Algorithms Review for Job Interview

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Contents

1   12/20/2014, Saturday

- Website (github), program highlight, and chinese input environment all good now;

- Will configure Linux Mint Java environment later, prefer emacs;

- 145/168 done before new season review, begin to work on these questions from today.

- Just got 4 easiest done: **149/168**

  - min stack,
  - excel sheet column title,
  - compare version number, and
  - intersection of two linked list,

2   12/21/2014, Sunday

- Only three got done today: **152/169**

  - maximum gap
  - fraction to recurring decimal
  - majority element

- Don't feel my mind is clear today at all, will look into job searing instead, hopefully tomorrow I can solve more problems, and slightly complicated ones;

3 12/22/2014, Monday

- So far got four done: **156/169**

    - sort list
    - merge k sorted list
    - trapping rain water
    - recovery binary search tree

- am going to work on the rest 6 tonight, so that hopefully tomorrow I would be able to work on the new 10 questions;

    - **word ladder II**: spent hours on this one, but got really sick with it! I should have solved my problems gradually, like solve the clone graph to understand graph first before touch this one, but I will get this one done later when I have clear mind.
    - regular expression matching
    - divide two integers
    - clone graph
    - find peak element

4 12/23/2014, Tuesday

- Meet IPO staff this morning got coming semester plans clear at 8:30am in the morning;

- Will most probably meet some friend and have dinner together; changed to be **tomorrow noon**

- Hopefully by this morning's dirruption meeting staff, I could change back my regular schedule instead of 5am-13:30 day time sleeping, target for tonight fall asleep before 12:00am; fall asleep from 10:00-15:30, seems I will change my schedule back as expected tonight~!

- Will not work on Algorithms for today, but work on it hard tomorrow. I have my confidence that I can figure them out, and do great job summarize the questions during my Java round, no worries!

- so far Got 2 done: **158/169**

    - find peak element
    - maximal rectangle

5 12/24/2014, Wednesday

- 2:00(3:00am?)-11:00am, expect 2:00-9:00am schedule tonight;

- Don't know why old accound doesn't work any more, use new account; from **158/169** to **0/169** using **Java**

- Worked on the following questions: **1/169**

    - divide two integers, just got the Java environment ready
    - regular expression matching: **working on it!**, require understanding and summarizing

Tags	Counts	
Heap	1	Merge k Sorted Lists
Graph	1	Clone Graph
Data Structure	3	
Bit Manipulation	4	
Divide and Conquer	4	
Greedy	6	
Sort	6	
Breadth-first Search	7 (32)	
Stack	11	
Binary Search	13	
Hash Table	16	
Math	17	
Linked List	19	
Depth-first Search	19	
Backtracking	21	
Two Pointers	22	
Dynamic Programming	23	
Tree	26	
String	38	
Array	56	

- Detailed Questions:

Tags	Counts	#	Title	Accepta
Heap	1	23	Merge k Sorted Lists	21.0%
Graph	1	133	Clone Graph	23.3%
Data Structure	3	170	Two Sum III - Data structure design	19.2%
		155	Min Stack	14.6%
		146	LRU Cache	14.3%
Bit Manipulation	4	78	Subsets	27.9%
		136	Single Number	46.0%
		137	Single Number II	34.0%
		169	Majority Element	31.6%
Divide and Conquer	4	23	Merge k Sorted Lists	21.0%
		4	Median of Two Sorted Arrays	17.6%
		53	Maximum Subarray	34.2%
		169	Majority Element	31.7%
Greedy	6	44	Wildcard Matching	14.6%
		55	Jump Game	27.2%
		45	Jump Game II	24.6%
		134	Gas Station	26.0%
		135	Candy	19.5%
		122	Best Time to Buy and Sell Stock II	37.0%
Sort	6	148	Sort List	20.9%
		75	Sort Colors	32.3%
		56	Merge Intervals	21.2%
		164	Maximum Gap	23.1%
		147	Insertion Sort List	25.5%
		57	Insert Interval	20.7%
Breadth-first Search	7 (32)	127	Word Ladder	18.4%
		126	Word Ladder II	11.8%
		130	Surrounded Regions	14.3%
		133	Clone Graph	23.3%
		103	Binary Tree Zigzag Level Order Traversal	26.5%
		102	Binary Tree Level Order Traversal	29.9%
		107	Binary Tree Level Order Traversal II	30.4%
Stack	11	20	Valid Parentheses	27.9%
		42	Trapping Rain Water	29.4%
		71	Simplify Path	19.8%
		155	Min Stack	14.6%
		85	Maximal Rectangle	21.4%
		84	Largest Rectangle in Histogram	21.8%
		150	Evaluate Reverse Polish Notation	20.1%
		103	Binary Tree Zigzag Level Order Traversal	26.5%
		144	Binary Tree Preorder Traversal	35.8%
		145	Binary Tree Postorder Traversal	31.3%
		94	Binary Tree Inorder Traversal	35.7%
Binary Search	13	167	Two Sum II - Input array is sorted	45.1%
		69	Sqrt(x)	22.5%
		35	Search Insert Position	35.0%
		33	Search in Rotated Sorted Array	28.7%
		81	Search in Rotated Sorted Array II	31.2%
		34	Search for a Range	27.6%
		74	Search a 2D Matrix	31.2%
		50	Pow(x, n)	26.2%
		4	Median of Two Sorted Arrays	17.6%
		162	Find Peak Element	31.7%
		153	Find Minimum in Rotated Sorted Array	32.2%
		154	Find Minimum in Rotated Sorted Array II	29.9%
		29	Divide Two Integers	16.5%
Hash Table	16	36	Valid Sudoku	27.3%
		1	Two Sum	18.3%

6   12/25/2014, Thursday

- List a detailed plan of working on the algorithms; **Question Tags** according to the Website:
- Sent about 10 applications/interns;

7   12/26/2014, Friday

- two sum III

8   12/29/2014, Monday

- read N characters given read4

9   12/30/2014, Tuesday

- worked on **5** problems, **9/173**:
- binary tree upside down
- missing ranges
- two sum II
- get Emacs JDEE environment ready, can compile and run inside emacs now, very convenient;
- one edit distance
- **DONT LIKE:** read n characters given read4 II

10   12/31/2014, Wednesday

- java-mode autofill and snippets , tab-indent are all working now;
- worked on **10** problems, **19/173**:
- Longest substring with at most 2 distinct characters, took my effort to rewrite it;
- binary search tree iterator, understand theory, feels like just got Java environment ready;
- excel sheet column number
- factorial training zeroes
- find peak element
- maximum gap **dont like**
- fraction to recurring decimal
- excel sheet column title
- majority element

11   1/1/2015, Thursday

- worked on **10** problems, **19/173**:
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