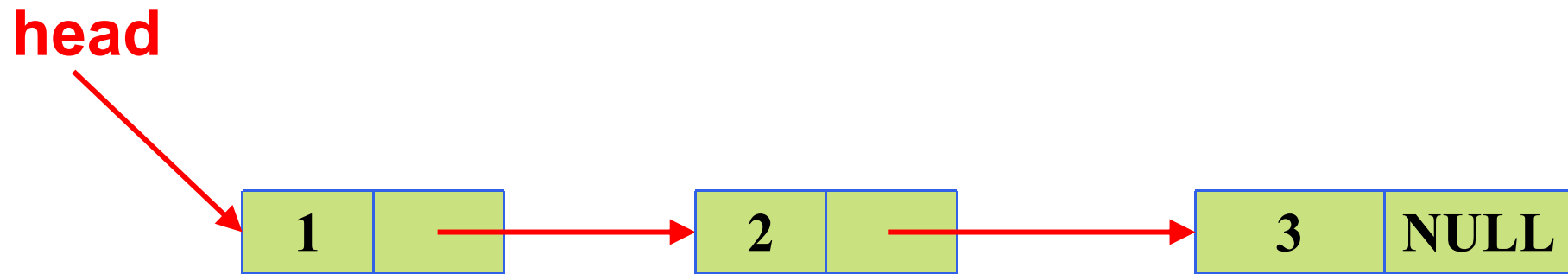# Programming with C I

Fangtian Zhong
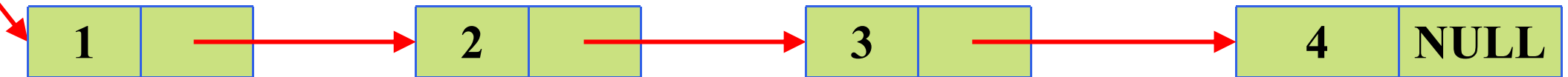CSCI 112

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2024.11.08

Inserting a node at end of list

head

Inserting a node at end of list

head

| 1 | |→| 2 | |→| 3 | |→| 4 | NULL |

Inserting a node at end of list

head

current

1 | 2 | 3 | NULL
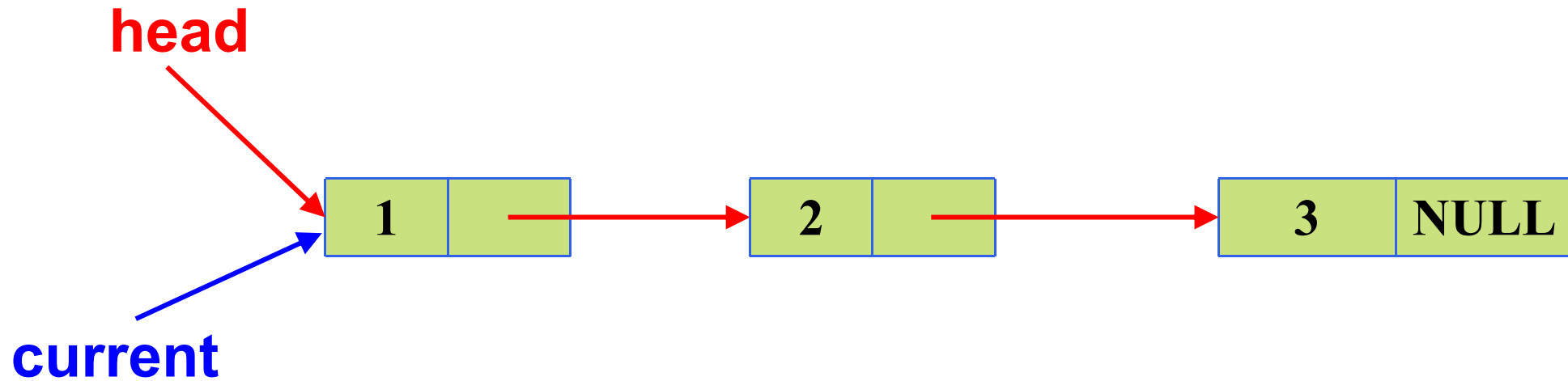
current->next is the 2 node

Inserting a node at end of list

head

1	

2	

3	NULL

current

current->next is the 3 node

Inserting a node at end of list

head

1 | → 2 | → 3 | NULL
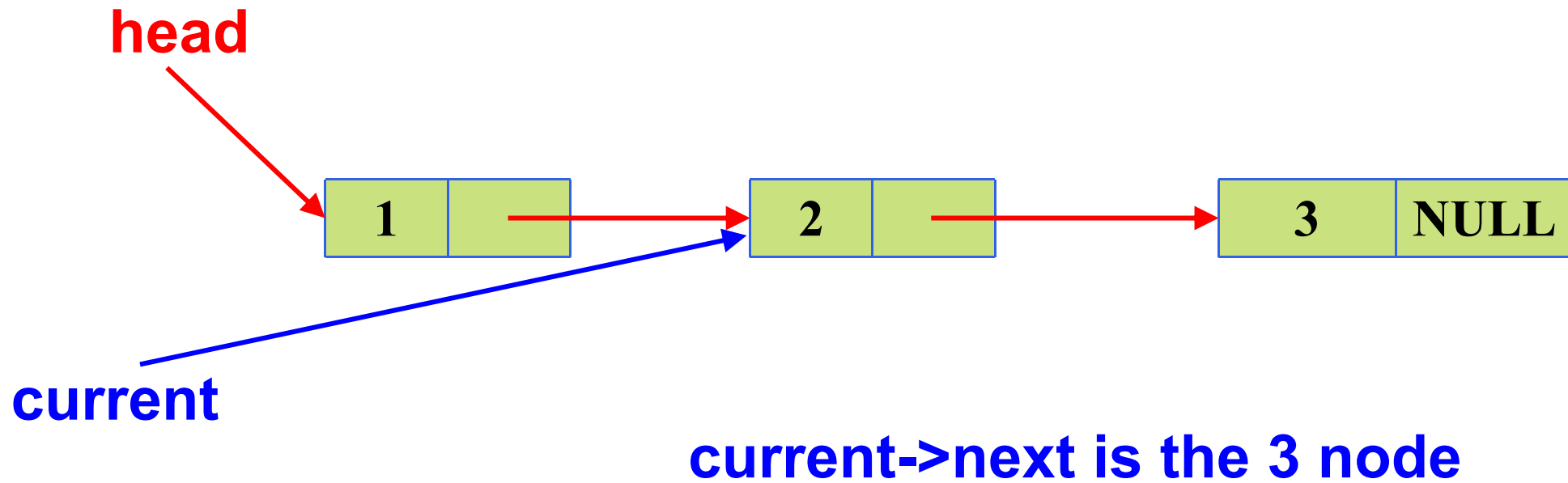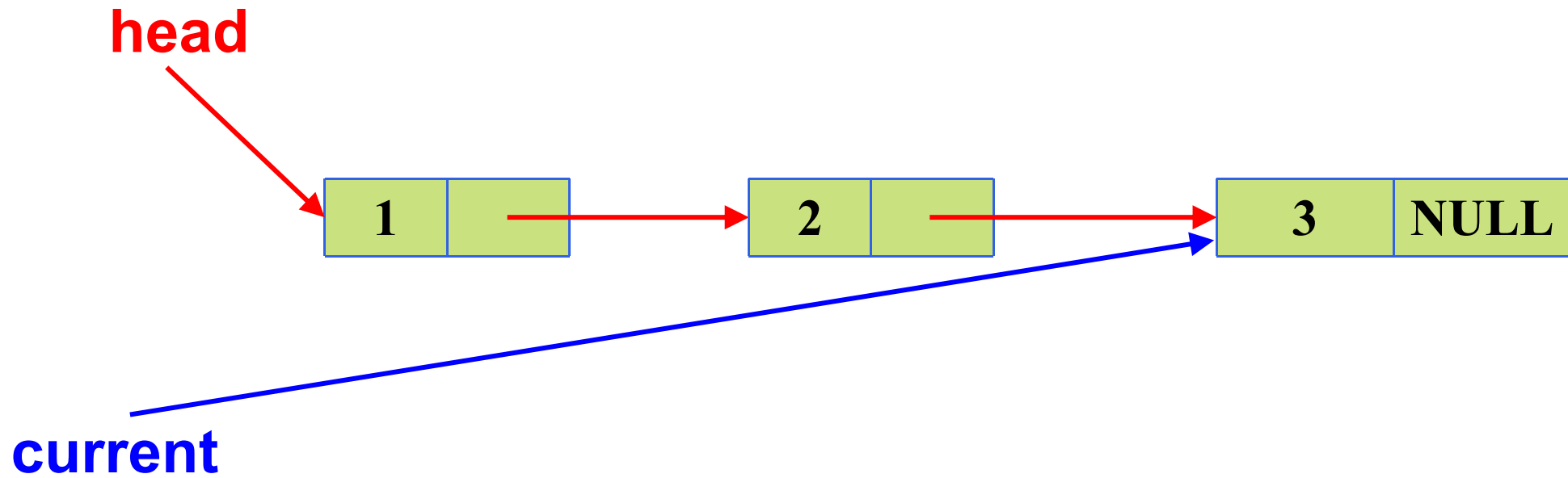
current

current->next == NULL

Inserting a node at end of list

head

| 1 | |→| 2 | |→| 3 | |→| 4 | NULL |
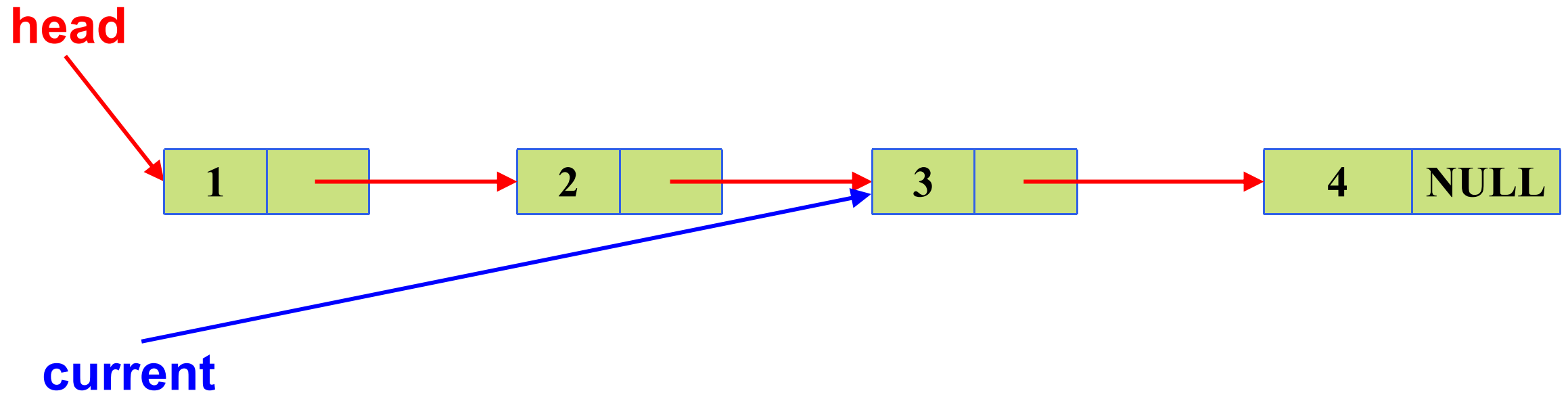
current

current->next = new

What if list is empty?

head

NULL

Deleting a node at end of list

Deleting a node at end of list

head

| 1 | |→| 2 | |→| 3 | |→| 4 | NULL |
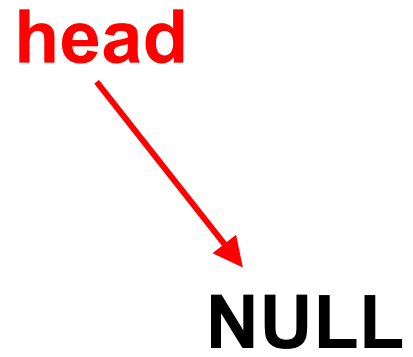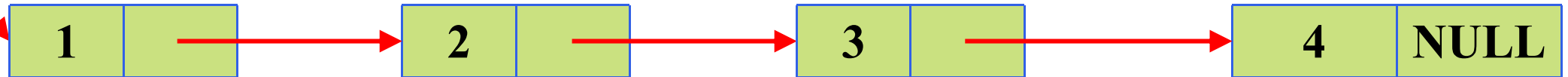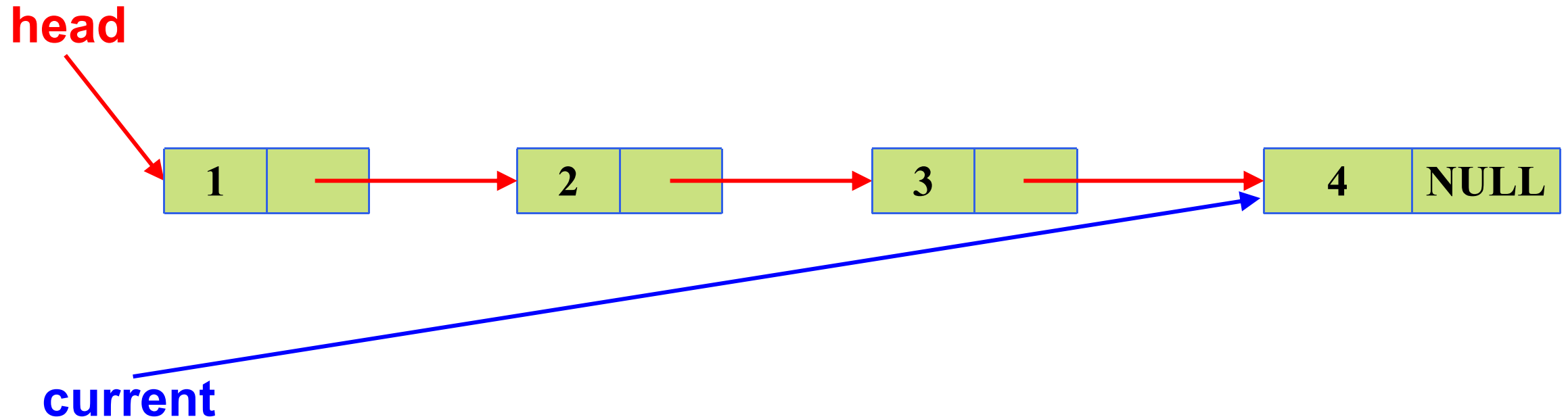
current

current->next == NULL
??? how do we set 3's next?
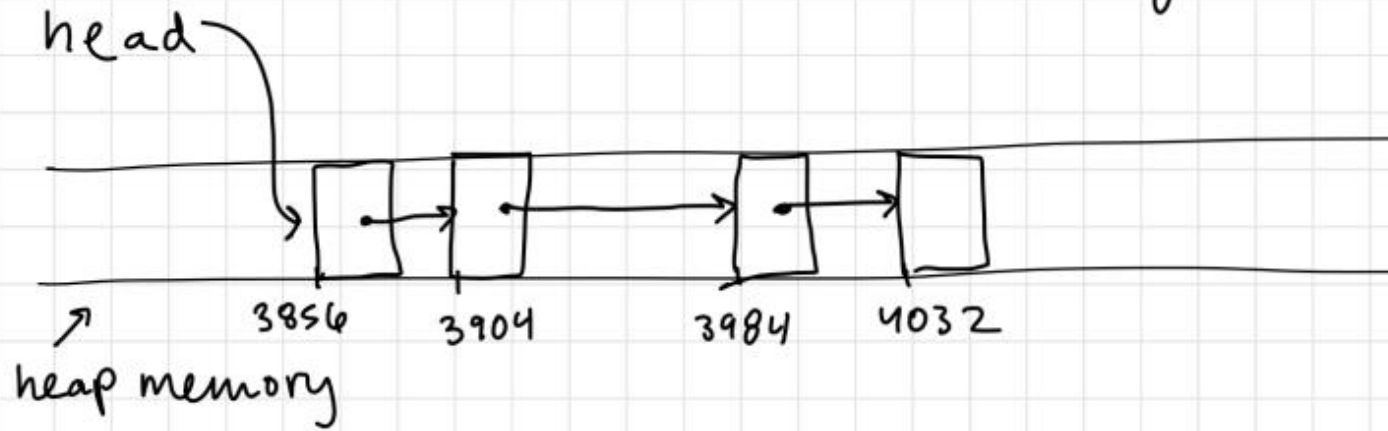
Deleting a node at end of list

head
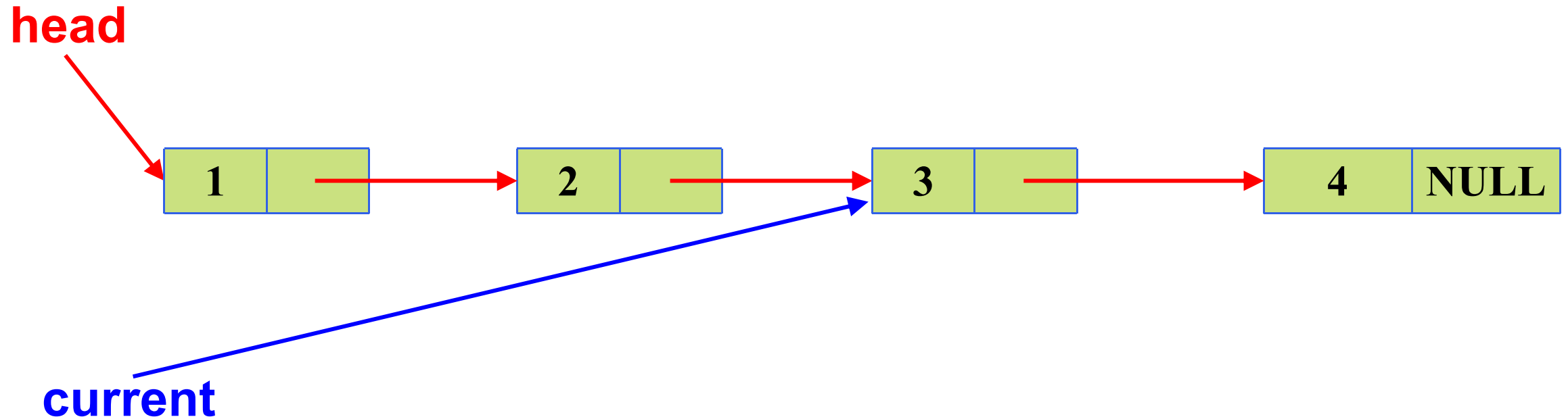
current

current->next->next == NULL
current->next = NULL

Realloc

- reallocates heap memory

- realloc(ptr, new_size) returns a pointer to a block of memory of new_size with data from ptr copied over, and frees old memory (if needed)
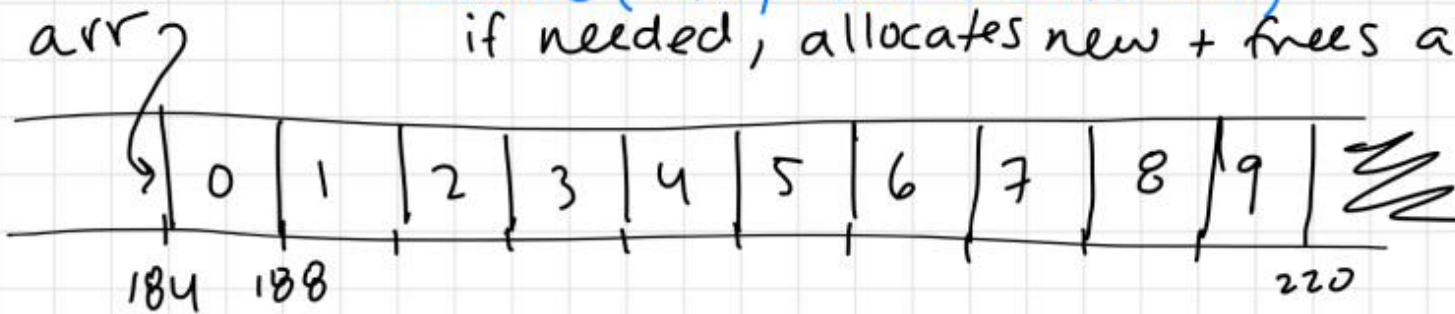
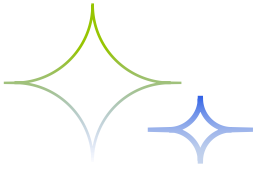- careful in case realloc is unsuccessful

Linked List

— not contiguous

head

3856   3904   3984   4032

↗
heap memory

Array

arr

realloc (arr, sizeof (int) · 101)
if needed, allocates new + frees arr

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |

184 188   220

304   704

THE END

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