

# Your Next Week

Saturday April 18

9 AM

- DUE Class 10 Lab
- DUE Class 11 Reading
- Class 11
- Instructor Syncs

MIDNIGHT

- DUE Class 11 Learning Journal

Sunday April 19

MIDNIGHT

- DUE Career Coaching Personal Pitch
- DUE Career Coaching Resume
- DUE Career Coaching Stage Fright
- DUE Career Coaching Your Why
- DUE Class 10-11 Feedback

Monday April 20

6:30 PM

- Career Coaching Workshop #1 (Mandatory)

Tuesday April 21

6:30 PM

- DUE Class 11 Lab
- DUE Class 12 Reading
- Class 12A

Wednesday April 22

6:30 PM

- Class 12B

MIDNIGHT

- DUE Class 12 Learning Journal

Thursday April 23

6:30 PM

- Co-Working

Friday April 24

Saturday April 25

6:30 PM

- DUE Class 12 Code Challenge
- DUE Class 12 Lab
- DUE Class 13 Reading
- Class 13

MIDNIGHT

- DUE Class 13 Learning Journal

# Lab 10 Review

# Class 11

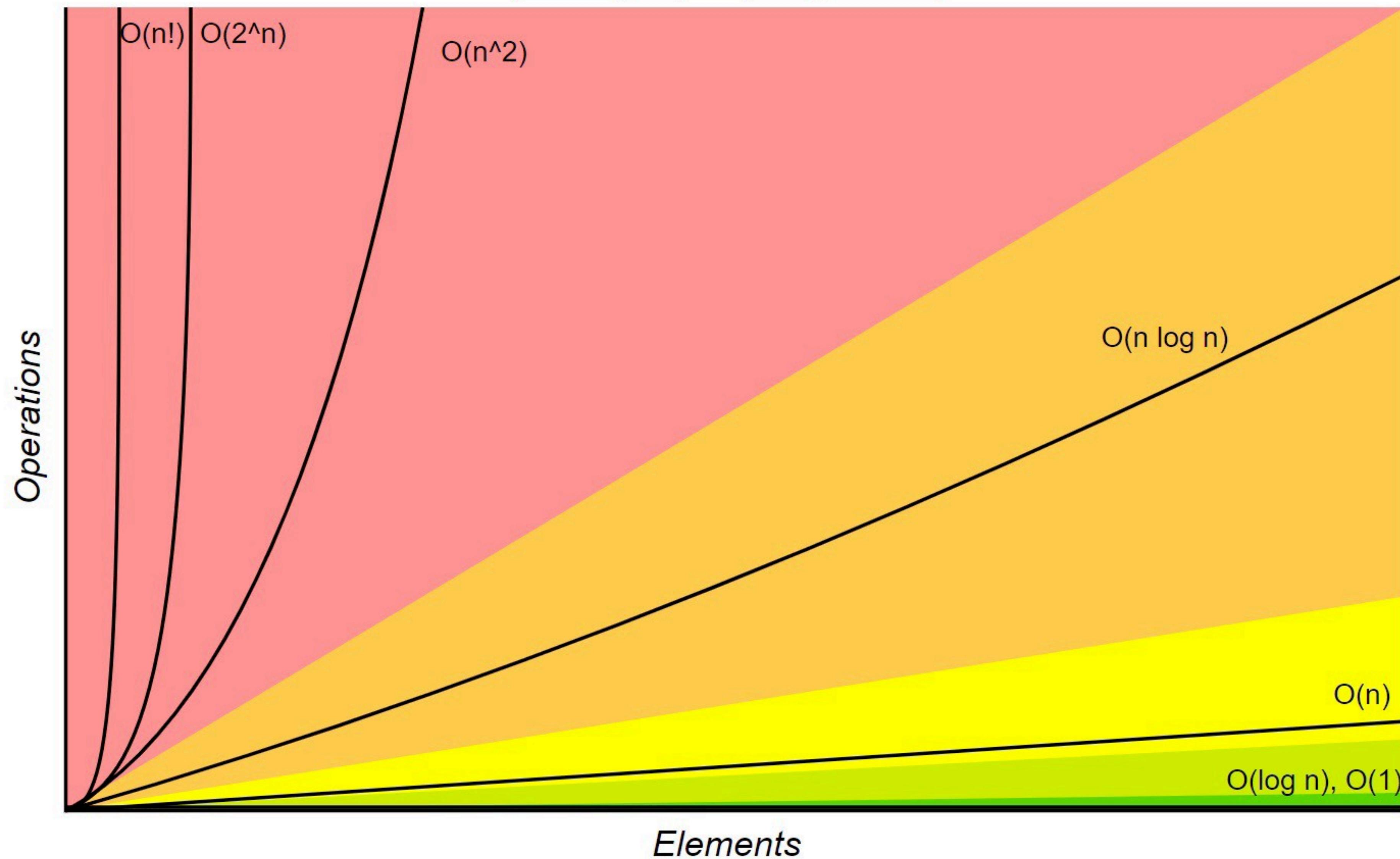
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## DSA: Stacks and Queues

seattle-javascript-401n16

# Big-O Complexity Chart

Horrible    Bad    Fair    Good    Excellent



# Stacks

- **First In, Last Out (FILO)**
- A literal “stack” of things that are waiting to be **popped**
- We can see stacks everywhere in programming
- “Stack Overflow” is when you keep pushing to the stack, but you don’t have enough storage!
- Push and Pop operations are  $O(1)$ , but what about search?



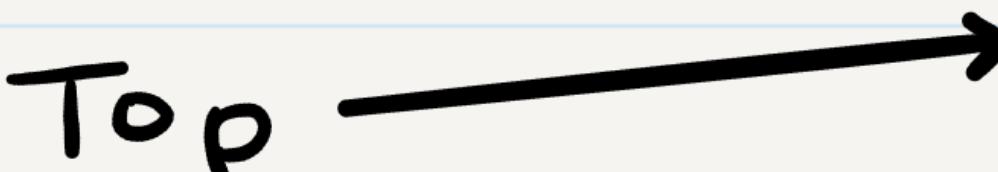
Push



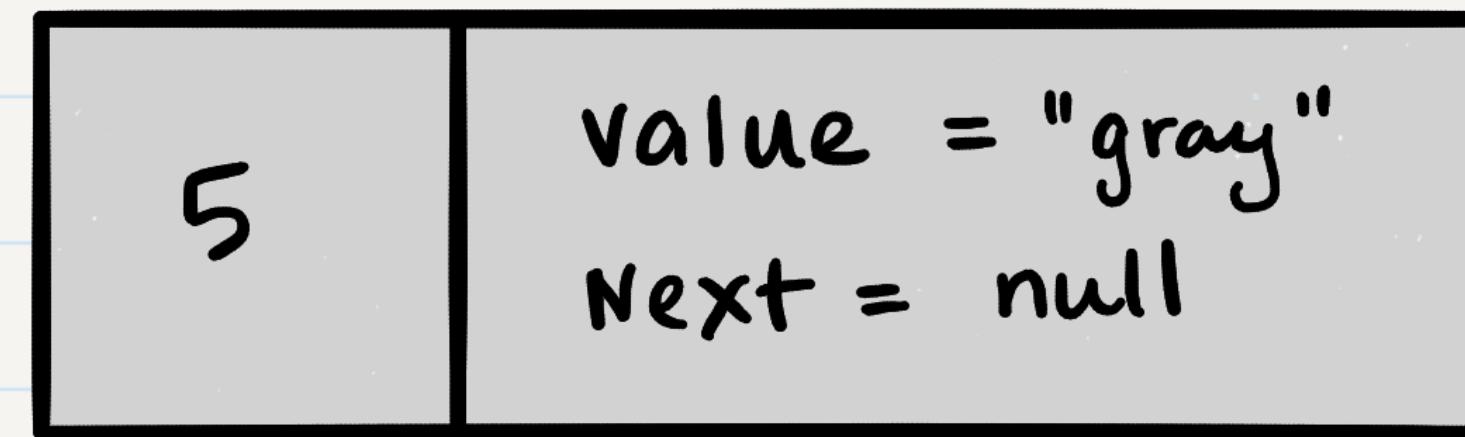
Pop



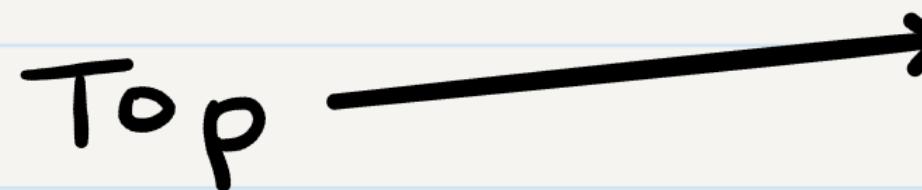
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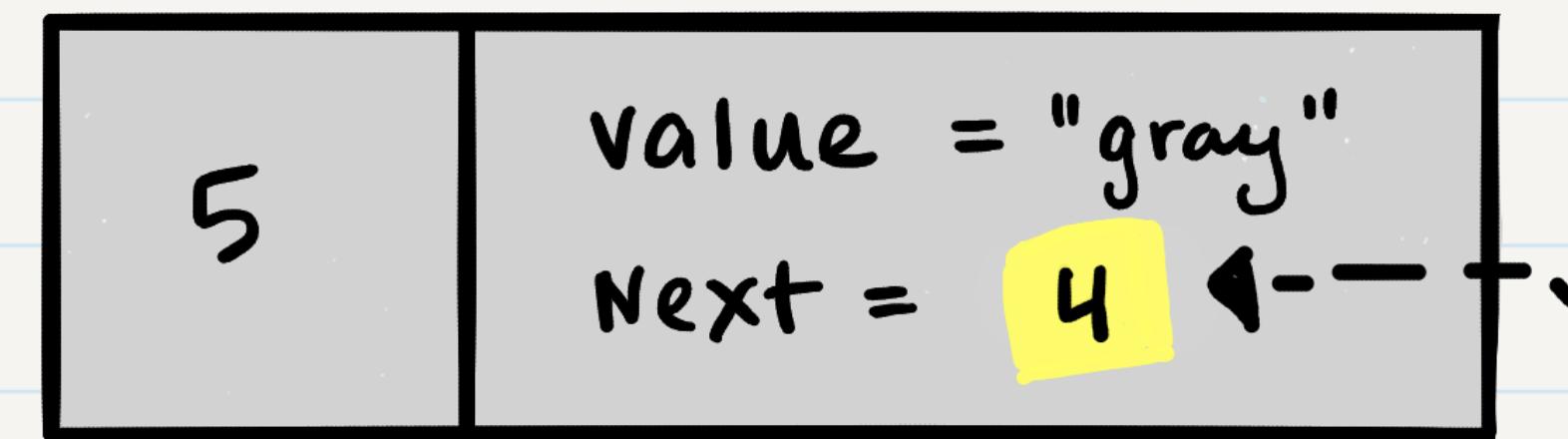
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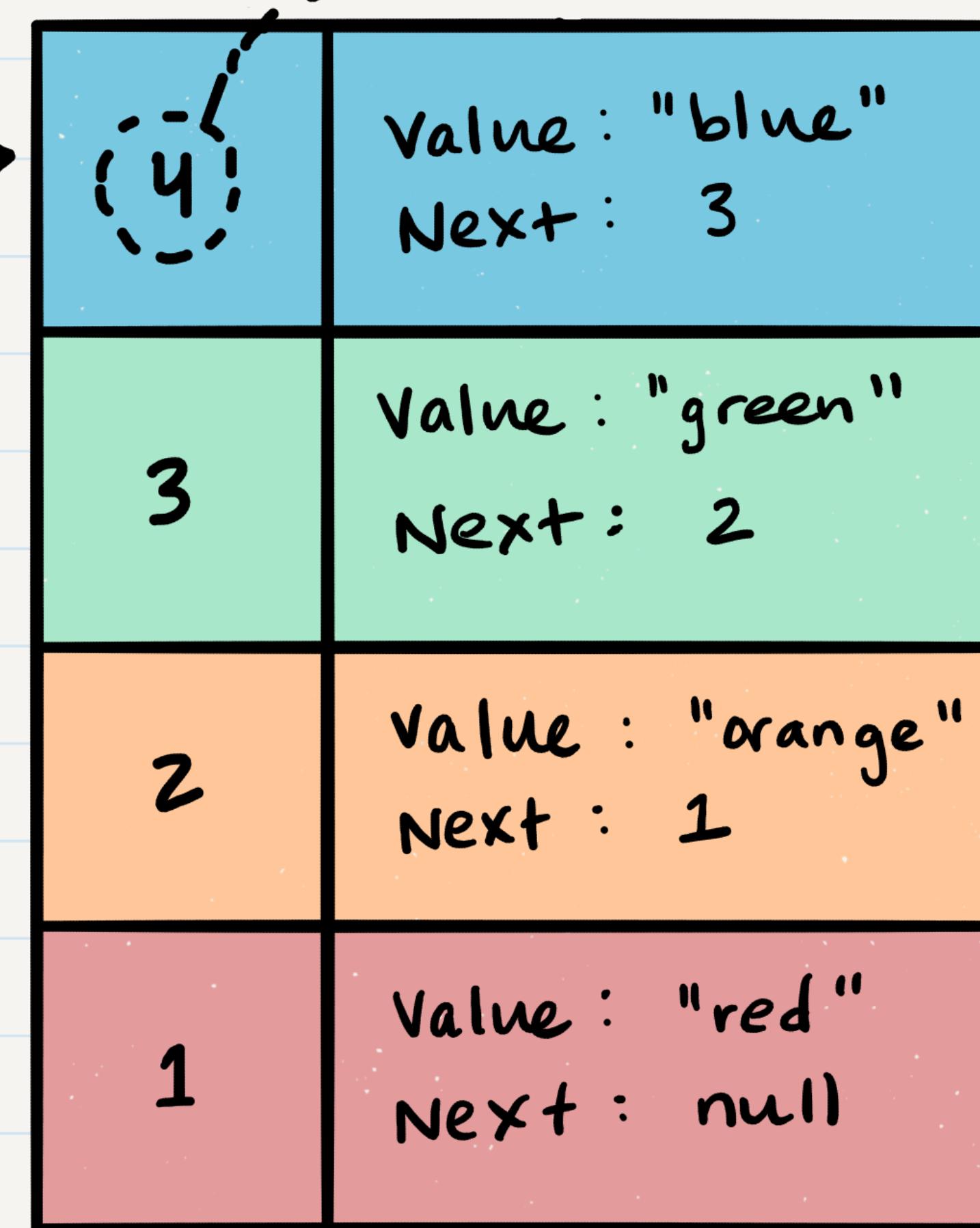
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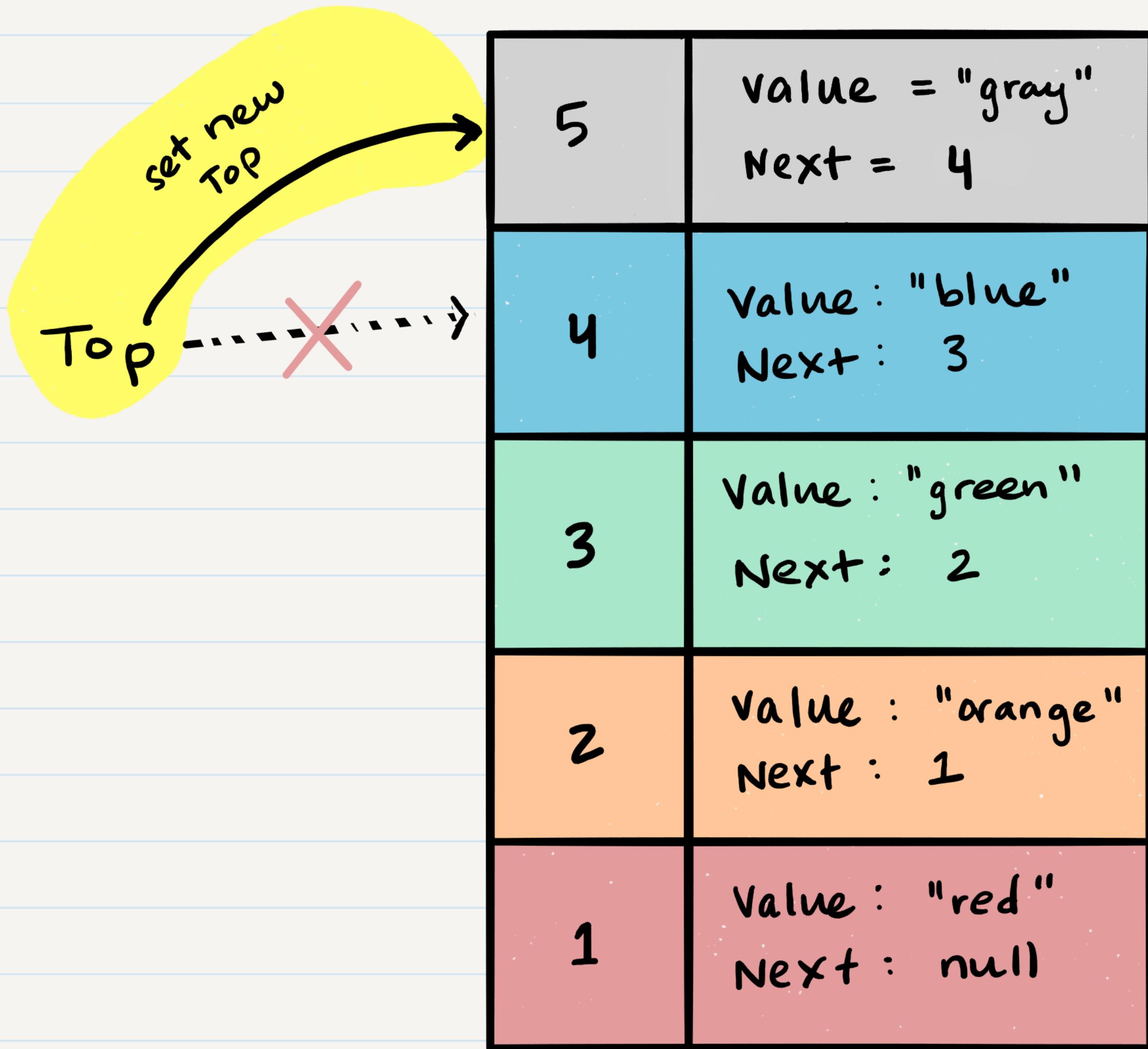


Push :



Top

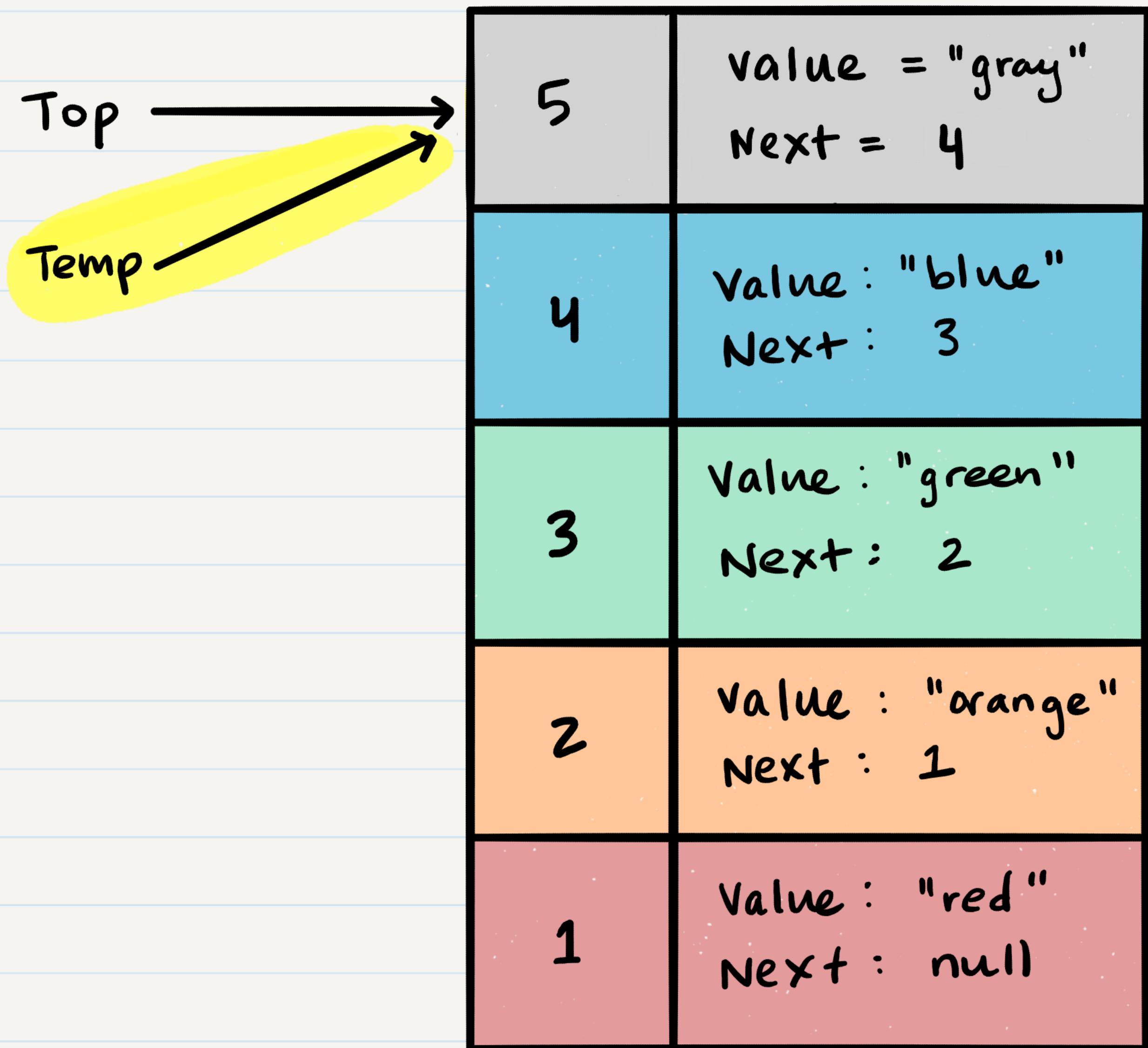


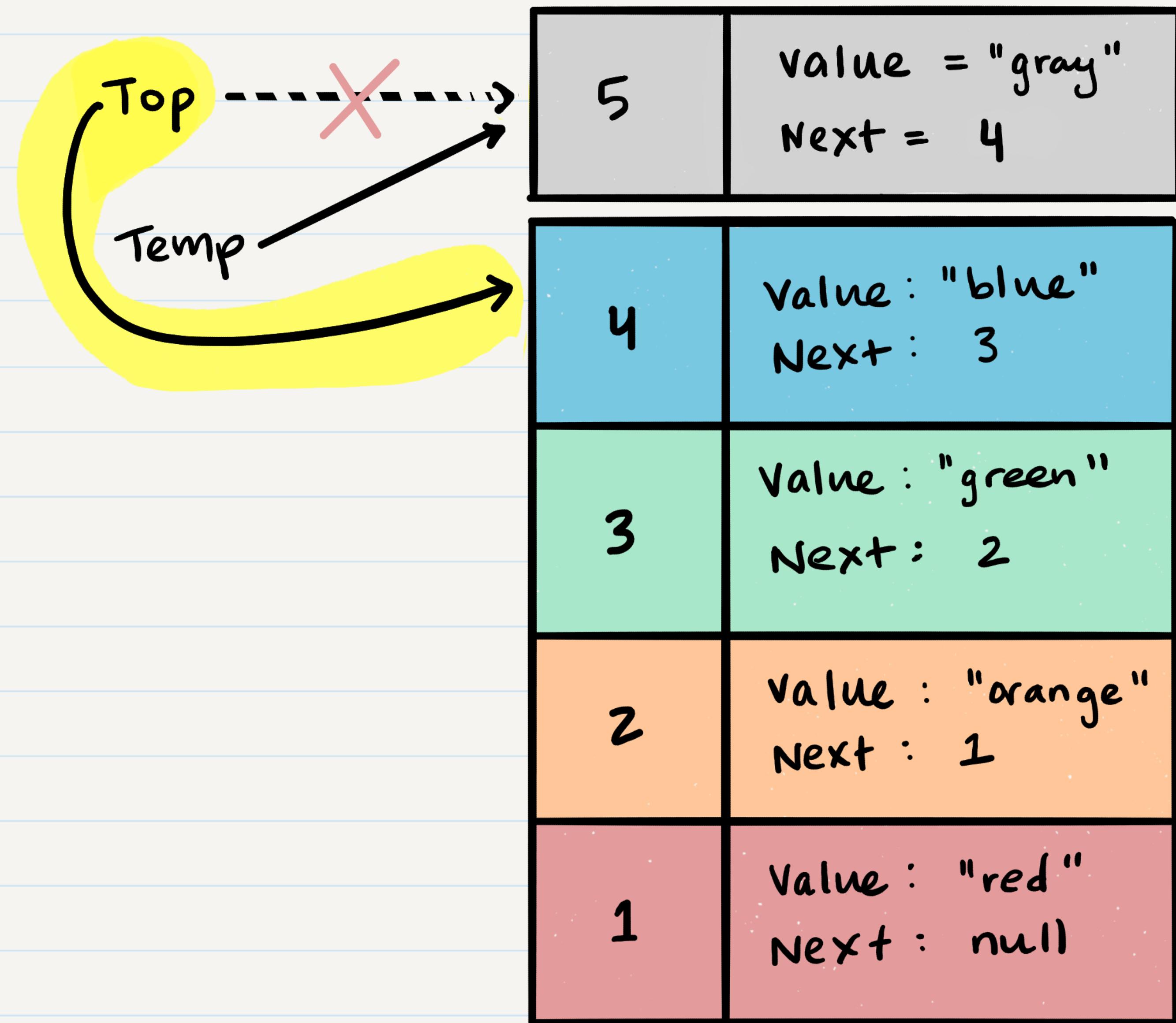


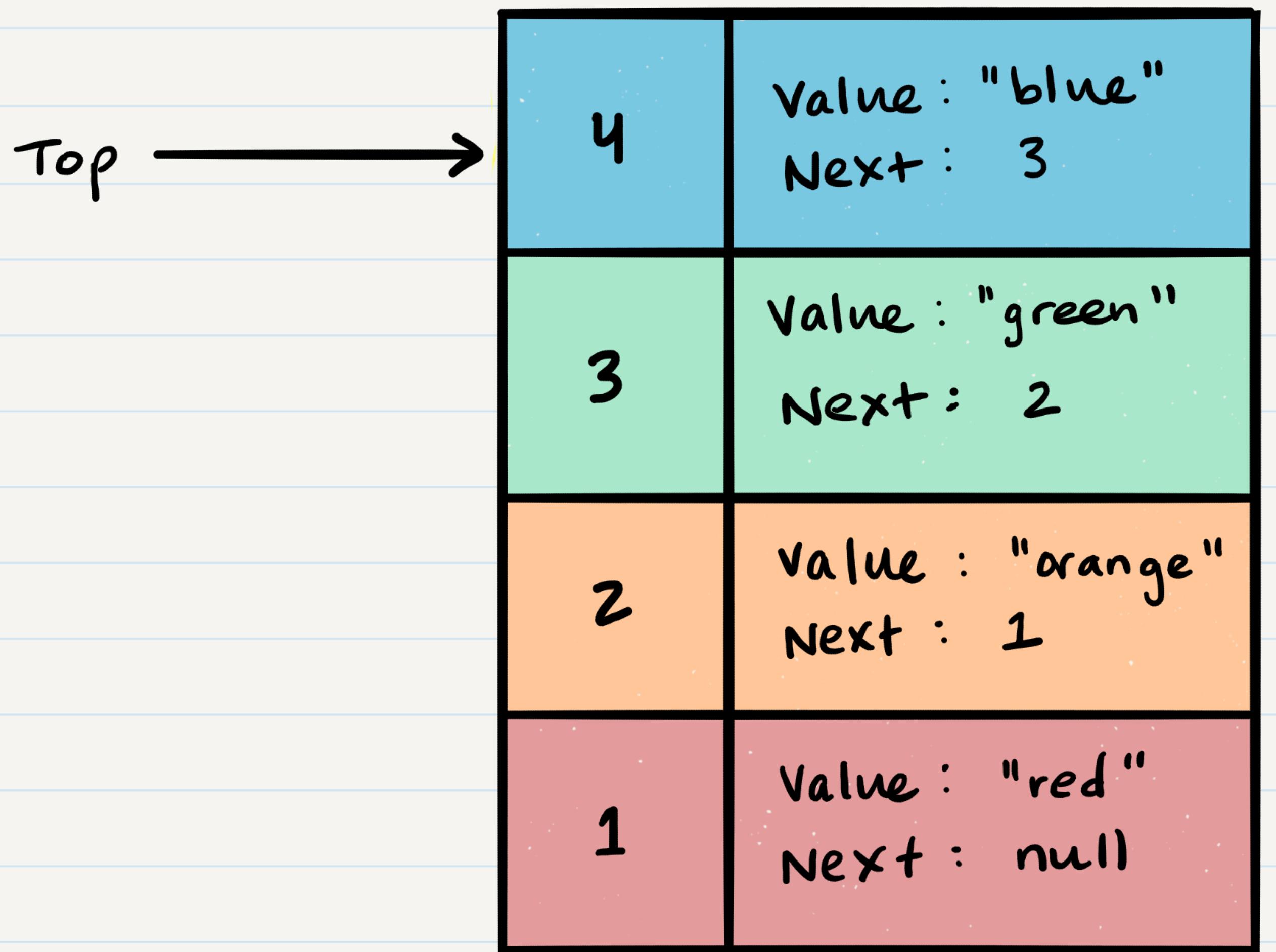
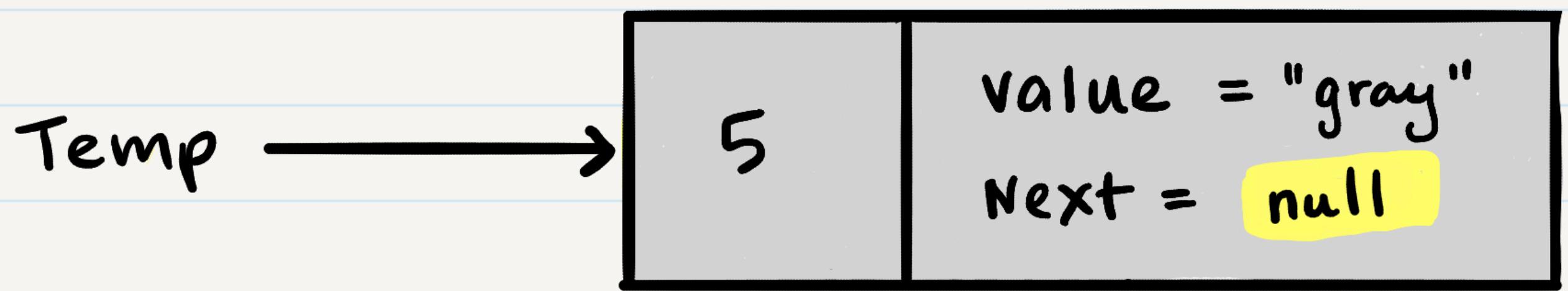
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5	value = "gray" Next = 4
4	value : "blue" Next : 3
3	Value : "green" Next: 2
2	value : "orange" Next : 1
1	Value : "red" Next : null





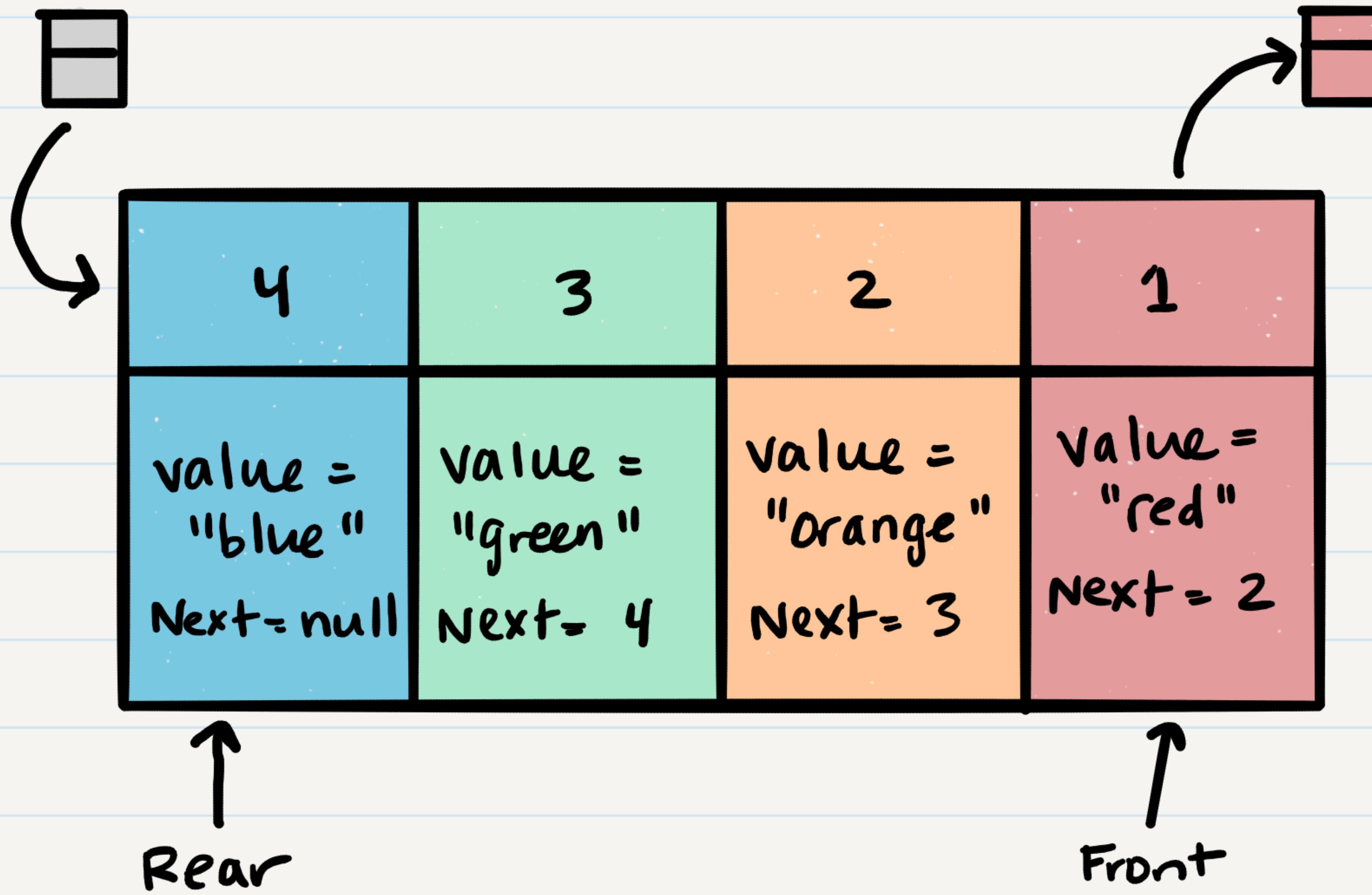


# Queues

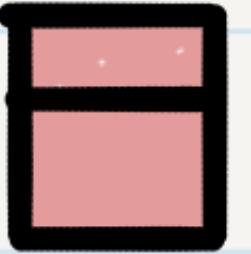
- **First In, First Out (FIFO)**
- We've all waited in a queue before: front of the line is served first
- We're just storing the front and back, so enqueue and dequeue are  $O(1)$



Enqueue

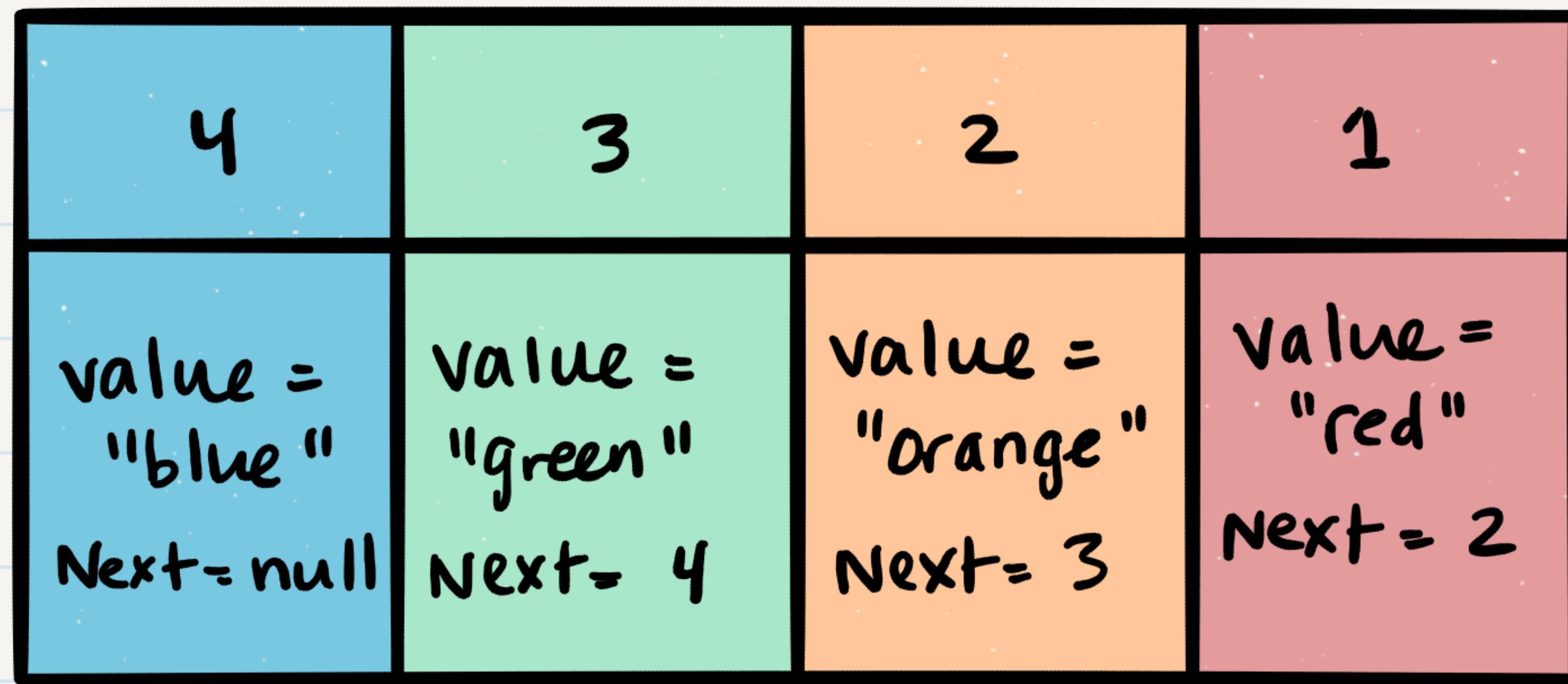


Dequeue



Enqueue  
↓

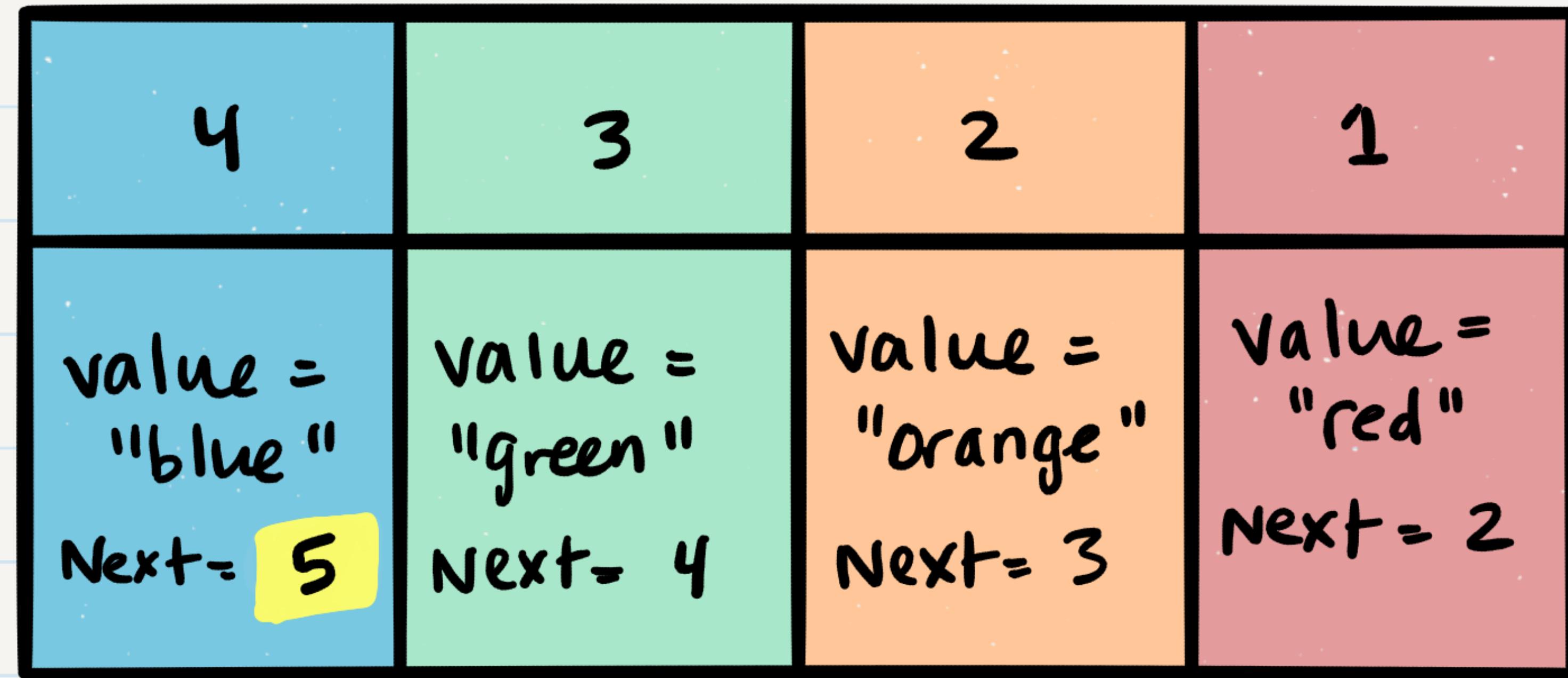
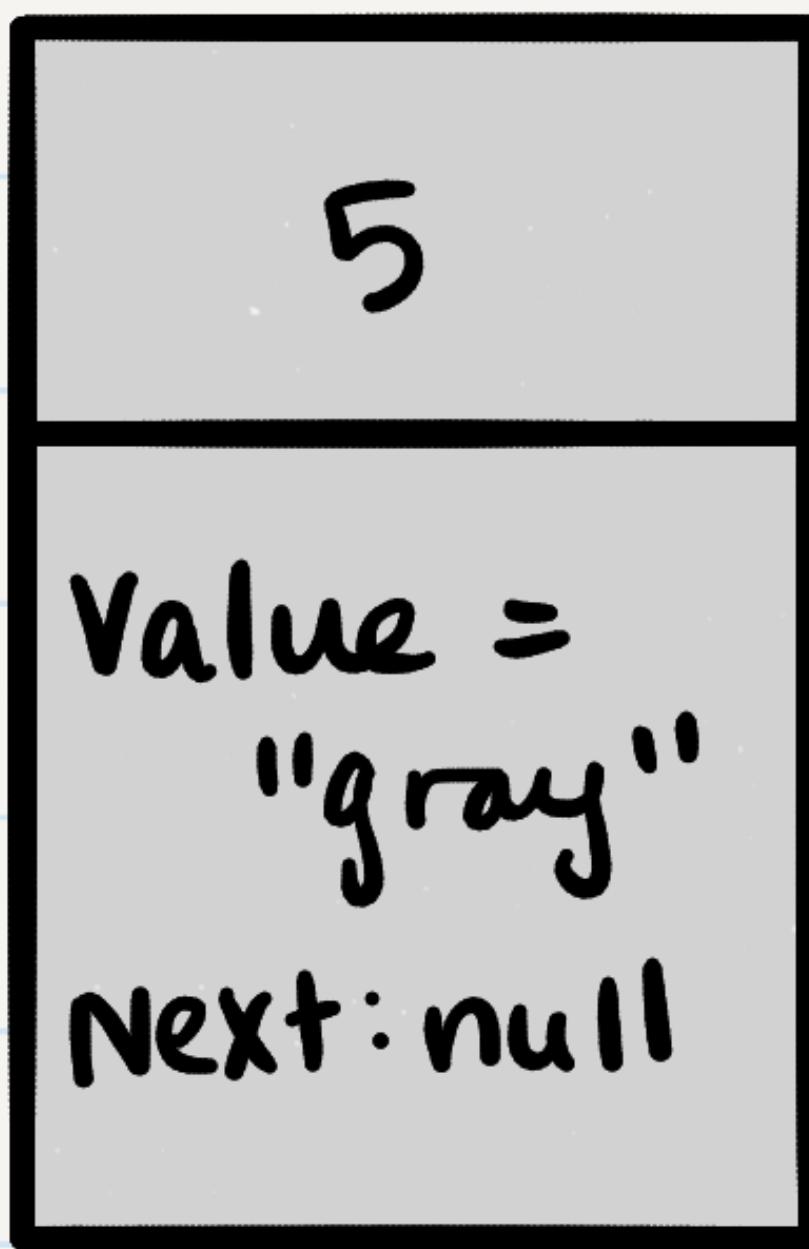
5
Value = "gray"
Next: null



↑  
Rear

↑  
Front

Enqueue



↑  
Rear

↑  
Front

Enqueue  
↓

5	4	3	2	1
Value = "gray" Next: null	value = "blue" Next = 5	value = "green" Next = 4	value = "orange" Next = 3	value = "red" Next = 2

Rear

Front

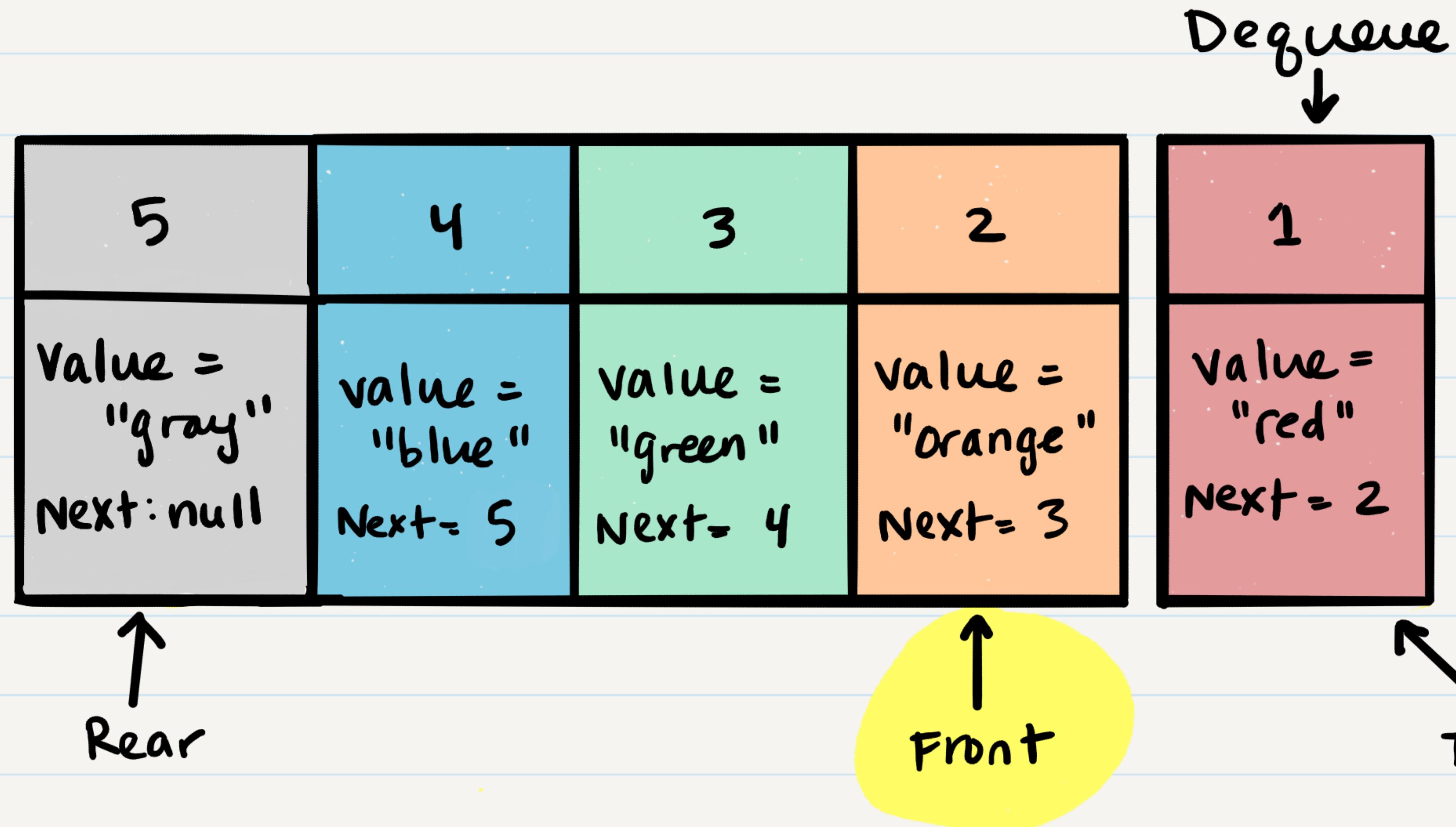
Dequeue  
↓

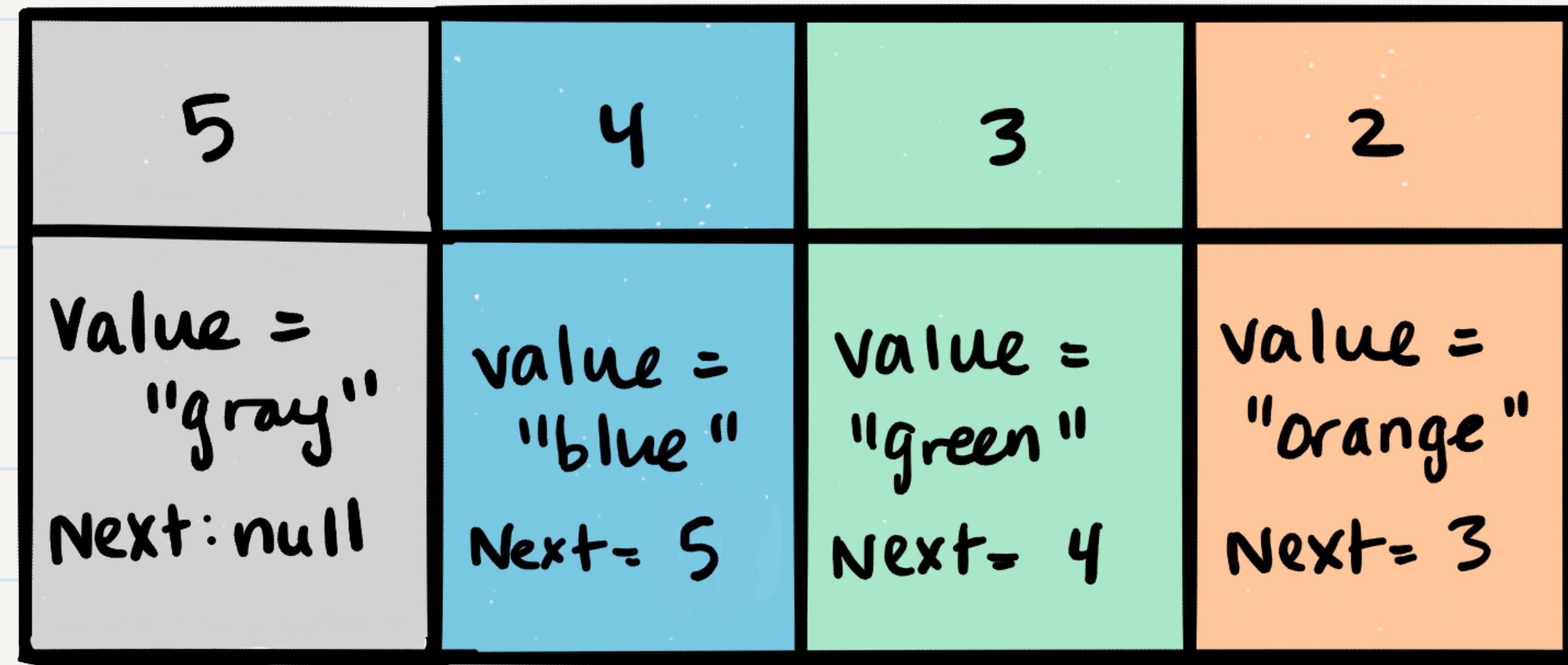
5	4	3	2	1
Value = "gray" Next: null	value = "blue" Next= 5	value = "green" Next= 4	value = "orange" Next= 3	value = "red" Next = 2

↑  
Rear

↑  
Front

Temp



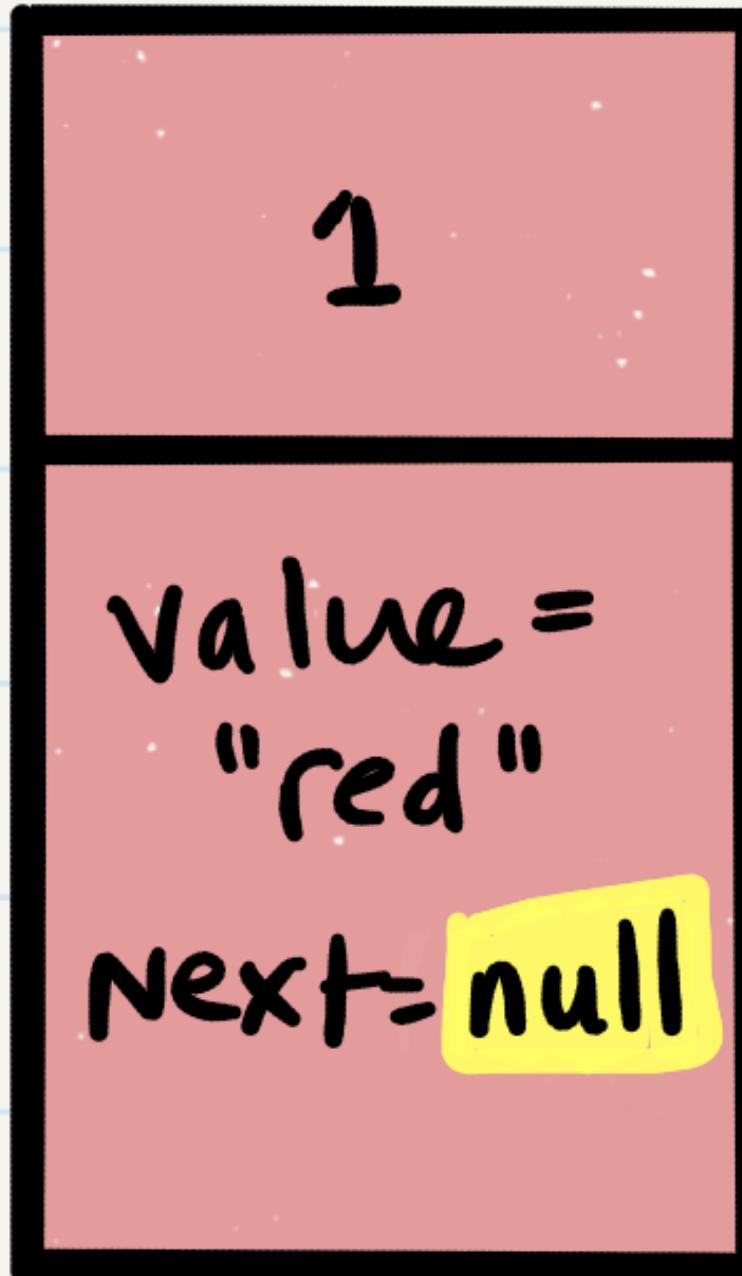


↑

Rear

↑

Front



Temp

Dequeue  
↓

# Lab 11 Overview