DAY ?

STACKS & QUEUES

STACKS & QUEUES

BIG O

Asymptotic Notation - Big O Notation, etc.

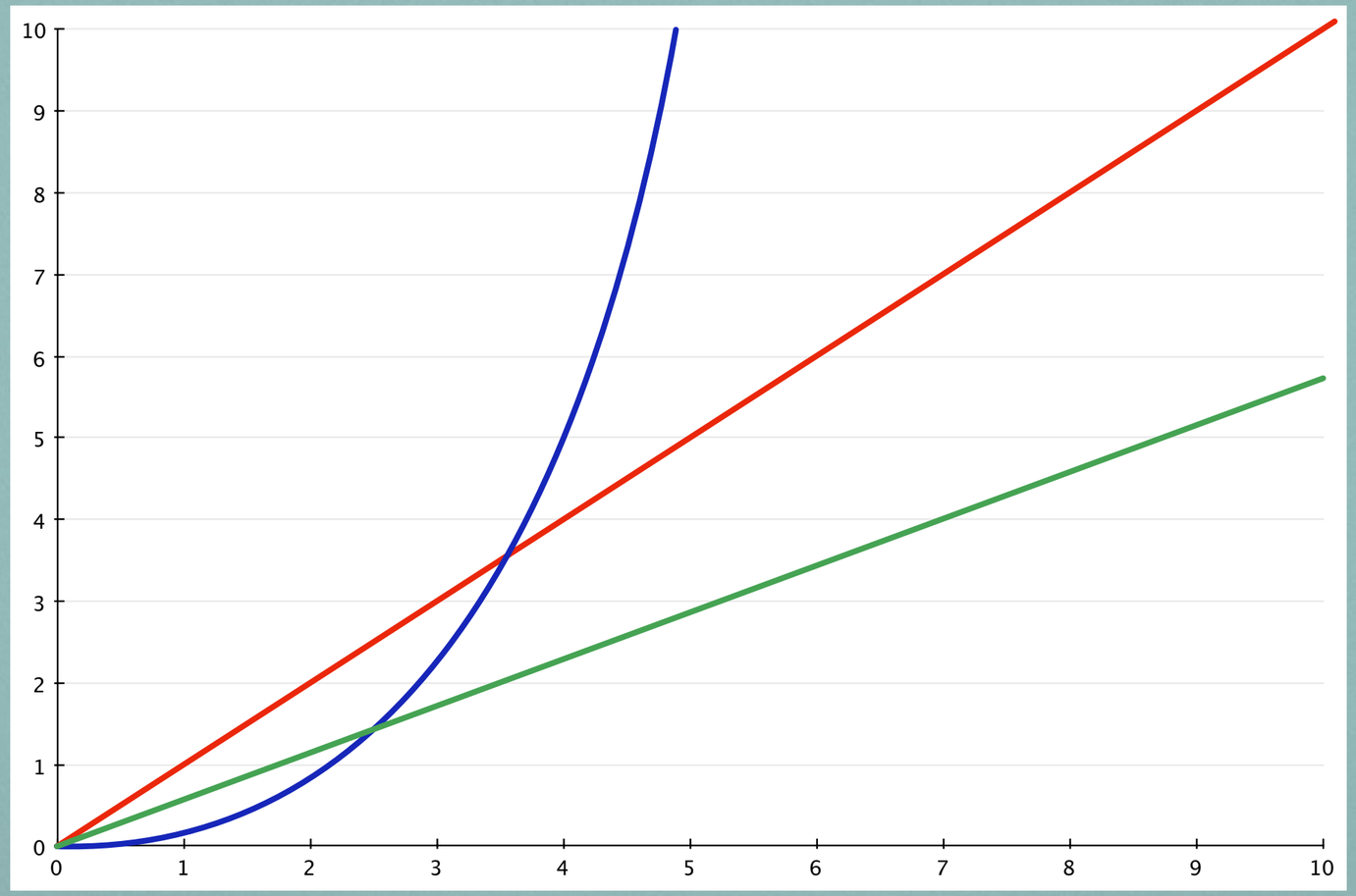
What it boils down to:

"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

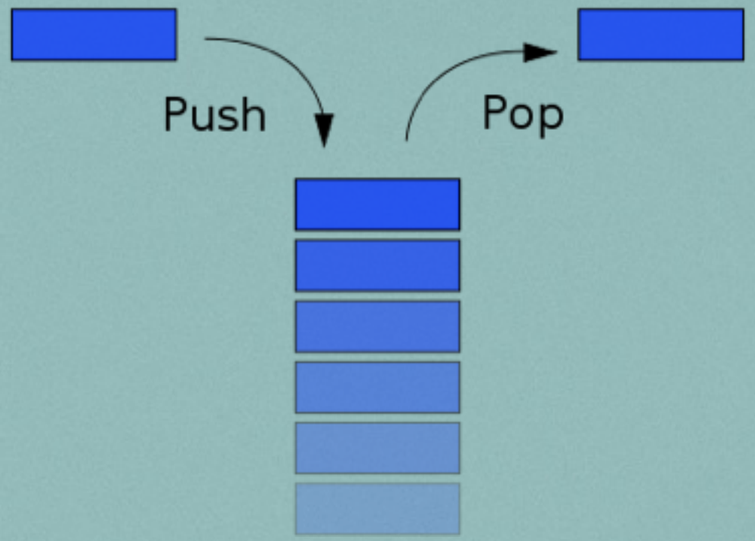
Last-In First-Out (LIFO)

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

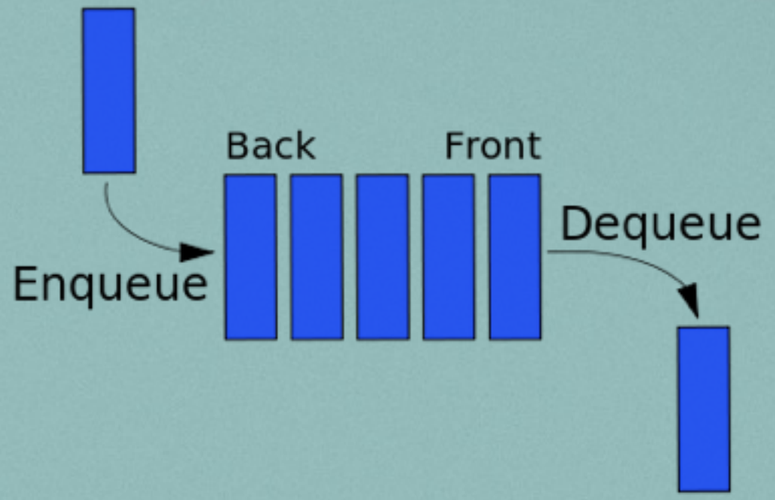
First-In First-Out (FIFO)

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)