// section: bootcamp

# Cracking the Coding Interview

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# Hi! I'm Gayle Laakmann McDowell

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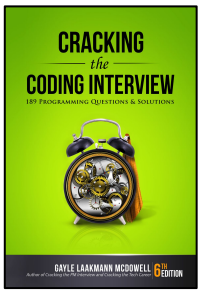


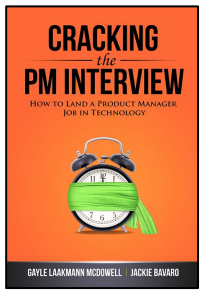


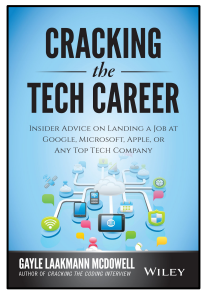


Acquisition Interview Coaching

Hiring Consultant / Interview Training

# About that bootcamp thing

# So you’re newish to coding

- Sure, you’re junior
- But so are new grads
- Experience fixes that
  - 

You are responsible for your own learning.

Bootcamp grads have their own plusses.

# behavioral questions

# So, walk me through your resume...

- “I’m a <title> at <company>
- I studied at …
- And then I …
- At my current company, I …
- On the side, I… <hobbies>”

*Not too long!*

*Shows of success*

*Prompt the interviewer*

*Hobbies*

# A Great Pitch

- Tells an engaging story
- Sends a message.
  - Who are you *really?*
  - What brought you from point A to point B?
  - What else do you bring to the table?

# Developing Your Stories - Strategy #1

| | Job 1 | Job 2 |
|---|---|---|
| Leadership | | |
| Successes | | |
| Challenges | | |
| Mistakes | | |
| Conflicts | | |

# Good Story
# &
# Good Structure

# Structure 1: Nugget First

- Lead with your “thesis” / nugget
  - Grabs the listener’s attention
  - Gives them context for where you’re going

# Structure 2: SAR

- Situation
- Action
- Result

what did *you* do?
*(not your team)*

no, but what did you actually *do*?

what are you trying to say?
*(the message)*

# Story Diagram

| | **Story 1** | **Story 2** |
|---|---|---|
| NUGGET | | |
| SITUATION | | |
| ACTION<br>*What & Why & How* | | |
| RESULT | | |
| THE MESSAGE | | |
| DO DIFFERENTLY | | |

# The “Bad” Stuff (Mistakes, Failures, etc)

- Be real
- Be compelling
- Be changed

*The best candidates connect!*

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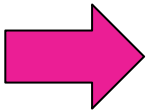
# what to expect in (coding interviews)

# the *typical* process (not universal!)

**PHONE INTERVIEWS**



**ONSITE INTERVIEWS**

behavioral + algorithms/coding

algorithms/coding

algorithms/coding

behavioral + algorithms/coding

design

# coding interview

(typical)

| | |
|---|---|
| **5m** | Behavioral |
| **35m** | Coding Question #1 |
| | Coding Question #2 |
| **5m** | Q&A |

# design interview

(typical)

| | |
|---|---|
| **5m** | Behavioral |
| **35m** | Design Question #1 |
| **5m** | Q&A |

# Coding - behavioral

# Past Projects

- 3+ projects
  - Hard / cool
  - You were central

- TECHNICAL
  Challenges, architecture, technologies, etc

- SOFT
  Leadership, conflicts, decisions, etc

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# design questions

# how to tackle

(it’s not that scary!)

W

W

Y

D

A

W

# how to tackle

(it's not that scary!)

**W**hat

**W**ould

**Y**ou

**D**o

**A**t

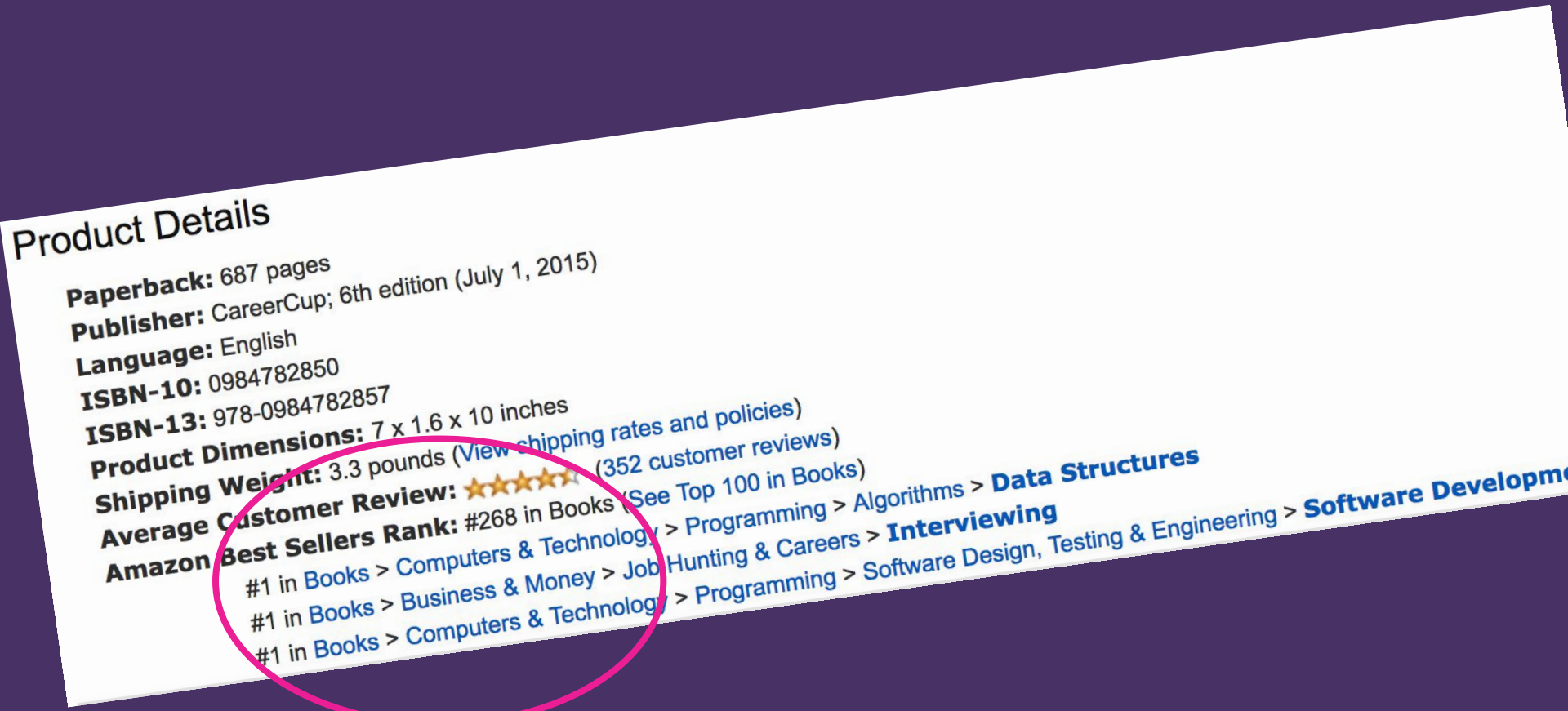
**W**ork

# the process - SKIR

- **S**COPE
  ask questions & make assumptions
- **K**EY COMPONENTS
  use the whiteboard!
- **I**DENTIFY ISSUES
  Bottlenecks, tradeoffs, ...
- **R**EPAIR

*breadth-first*

*not depth-first*



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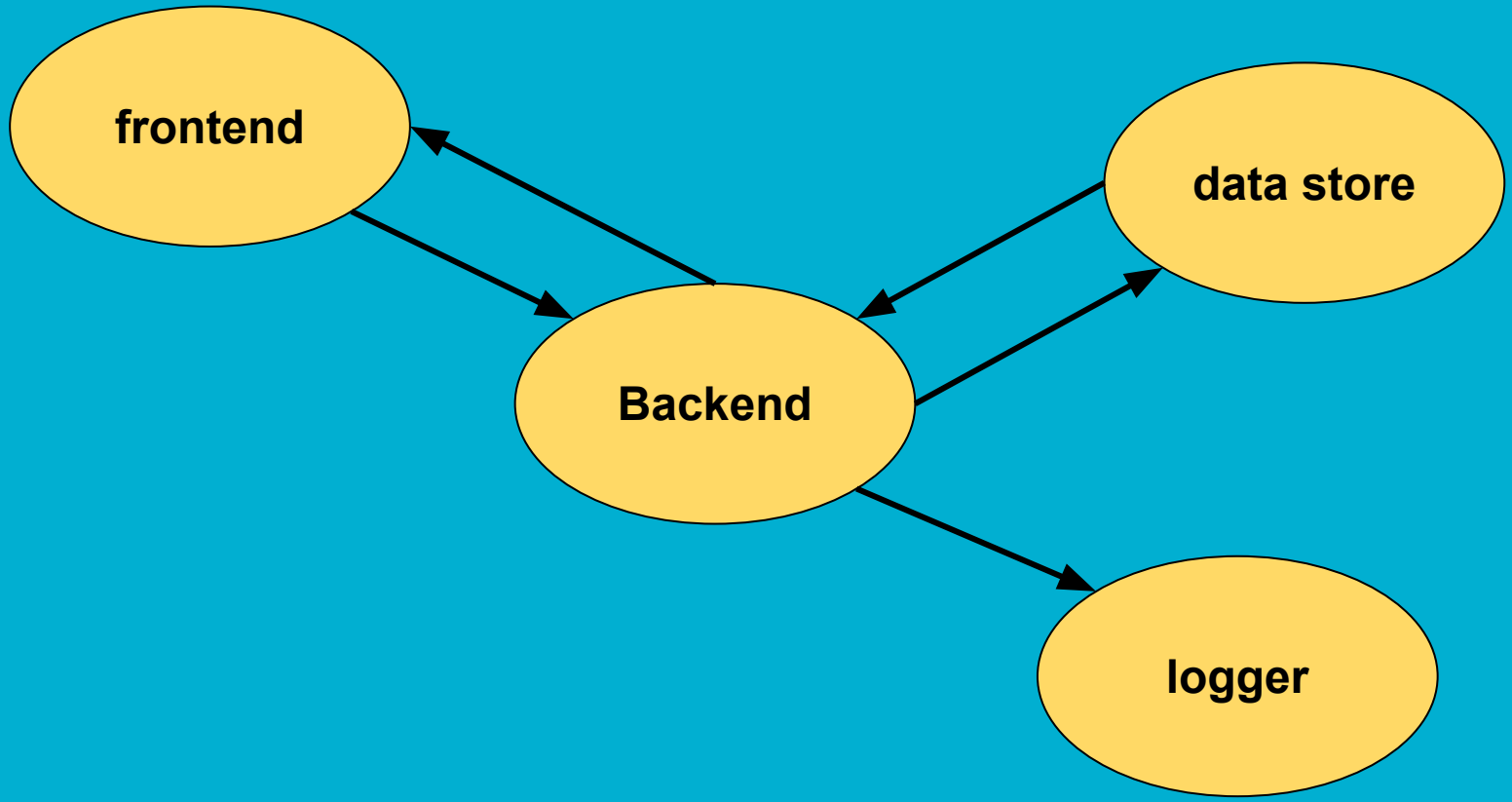
frontend
data store
Backend
logger

a collaborative discussion
(but one that you are driving)

# LEADER & TEAMMATE

# How to prepare

- Read about architecture
- Use friends at startups
- Know key concepts
- Practice back-of-the-envelope calculations

# algorithm questions

# What the interviewer is looking for

- Analytical skills / problem-solving skills
- How you think
- Ability to make tradeoffs
- Communication
- Willingness to push through hard problems
- Strong CS fundamentals
  - CS degree not required

CS degree is not required
(or even that important)

# Essential CS Knowledge

Often not covered in algorithms class!

| DATA STRUCTURES | ALGORITHMS | CONCEPTS |
|---|---|---|
| ArrayLists | Merge Sort | Big-O Time |
| Hash Tables | Quick Sort | Big-O Space |
| Trees, Tries & Graphs | Breadth-First Search | Recursion |
| Linked Lists | Depth-First Search | Memoization & Dynamic Programming |
| Stacks / Queues | Binary Search | |
| Heaps | | |

The concept/process, not specific famous problems

# How to Prepare

1. **MASTER Big O**
2. Implement core data structures & algorithms
3. Practice on real interview questions
4. Code by hand (paper, whiteboard, window/dry-erase)
5. Mock interviews

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# Expectations & Evaluation

# Non-Expectations

More perfect is better than less perfect...

... but perfect doesn't really happen

- Knowing the answers
- Solving immediately
- Perfect coding

# Evaluation & Expectations

- Thought process
  - (Not minutes to optimal answer)
- Real code
  - (Not pseudocode)

# It's about signal, not perfection

- **Incorrect and not worrisome:**

```
1 LinkedList<Integer> list = new LinkedList<Integer>();
2 list.insert(0);
```

- **Incorrect and worrisome:**

```
1 if (a = 0) a += 1
```

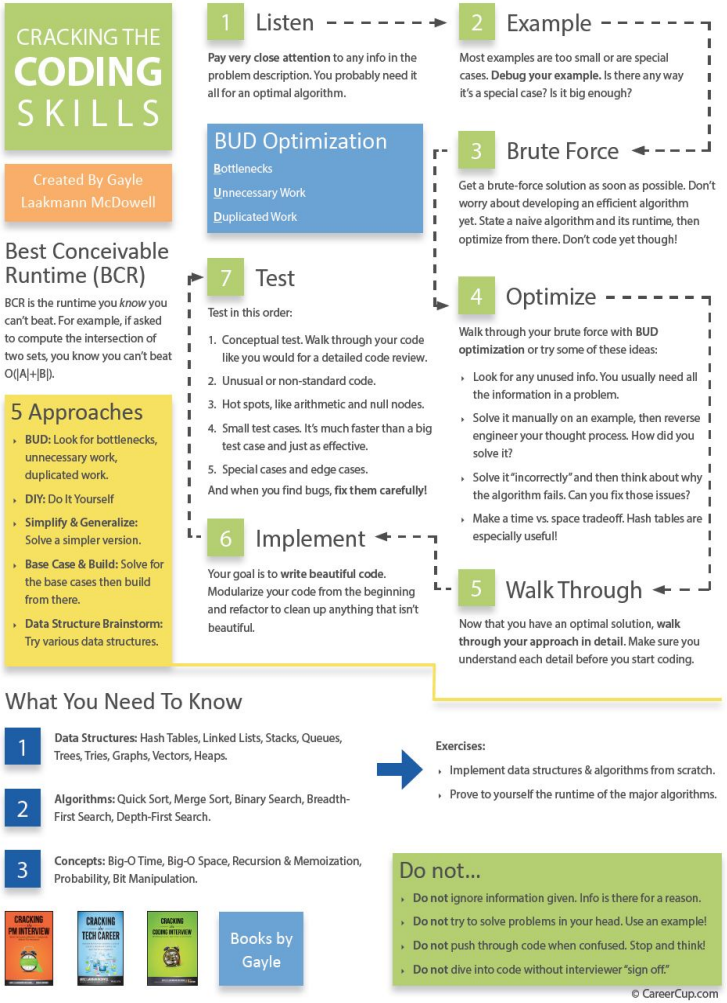
Assuming actual confusion, not a typo

# Quick tips to do well

- Drive!
  - **Lead the problem solving**
  - More than just “correct”
  - Even when you’re stuck
- **Show me your thought process**
- Pay attention to meeeeeeee!
  - I might help you. Make sure you use that help.

# The Seven Steps

**CrackingTheCodingInterview.com**
**→ Resources**



(no, seriously, follow it!)

**CrackingTheCodingInterview.com → Resources**

# 01. LISTEN (FOR CLUES)

# 01. LISTEN

(for clues)

Given two arrays that are sorted and distinct, find the number of elements in common.

# 01. LISTEN

(for clues)

**WHY?**

Given two arrays that are **sorted** and distinct, find the number of elements in common.

# 01. LISTEN

(for clues)

Given a list of valid English words, build an anagram server that can spits out all the anagrams of a word

(anagram = permutation that is also valid word)

rates = aster, stare, tears, tares, taser

- Caching?
- Database?
- **Precomputation?**

# 01. LISTEN

(for clues)

**What does a server let us do?**

Given a list of valid English words, build an anagram **server** that can spits out all the anagrams of a word

| | | |
|---|---|---|
| aerst | → | aster, stare, taser, tares, tears, rates |
| odg | → | dog, god |
| aeelps | → | please, elapse, asleep |
| ... | | ... |

# 02. DRAW AN EXAMPLE

# 02. EXAMPLE

Given two arrays that are sorted and distinct, find the number of elements in common.

# 02. EXAMPLES // BAD VS. GOOD

too small
special case-y

A: [1, 12, 15, 19]

B: [2, 12, 13, 20]

Makes you
work for it

A: [1, 12, 15, 19, 20, 21]

B: [2, 15, 17, 19, 21, 25, 27]

SOMETHING THAT MAKES YOU WORK

# BIG & GENERIC

## 02. EXAMPLE

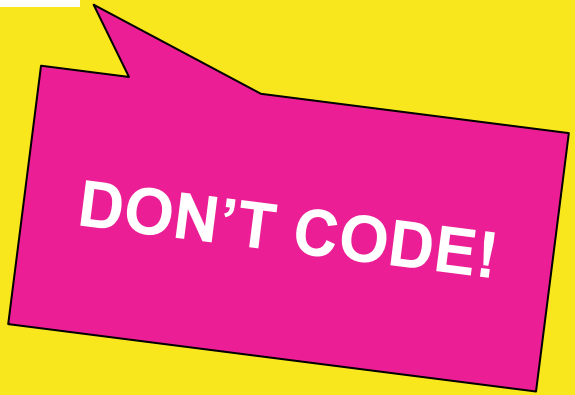
Make your examples large and avoid special cases!

# 03. BRUTE FORCE

# 03. BRUTE FORCE

Slow & terrible > nothing

- Explain the best algorithm you have (even slow and stupid)
- State runtime
- Optimize!



# 04. OPTIMIZE

# 04. OPTIMIZE

expect to maybe spend
a while here

- BUD
- Space & Time
- Do It Yourself
- Recursion

# 4a. BUD

- **B**ottlenecks
- **U**nnecessary work
- **D**uplicated work

# 4a. (B)UD // BOTTLENECKS

Given two arrays that are sorted and distinct, find the number of elements in common.

```
[1, 12, 15, 19, 20, 21]

[2, 15, 17, 19, 21, 25, 27]
```

- Brute Force: O(A*B)
- Binary Search: O(A log B)
- Hash Set: O(A + B)
  - But O(B) space
- Sorted Merge:
  - O(A+B) time
  - O(1) space

# 4a. B(U)D // UNNECESSARY WORK

Find all solutions to

$$a^3 + b^3 = c^3 + d^3$$

where $1 <= a, b, c, d < n$

# 4a. B(U)D // UNNECESSARY WORK

All solutions to $a^3 + b^3 = c^3 + d^3$

```
1 for a from 1 to N
2     for b from 1 to N
3         for c from 1 to N
4             for d from 1 to N
5                 if a^3 + b^3 == c^3 + d^3
6                     print a, b, c, d
                      break;
```

# 4a. B(U)D // UNNECESSARY WORK

All solutions to $a^3 + b^3 = c^3 + d^3$

```
1 for a from 1 to N
2     for b from 1 to N
3         for c from 1 to N
4             d = power(a^3 + b^3 - c^3, 1 / 3)
5             if d is an integer
6                 print a, b, c, d
```

# 4a. BU(D) // DUPLICATED WORK

All solutions to $a^3 + b^3 = c^3 + d^3$

```
1 for a from 1 to N
2     for b from 1 to N
3         for c from 1 to N
4             for d from 1 to N
5                 if a^3 + b^3 == c^3 + d^3
6                     print a, b, c, d
```

# 4a. BU(D) // DUPLICATED WORK

All solutions to $a^3 + b^3 = c^3 + d^3$

```
1 for a, b from 1 to N
2     for c, d from 1 to N
3         if a^3 + b^3 = c^3 + d^3
4             print a, b, c, d
```

# 4a. BU(D) // DUPLICATED WORK

$$a^3 + b^3 = c^3 + d^3$$

```
1 for a, b from 1 to N
2     for c, d from 1 to N
3         if a^3 + b^3 = c^3 + d^3
4             print a, b, c, d
```

| c | d | $c^3 + d^3$ |
|---|---|---|
| … | … | … |
| 4 | 31 | 29855 |
| 4 | 32 | 32832 |
| 4 | 33 | 36001 |
| … | … | … |
| 18 | 29 | 30221 |
| 18 | 30 | 32832 |
| 18 | 31 | 35623 |
| … | … | … |

# 4a. BU(D) // DUPLICATED WORK

$$a^3 + b^3 = c^3 + d^3$$

```
1 for a, b from 1 to N
2     for c, d from 1 to N
3         if a^3 + b^3 = c^3 + d^3
4             print a, b, c, d
```

| $c^3 + d^3$ | → | (c, d) |
|---|---|---|
| … | → | … |
| 29855 | → | (4, 31) |
| 32832 | → | (4, 32), (18, 30) |
| 36001 | → | (4, 33) |
| … | | … |
| 216125 | → | (5, 60), (45, 50) |
| 227106 | → | (5, 61) |
| … | → | … |

# 4a. BU(D) // DUPLICATED WORK

```
1   lookup = new map from integer -> list of pairs
2   for c from 1 to n
3       for d from 1 to n
4           result = c^3 + d^3
5           listOfPairs = lookup[result] // get list of pairs with this cube sum
6           listOfPairs.append(new Pair(c, d)) // append the new pair
7
8   for a from 1 to n
9       for b from 1 to n
10          result = c^3 + d^3
11          listOfPairs = lookup[result] // find everything with same cube sum
12          for each pair in listOfPairs
13              print a, b, pair
```

# 4b. Space / Time Tradeoffs

- Hashtables
- Other data structures
  - Tries, graphs, heaps, etc
- Precomputation
  - & Reorganizing input

# 4c. Do It Yourself (DIY)

**Given two strings, s and b,**
**find all permutations of**
**s within b**

$s = \text{abbcd}$

$b =$

$s =$ abbcd

$b =$


b a b c d b a e f d b b a c b d d f a e
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

$s = \text{abbcd}$

$b =$

| b | a | b | c | d | b | a | e | f | d | b | b | a | c | b | d | d | f | a | e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |

# 4c. Do It Yourself

1. Create nice big example input
    - Remember step 2! BIG & GENERIC
    - Something that makes you WORK
2. Get the output *instinctively*
    - Like you would if you'd never coded ever
    - Forget about computer science, interviews, algorithms, etc
3. Reverse engineer your thought process
    - What exactly did you do?
    - Pay attention to the little optimizations
4. Translate into algorithm

$s = \text{abbcd}$

$b =$

# 4d. Recursion

- Use recursion instinct, but don't cling to it
- Try bottom-up
  - Subsets
    - Base cases:
      {} → {}
      {a} → {}, {a}
      {a, b} → {}, {a}, {b}, {a, b}
    - Build up:
      {a, b, c} → …
      {a, b, c, d} → ...
- Backtracking → recursion
- Multi-branch? Draw call-tree
  - Get (exponential?) runtime
  - Find repeated problems
  - Memoize

# 04. OPTIMIZE

expect to maybe spend
a while here

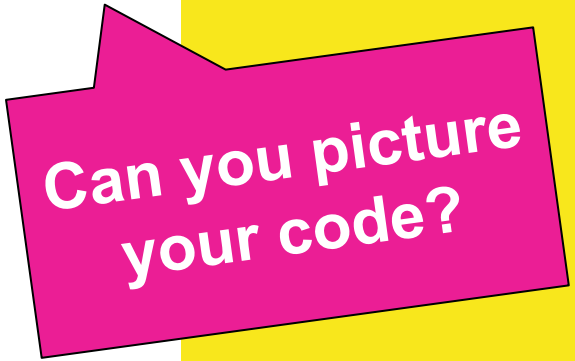
- BUD
- Space & Time
- Do It Yourself
- Recursion

# 05. WALK THROUGH

Rushing wastes time.

Take the time to *deeply* understand your algorithm

- What variables / data structures
- How do they change
- How is your code structured



# 06. CODE

Code *beautifully*
Not just correctly

- Correctness
- Readability
- Maintainability
- Performance

**Show me you're a great coder**

# 06. CODE // MAKING YOUR LIFE EASIER

- Write straight

// BAD

```
boolean iAmAwesome(Person p) {
   if (p == this) { // Only me
      return true;
   } else {
      return false;
   }
   return false;
   /* TODO: find more concise way of
    * coding this. */
}
```

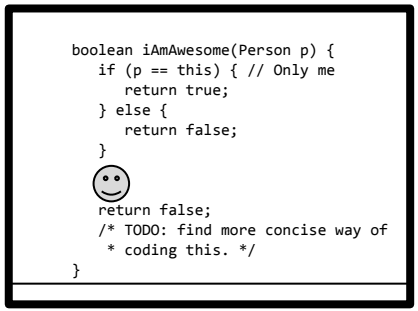
// GOOD

```
boolean iAmAwesome(Person p) {
   if (p == this) { // Only me
      return true;
   } else {
      return false;
   }
   return false;
   /* TODO: find more concise way of
    * coding this. */
}
```

# 06. CODE // MAKING YOUR LIFE EASIER

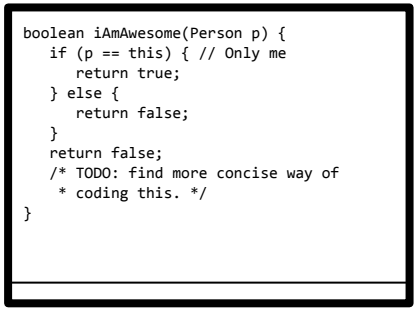
- Write straight
- Code in top-left corner
  - Get rid of stuff in your way

// BAD



```
boolean iAmAwesome(Person p) {
   if (p == this) { // Only me
      return true;
   } else {
      return false;
   }
   return false;
   /* TODO: find more concise way of
    * coding this. */
}
```

// GOOD

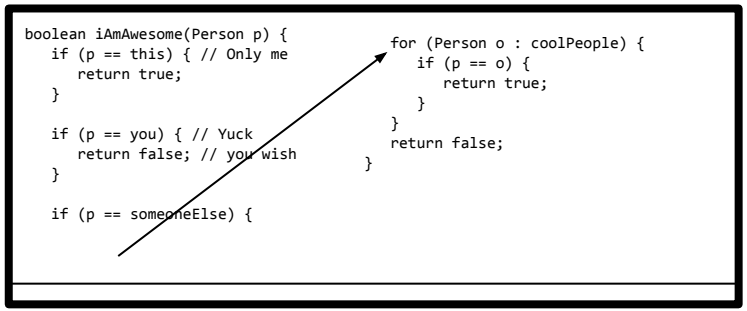


```
boolean iAmAwesome(Person p) {
   if (p == this) { // Only me
      return true;
   } else {
      return false;
   }
   return false;
   /* TODO: find more concise way of
    * coding this. */
}
```

# 06. CODE // MAKING YOUR LIFE EASIER

- Write straight
- Code in top-left corner
  - Get rid of stuff in your way
- Arrows are fine

// FINE



# 06. CODE // MAKING YOUR LIFE EASIER

- Write straight
- Code in top-left corner
  - Get rid of stuff in your way
- Arrows are fine

- Shorthand probably okay
  - (But ask first)

/* instead of this */

```
if (a != null && a.length > 0 &&
    b != null && b.length > 0 &&
    c != null && c.length > 0 &&
    d != null && d.length > 0) {
    ...
}
```

```
HashMap<String, Integer> myHashMap = new HashMap<String, Integer>();
```

```
node.numberOfChildren = ...
if (node.numberOfChildren > 0) {
    ...
}
```

/* try this */

```
if (a != null && a.length > 0 &&
    ... b, c, d...) {
}
```

```
HM<S, I> myHashMap = new HM<S, I>();
```

```
node.numberOfChildren = ...
if (node.n~c~ > 0) {
    ...
}
```

# 06. CODE // SHOWING YOU'RE A GOOD CODER

- Yes, consider error cases, boundary checks, etc
  - (Shorthand might be useful)
  - At least discuss!

/* instead of this */

```
if (a != null && a.length > 0 &&
    b != null && b.length > 0 &&
    c != null && c.length > 0 &&
    d != null && d.length > 0) {
    ...
}
```

/* try this */

```
if (a != null && a.length > 0 &&
    ... b, c, d...) {
}
```

```
boolean findMinMaxSubarray(int[] array) {
    for (int a : array) {
        if (a < 0) {
            return false;
        }
    }
    ...
    ...
```

```
boolean findMinMaxSubarray(int[] array) {
    if (!validate(array)) return false;
    ...
    ...
```

# 06. CODE // SHOWING YOU'RE A GOOD CODER

- Yes, style matters (even on a whiteboard!)
  - Good variable names
  - Consistent spacing

ADHERE TO A STYLE GUIDELINE

/* instead of this */

```
1  boolean doSomething(String a, String b) {
2      int[] ss = new int[a.length + b.length];
3      ...
4  }
```

```
1  if (x== 0){
2      ...
3  }
4  for(i=0;i < N;i++)
5  {
6      ...
7  }
```

/* try this */

```
1  boolean doSomething(String shorter, String longer) {
2      int[] mergedStringCounts = new int[s~.length + l~.length];
3      ...
4  }
```

```
1  if (x == 0) {
2      ...
3  }
4  for (i = 0; i < N; i++) {
5      ...
6  }
```

# 06. CODE // SHOWING YOU'RE A GOOD CODER

- Languages
  - Specialists? Use that one.
  - Everyone else? Use your best one.

| | Advantages | Disadvantages | Mitigation |
|---|---|---|---|
| Java, Objective C | | Verbose<br>Fewer built-in | Use shorthand<br>Modularize |
| Ruby, Python, JS | Built-in functions | … those aren't always O(1) | Just be careful |
| C | | **Many** fewer built-ins | Modularize |

# 06. CODE // SHOWING YOU'RE A GOOD CODER

- Modularize (upfront!)

/* instead of this */

```
public static boolean canBuildRansomNote1(String magazine, String note) {
    // Count ransom note
    int[] noteCount = new int[26];
    for (int i = 0; i < note.length(); i++) {
        int c = (int) note.charAt(i);
        if (c >= (int) 'a' && c <= ((int) 'z')) {
            c -= (int) 'a';
        } else if (c >= (int) 'A' && c <= ((int) 'Z')) {
            c -= (int) 'A';
        }
        if (0 <= c && c < 26) {
            noteCount[c]++;
        }
    }

    // Count magazine
    int[] magazineCount = new int[26];
    for (int i = 0; i < magazine.length(); i++) {
        int c = (int) magazine.charAt(i);
        if (c >= (int) 'a' && c <= ((int) 'z')) {
            c -= (int) 'a';
        } else if (c >= (int) 'A' && c <= ((int) 'Z')) {
            c -= (int) 'A';
        }
        if (0 <= c && c < 26) {
            magazineCount[c]++;
        }
    }

    // Compare
    for (int i = 0; i < magazineCount.length; i++) {
        if (noteCount[i] > magazineCount[i]) {
            return false;
        }
    }
    return true;
}
```

/* try this */

```
public static boolean canBuildRansomNote2(String magazine, String note) {
    int[] noteCount = buildCharFrequencyTable(note); // Count ransom note
    int[] magazineCount = buildCharFrequencyTable(magazine); // Count magazine
    return isIncluded(magazineCount, noteCount); // Compare
}

public static int[] buildCharFrequencyTable(String sequence) {
    int[] counter = new int[26];
    for (int i = 0; i < sequence.length(); i++) {
        int c = convertCharToNumber(sequence.charAt(i));
        if (c > 0) {
            counter[c]++;
        }
    }
    return counter;
}

public static boolean isIncluded(int[] magazineCount, int[] noteCount) {
    for (int i = 0; i < magazineCount.length; i++) {
        if (noteCount[i] > magazineCount[i]) {
            return false;
        }
    }
    return true;
}

public static int convertCharToNumber(char ch) {
    int c = (int) ch;
    if (c >= (int) 'a' && c <= ((int) 'z')) {
        return c - (int) 'a';
    } else if (c >= (int) 'A' && c <= ((int) 'Z')) {
        return c - (int) 'A';
    }
    return -1;
}
```

# 06. CODE // SHOWING YOU'RE A GOOD CODER

- Modularize (upfront!)

/* instead of this */

I've learned nothing

```
boolean canSplitEqually(int[] array) {
    int sum = 0;
    for (int i = 0; i < array.length; i++) {
        sum += array[i];
    }
    if (sum % 2 != 0) {
        return false;
    }
    return canMakeSum(array, 0, sum / 2);
}

boolean canMakeSum(int[] array, int index, int targetSum) {
    ...
}
```

/* try this */

```
boolean canSplitEqually(int[] array) {
    int sum = sumOfArray(array);
    if (sum % 2 != 0) {
        return false;
    }
    return canMakeSum(array, 0, sum / 2);
}

boolean canMakeSum(int[] array, int index, int targetSum) {
    ...
}
```

# 06. CODE // EFFECTIVE WHITEBOARD CODING

- Write straight
- Code in top-left corner
  - Erase stuff you don’t need
- Arrows are fine
- Shorthand probably okay (ask)
  - Especially in a verbose language
- Consider error cases and boundaries
  - At minimum, mention them
- Style matters
  - Good variable names
  - Consistent spacing, etc
- Use your best language
- Modularize (upfront!)

GOOD EXAMPLES MAKE BAD TEST CASES

# 07. TEST

Test code (not algorithm).
Think as you test.
Think before you fix.

1. Conceptual Testing
    a. Walk-through
    b. High-risk code
2. Test cases
    a. Small test cases
    b. Edge cases
    c. Big test cases

# 07. TEST // TESTING PROCESS

- Conceptual walk-through
  - Think about each line of code
- Double check high-risk lines of code

- Small tests are more effective
  - Faster
  - You'll be more thorough
- Edge cases
  - Boring ones: nulls, empty
  - Interesting ones: base cases, all same chars, etc

Plus, most likely bug would be a minor typo, like swapping a and b

/* low risk */

```
1 String x = processString(a, b);
```

test cases... *maybe*

/* ridiculously high risk */

```
1 String x = a.substring(i, i + k / 2 - 1);
```

# 07. TEST // EFFECTIVE TESTING

- Test your code, not your algorithm

"It's supposed to get the char counts. Therefore, I decree that it does."

"This is supposed to walk through until the end. Therefore, I decree that it does."

```
1  int countPermutations(String s, String b) {
2      int count = 0;
3      int[] sCharCounts = getCharCounts(s);
4      for (int i = 0; i < b.length - s.length; i++) {
5          int[] bCharCounts = getCharCounts(b);
6          if (isEqual(sCharCounts, bCharCounts)) {
7              count++;
8          }
9      }
10     return count;
11 }
12
13 char[] getCharCounts(String s) { /* CASE INSENSITIVE */
14     int[] charCounts = new int[26];
15     for (int i = 0; i < s.length; i++) {
16         char c = s.getChar(i);
17         charCounts[c.toLower()] += 1;
18     }
19     return charCounts;
20 }
```

# 07. TEST // EFFECTIVE TESTING

- Test your code, not your algorithm
- Think through the partial results

"Got zero here. Cool, whatever.
I'll just check result at the end."

"Got 15 here. Cool, whatever.
I'll just check result at the end."

```
1  int countPermutations(String s, String b) {
2      int count = 0;
3      int[] sCharCounts = getCharCounts(s);
4      for (int i = 0; i < b.length - s.length; i++) {
5          int[] bCharCounts = getCharCounts(b);
6          if (isEqual(sCharCounts, bCharCounts)) {
7              count++;
8          }
9      }
10     return count;
11 }
12
13 char[] getCharCounts(String s) { /* CASE INSENSITIVE */
14     int[] charCounts = new int[26];
15     for (int i = 0; i < s.length; i++) {
16         char c = s.getChar(i);
17         charCounts[c.toLower()] += 1;
18     }
19     return charCounts;
20 }
```

# 07. TEST // EFFECTIVE TESTING

- Test your code, not your algorithm
- Think through the partial results
- Think before you fix

What happens if:
s = “cat”
b = “cat”

```
3     int[] sCharCounts = getCharCounts(s);
4     if (b.length == s.length) { /* special case on the same length */
5         int[] bCharCounts = getCharCounts(b);
6         return isEqual(sCharCounts, bCharCounts) ? 1 : 0;
7     }
8     for (int i = 0; i < b.length - s.length; i++) {
```

```
3       int[] sCharCounts = getCharCounts(s);
4       for (int i = 0; i < b.length - s.length + 1; i++) {
```

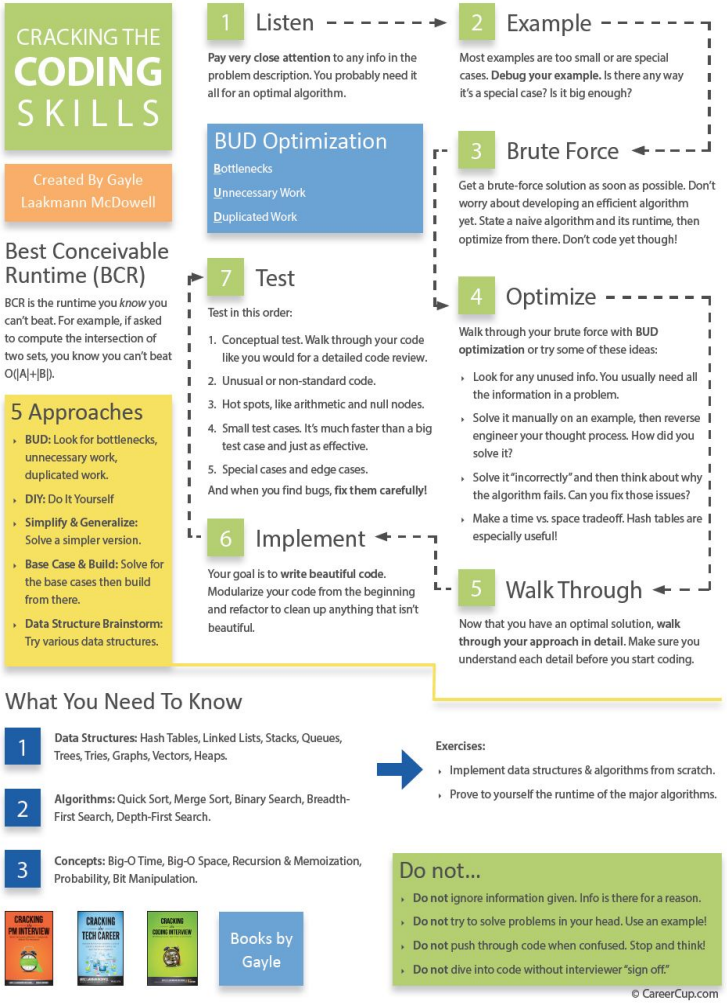
```
1  int countPermutations(String s, String b) {
2      int count = 0;
3      int[] sCharCounts = getCharCounts(s);
4      for (int i = 0; i < b.length - s.length; i++) {
5          int[] bCharCounts = getCharCounts(b);
6          if (isEqual(sCharCounts, bCharCounts)) {
7              count++;
8          }
9      }
10     return count;
11 }
12
13 char[] getCharCounts(String s) { /* CASE INSENSITIVE */
14     int[] charCounts = new int[26];
15     for (int i = 0; i < s.length; i++) {
16         char c = s.getChar(i);
17         charCounts[c.toLower()] += 1;
18     }
19     return charCounts;
20 }
```

# 07. TEST // EFFECTIVE TESTING

- Conceptual Testing
  - Walk-through
  - High-risk code
- Test cases
  - Small test cases
  - Edge cases
  - Big test cases

- Test code, not algorithm
- Think through partial results
- Think before you fix

**CrackingTheCodingInterview.com**
**→ Resources**



# If You Forget Everything Else

# 07. TEST // EFFECTIVE TESTING

- Create Big Input
  - Big
  - Generic
  - *Make yourself do work*
- Walk Through It
  - Get output
  - Instinctively

- **DO NOT CODE UNTIL YOU'RE READY!**
  - Interviewer wants you to code
  - You know *exactly* what you're doing

# Questions For Interviewer

Don’t sweat this.

# Inspiration for Questions

- What's made you happy / unhappy in past jobs?
- What are your career goals?
- Culture & work habits
- Career paths
- Technology, infrastructure & tools
- Interviewer's experience

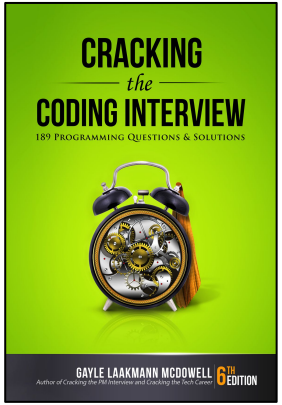
# Final Thoughts

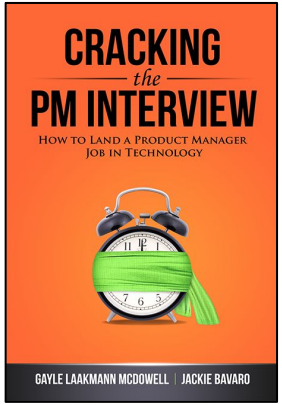
# Great Engineer
# &
# Great Teammate

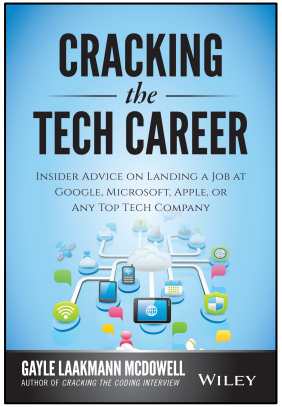
Your perception is *not* predictive of performance

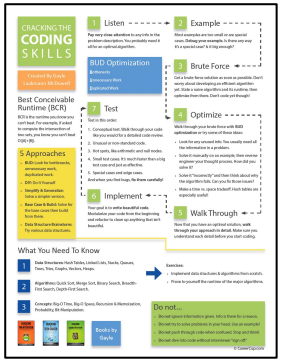
**Just keep working at it.**

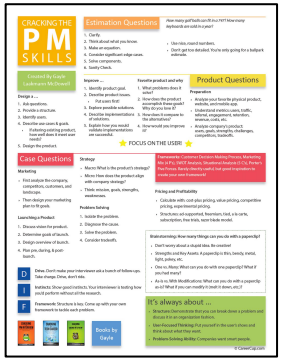
# More Resources

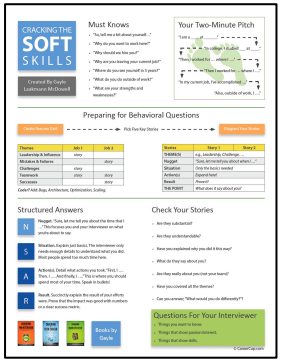
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