DAY 7

LINKED LISTS STATUS

STACKS & QUEUES

SEARCH IN REAL LIFE

SEARCH A LINKED LIST

ROUND ROBIN

LINKED LISTS

Let’s go all the way around the room today:

- Your Name
- Did you complete the Koans?
- How far did you get on the Linked List?

We’ll be building on the Linked Lists later today after we’ve discussed searching.

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BIG O

Asymptotic Notation - Big O Notation, etc.

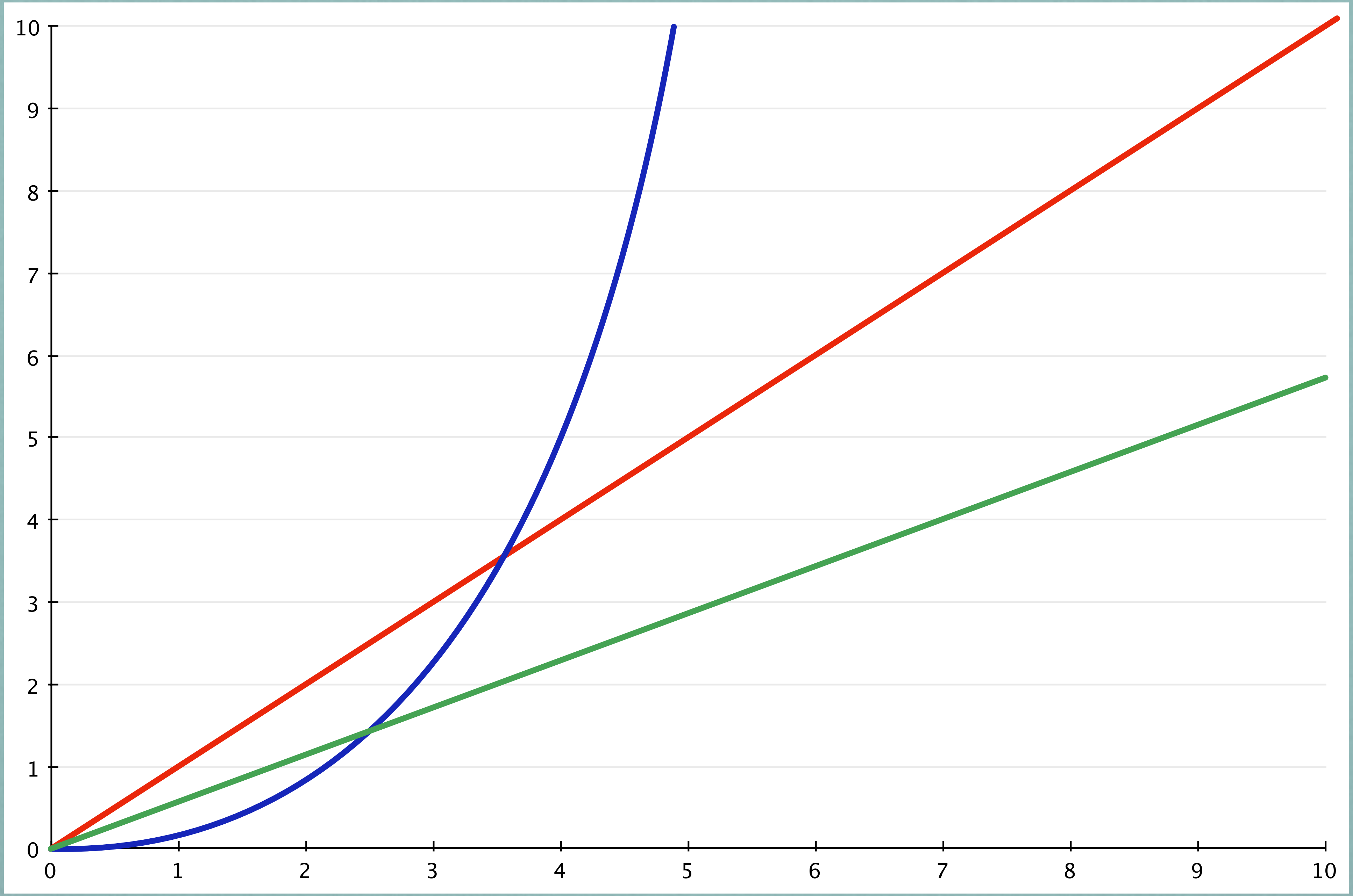
What it boils down to:

"How expensive is this algorithm?"

We will talk more about this in guest lectures.

STACKS & QUEUES

BIG O



STACKS & QUEUES

BIG O

Big Oh	Name	Interpretation
O(1)	Constant	The Best
O(log n)	Logarithmic	Pretty good.
O(n)	Linear	Ok.
O(n^2)	Quadratic	Bad
O(n!)	Factorial	Terrible.

STACKS

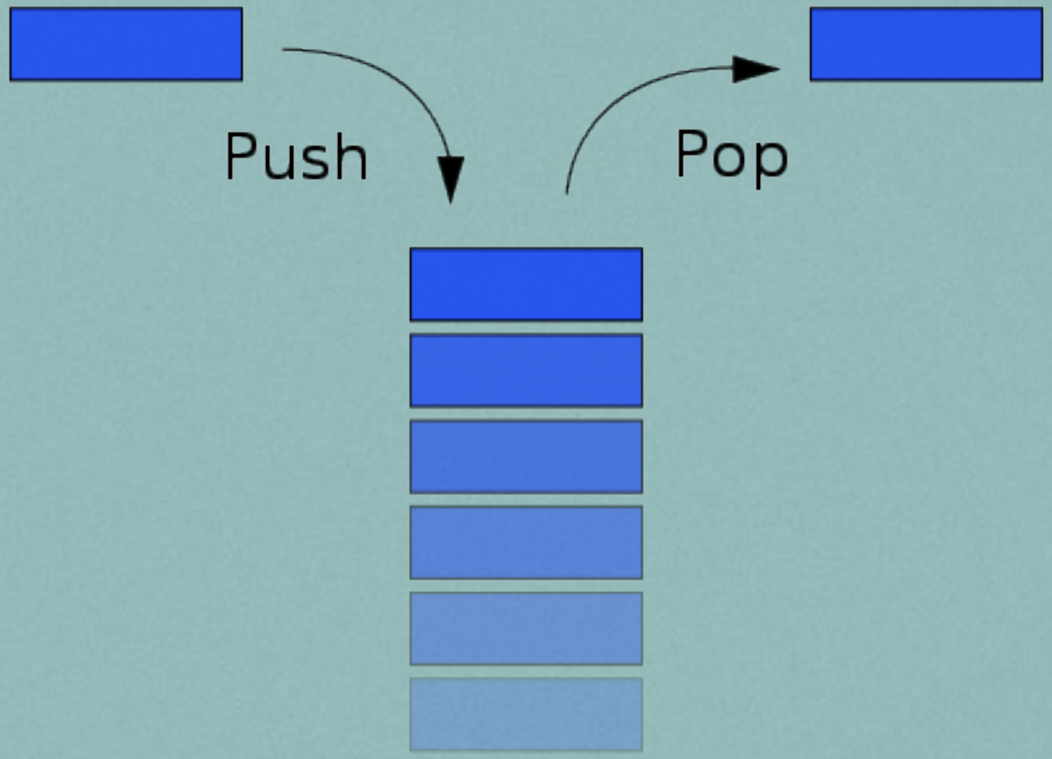
Last-In First-Out (LIFO)

Real World:

- Plate dispensers
- Pancakes

Uses:

- Tracking progress through a maze
- Providing "unlimited undo" in an application



Operation	Efficiency
Push	O(1)
Pop	O(1)

QUEUES

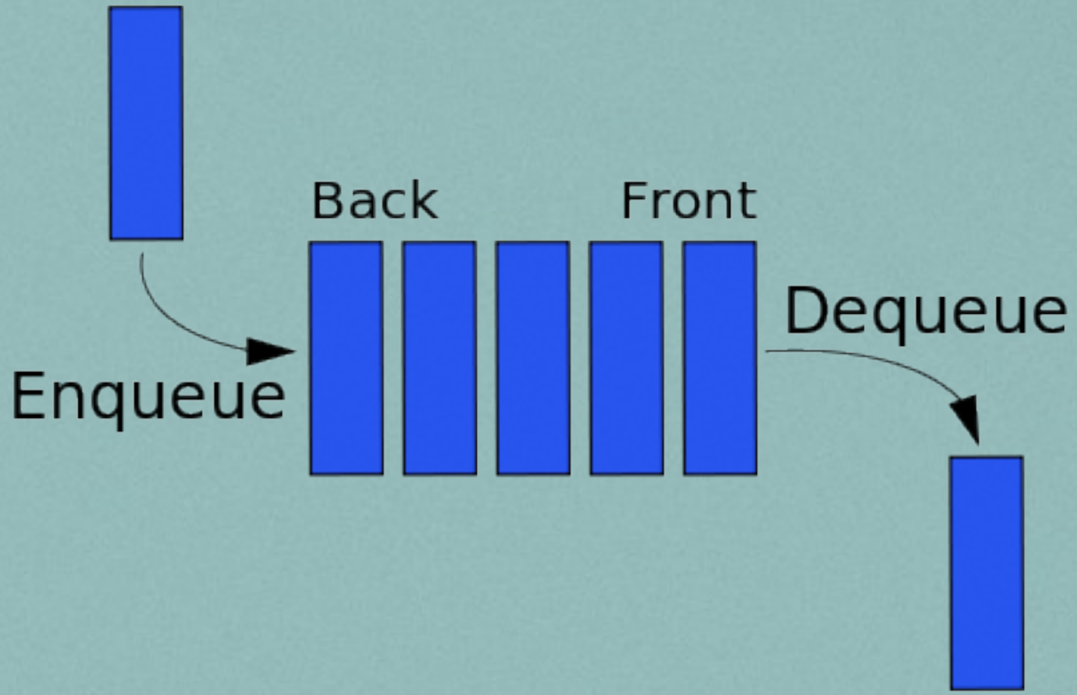
First-In Last-Out (FILO)

Real World:

- Waiting at the DMV
- Waiting in line, in general

Uses:

- Scheduling access to shared resources (e.g. printers)



Operation	Efficiency
Enqueue	O(1)
Dequeue	O(1)

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SEARCH ON LINKED LISTS

Now that we have a Linked List implementation, we're going to go one step further:

Implement searching on your LinkedList!

1. Start by writing at least 4 tests
2. Then implement searching

linked_list.index(payload) should return the index of the LinkedListItem with that payload

Hint: You should implement == for LinkedListItem