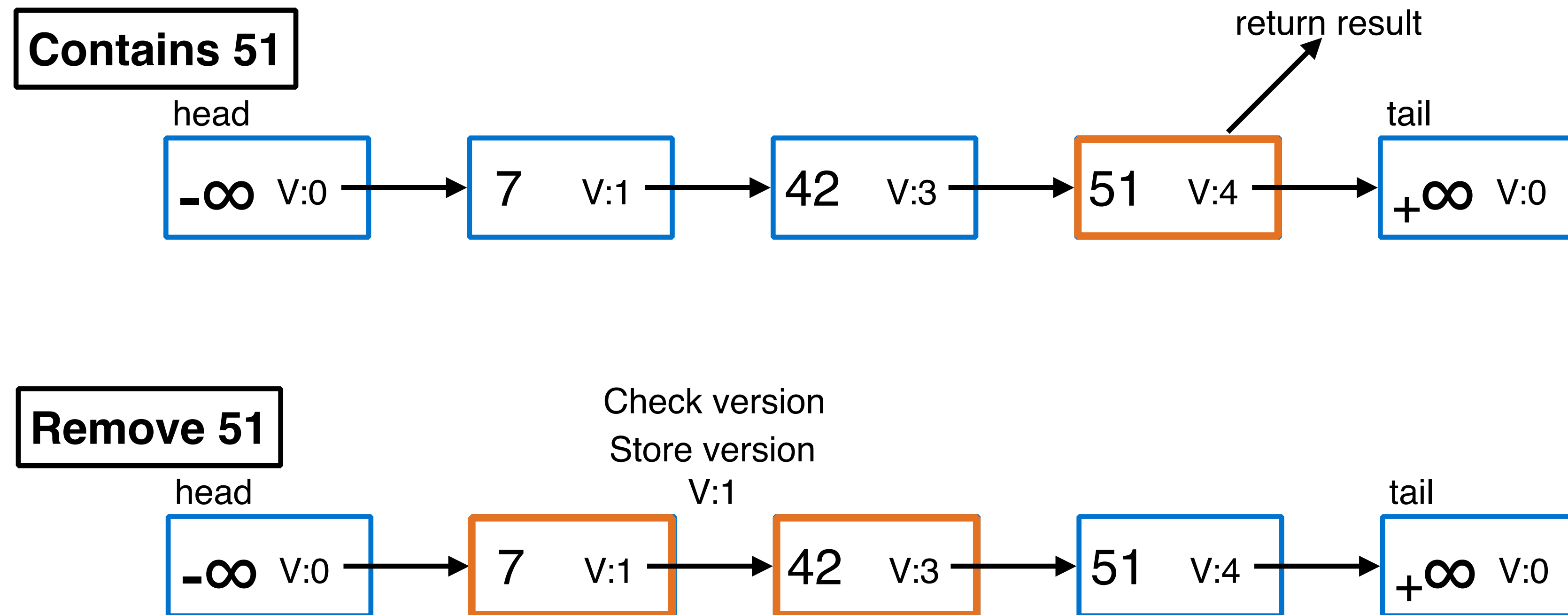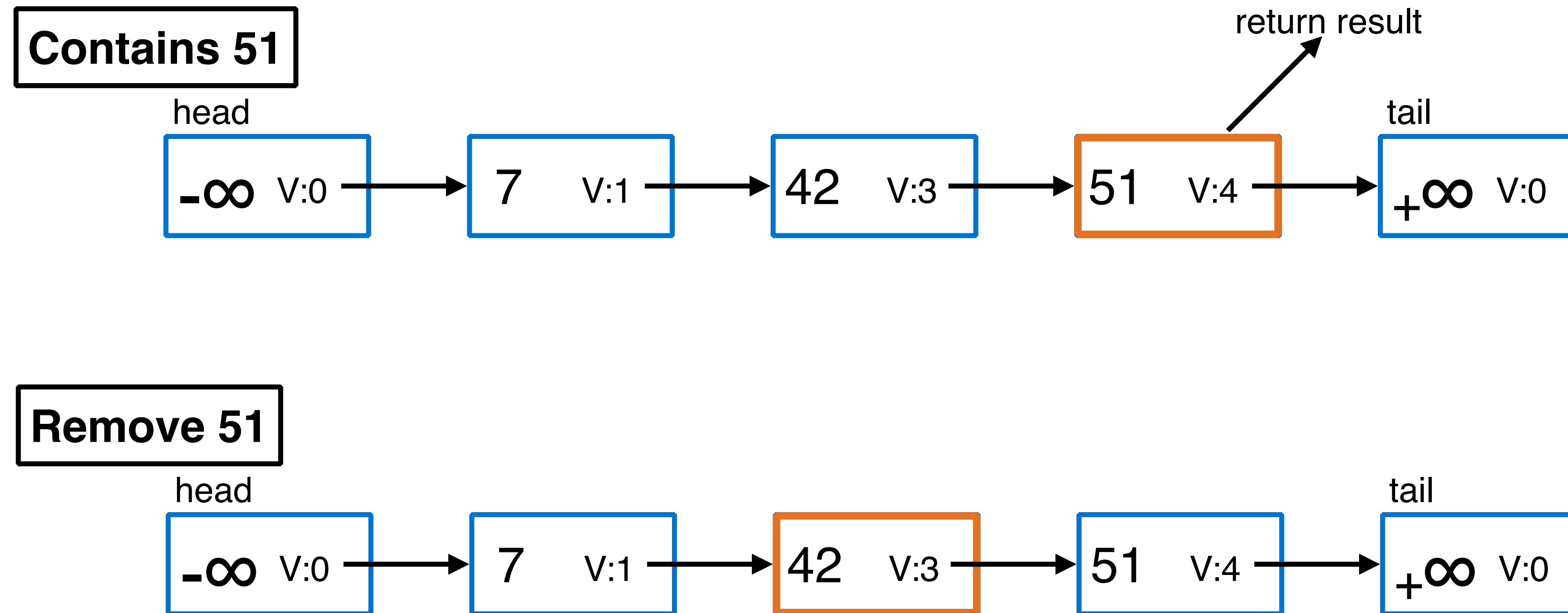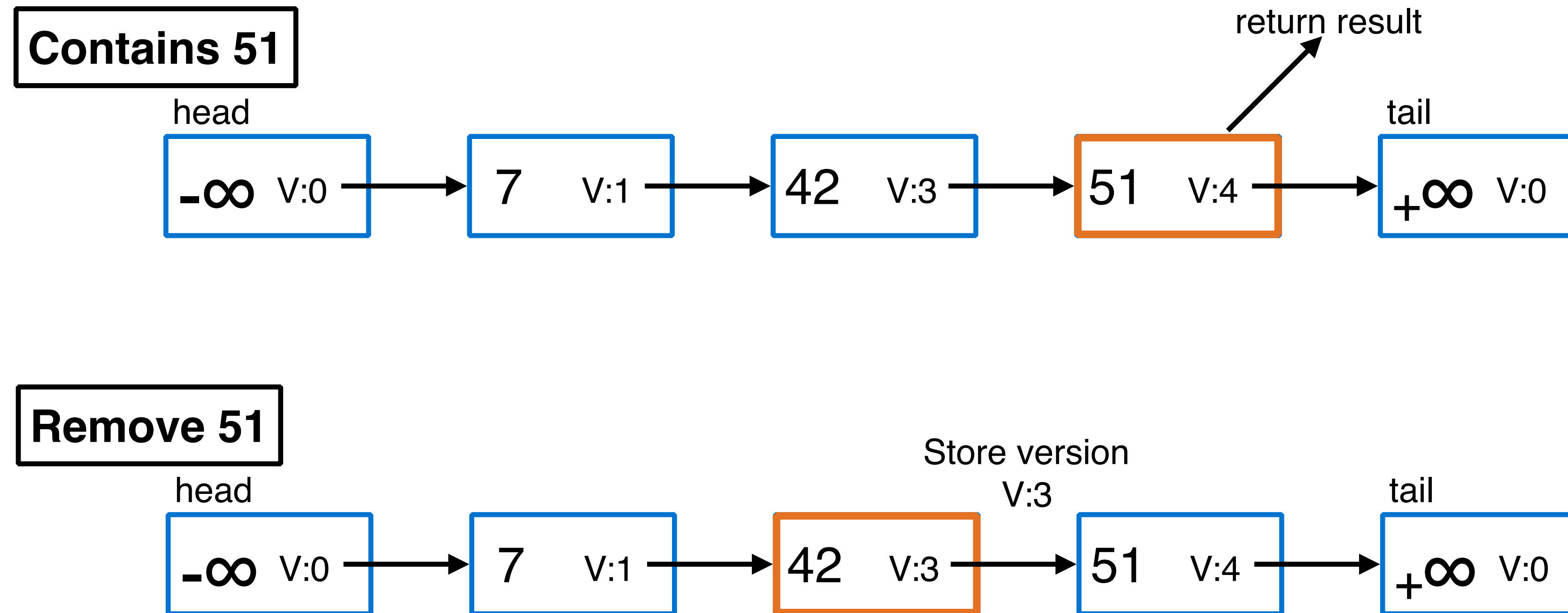
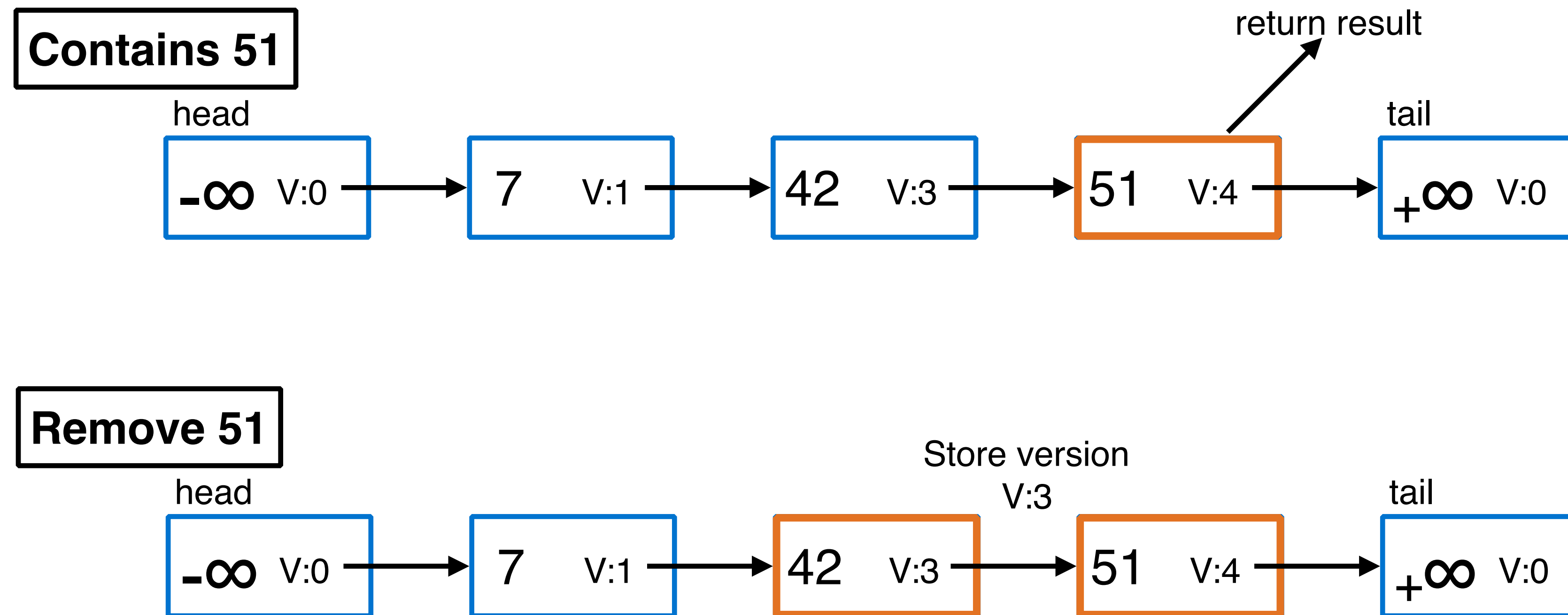## Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling
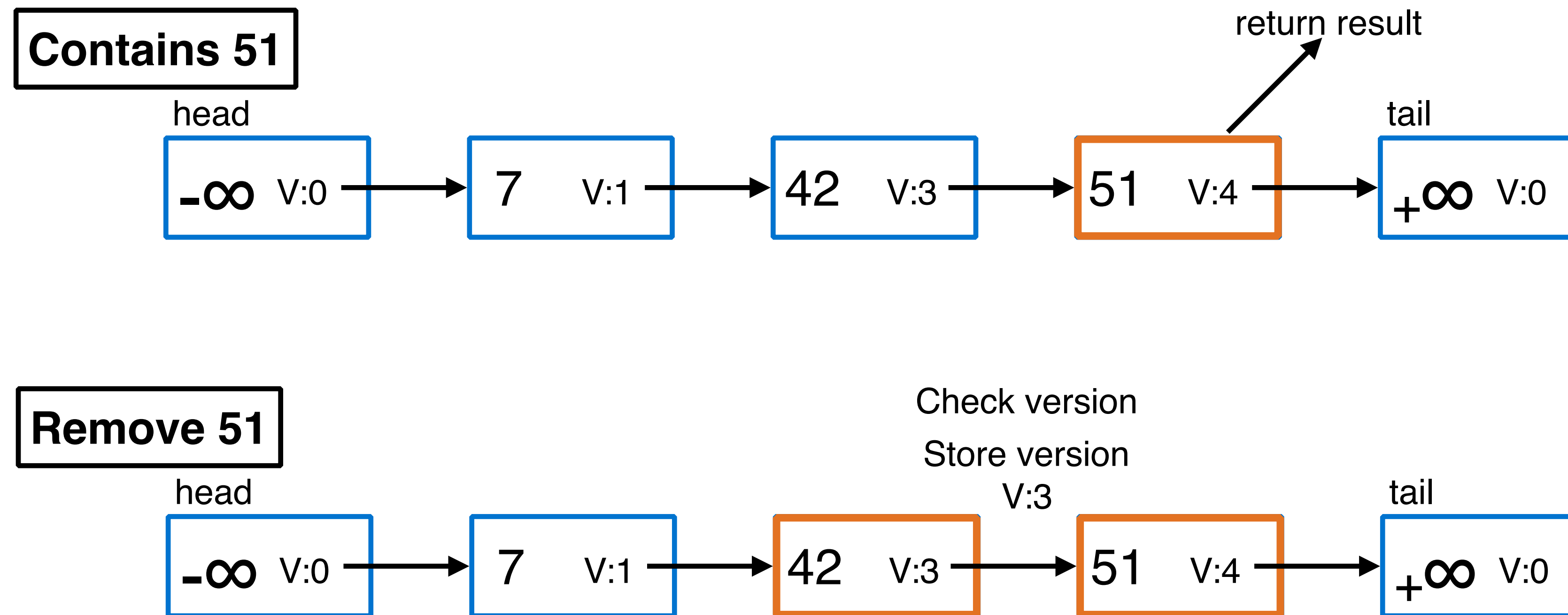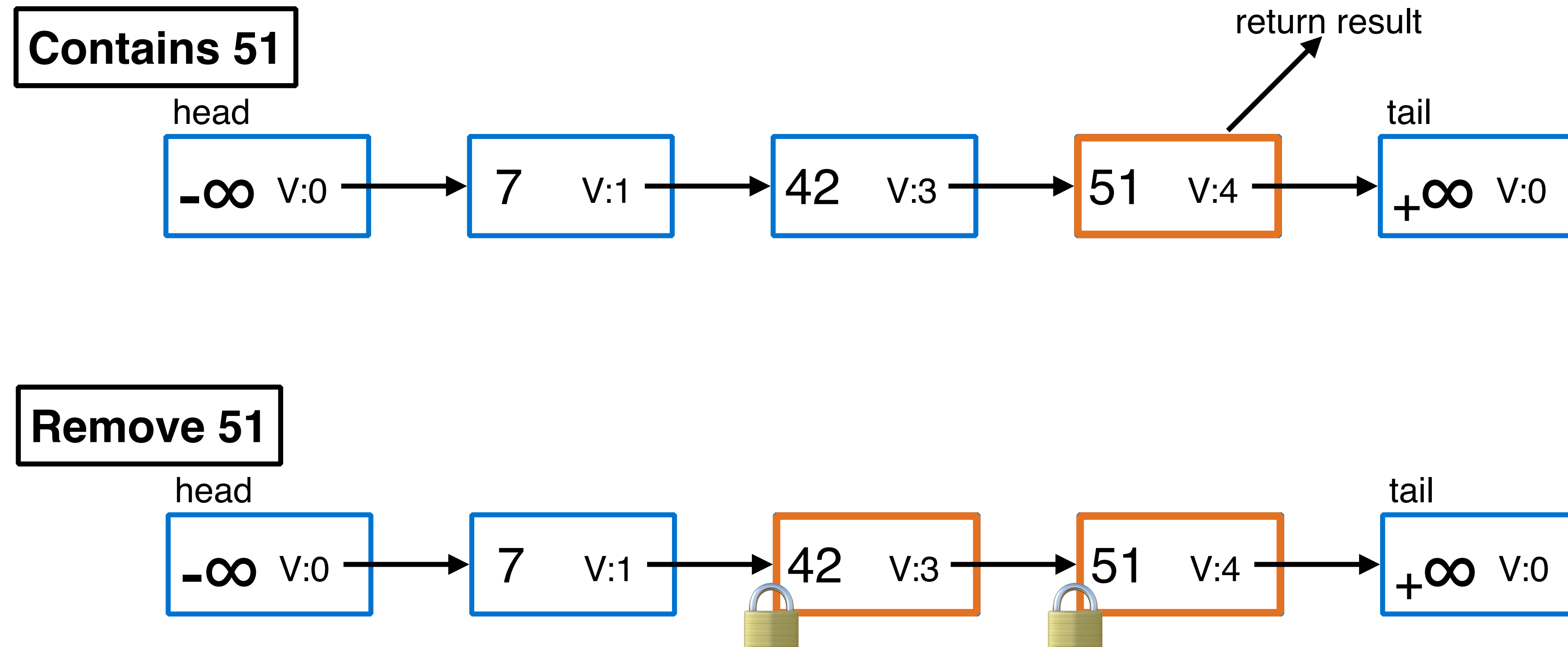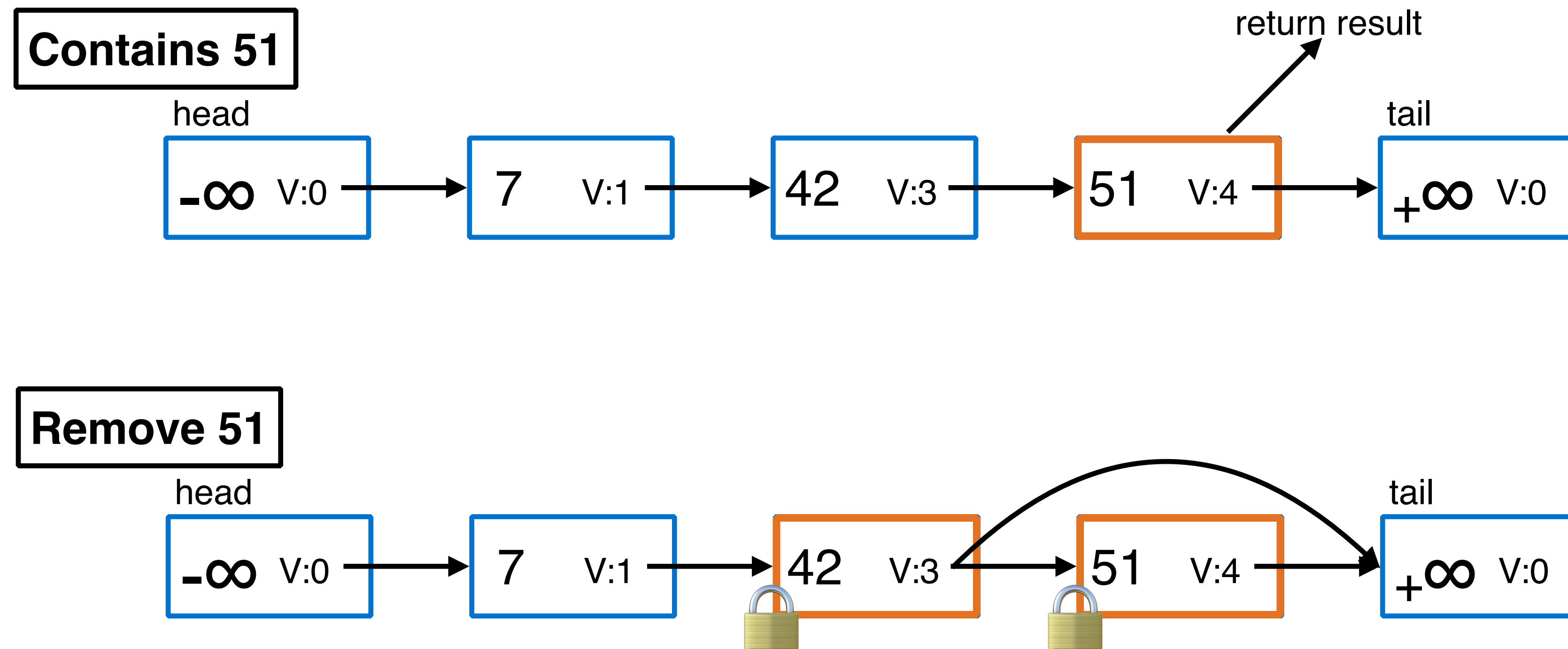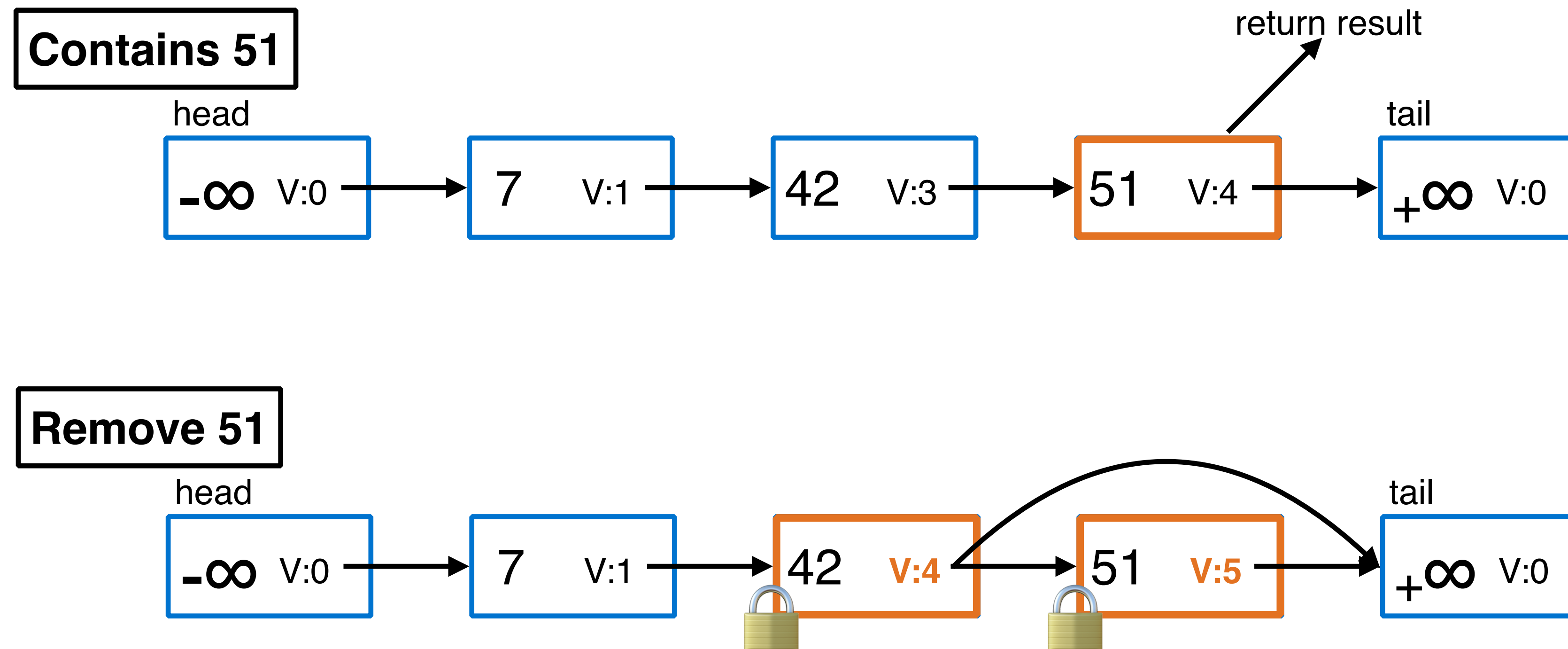
Assignment 5

Implementation - Optimistic Lock Coupling

Assignment 5

Implementation - Optimistic Lock Coupling