Algorithms Review for Job Interview

deepwaterooo

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1 1/24/2015, Saturday

1.1 worked on 1 problems, 174/175: 3 left

- Sudoku Solver

1.2 Other things

- regular expression matching
- Wildcard Matching
- connect next Right
- (4:30~5:00) ~ 2:30, woke up from 10:00 to 2:00 from time to time,
- http://bbs.tianya.cn/post-culture-849459-117.shtml#ty_vip_look[V%E5%93%A5%E6%8E%B0%E8%B0%8
  5:00-7:30 read 85-117; 117/166, want to finish this, a way to think···
- go grocery buy food, have dinner, then conitnue the several questions
- fall asleep after dinner after couple of page reading, 22:00 - 0:15, no wonder felt so XXXX during the afternoon, but don't understand why so tired recently···

2 1/23/2015, Friday

2.1 worked on 6 problems, 173/175: 4 left

- find substring idxes
- sort Colors
- distinct Sequence
- Interleaving Sequence
- Scramble String
- Candy

2.2 Other things

- Sudoku Solver
- regular expression matching
- Wildcard Matching
- connect next Right
- (4:00~4:30) ~ 11:30
- I think I got sick today, fever, 3-3:30 & 6:30-7:30 rest almost fall asleep

3 1/22/2015, Thursday

3.1 worked on 6 problems, 167/175:

- 50, 69, 4,, 119, 65, 174
- sqrt(x)
- pow(x)
- Median of Two Sorted Arrays

- Pascal's Triangle II
- valid number, god⋯
- Dungeon Game

3.2 Other things

- (5:30~6:00) ~ 12:00, headache!!!
- have rest after dinner, do as much as I can for today~!!

4 1/21/2015, Wednesday

4.1 worked on 8 problems, 161/175:

- 114,, 31, 41, 32, 9, 7, 26, 80
- Flatten binary tree to Preorder all Right nodes
- Next Permutation
- First Missing Positive
- Longest Valid Parentheses
- Palindrome Number
- Reverse Integer
- Remove Duplicates from Sorted Array
- Remove Duplicates from Sorted Array II

4.2 Other things

- 8:00 - 2:38pm
- C-cC-vC-c C-cC-vC-r C-xC-c terminate without prompt, but still seeking a way to kill subprocesses without kill emacs;
- It maybe Difficult, but so far tolerate it, only one tree/list problem left anyway~
- 10 hard ones left untouched ~!!

5 1/20/2015, Tuesday

5.1 worked on 6 problems, 153/173:

- 28, 140,, 126, 132, 5, 105, 106
- strStr
- word break II
- word ladder II
- Palindrom Partitioning II
- longest Palindrom
- Preorder Inorder build tree
- Inorder Postorder build tree

5.2 Other things

- (2:30~2:45) ~ 11:55
- still, somebody else's mind in my body today, so not me~
- 3:00-5:00, go campus, try to meet advisor, stubbern evening⋯
- will work coming week when docs processed ready, so try finish this round as soon as possible

6 1/19/2015, Monday

6.1 worked on 8 problems, 147/173:

- 84, 42, 85, 11, 131, 179, 127,, 28
- Largest Rectangle in Histogram
- Trapping Rain Water
- Maximal Rectangle
- Container With Most Water
- Palindrome Partitioning
- Largest Number
- Word Ladder

6.2 Other things

- (3:30~4:00) ~ 11:05

7 1/18/2015, Sunday

7.1 worked on 10 problems, 139/173:

- 78, 90, 77, 46, 47,, 133, 152, 89, 72, 55, 45
- Subsets
- Subsets II
- Combinations
- Permutations
- Permutations II
- Clone Graph
- Maximum Product Subarray
- Gray Code
- Edit Distance
- Jump Game
- Jump Game II

7.2 Other things

- 5:00 - 10:44, mind is NOT in the brain today, do only easy ones, no touching greedy nor array⋯
- eat earlier, eat more to make it easier to fall asleep after dinner, evening depends⋯
- should be able to fall asleep before 5am tonight then;

8 1/17/2015, Saturday

8.1 worked on 12 problems, 129/173:

- 120, 128, 96, 95, 70, 53, 91,, 66, 8, 60, 39, 40
- Triangle
- Longest Consecutive Sequence
- Unique Binary Search Trees
- Unique Binary Search Trees II
- Climbing Stairs
- Maximum Subarray
- Decode Ways
- Plus One
- String to Integer (atoi)
- Permutation Sequence
- Combination Sum
- Combination Sum II

8.2 Other things

- 4:00 - 8:58, woke up for 2 min, fall back asleep in 2 mins after surfing internet for 2 mins;
- wake up 11:48, better mind today, tried couple of dp, but how could I efficiently fall asleep before 4 tonight? 1 cup coffee at ard 4pm alrdy after 20 mins nap
- Need try greedy method some other time when mind is clear, all painful & bad memories about TLE⋯
- Can't believe I am so sleepy, headache around eleven⋯ try fall asleep around two⋯ long way to go⋯

9 1/16/2015, Friday

9.1 worked on 9 problems, 117/173:

- 49, 81, 51, 52, 22, (39), 82, 108, 109, 149
- Anagrams
- search in rotated sorted array with dup II: wrote mid = end - 1 in the morning ~;
- N-Queens
- N-Queens II
- Generate Parentheses
- **Combination Sum**: don't know how to make it run faster
- Remove Duplicates from Sorted List II
- Convert Sorted Array to Binary Search Tree
- Convert Sorted List to Binary Search Tree
- Max Points on a Line, **Double** map key, (double)/(doule) == (double)(int/int) ???

9.2 Other things

- Wanted to **swipe** bottom up from 17?, but apparantly I am **NOT proficient enough** to solve the Difficult ones yet, so take my time to solve them gradually~
- do NOT work in it any more tonight,
- got especially headache this week, go grocery to get my water, have rest earlier & expecting tomorrow to work in DP ~!

10 1/15/2015, Thursday

10.1 worked on 10 problems, 108/173:

- Simplify Path
- Search in Rotated Sorted Array
- Restore IP Addresses
- Populating Next Right Pointers in Each Node
- **Populating Next Right Pointers in Each Node II**: You may only use constant extra space
- Minimum Window Substring, repeats,
- Sum Root to Leaf Numbers
- Binary Tree Inorder Traversal
- Binary Tree Preorder Traversal
- Binary Tree Postorder Traversal
- Merge K sorted List

11 1/14/2015, Wednesday

11.1 worked on 8 problems, 98/173:

- tree series: 102, 103, 104, 107, 110, 111, 112, 113
- binary tree Level order Traversal
- binary tree Level order Traversal II
- binary tree Level Zigzag order Traversal
- Maximum Depth of binary tree
- Minimum Depth of binary tree
- Balanced binary tree
- path sum
- path sum II

11.2 Other things

- a matter get it done as soon as possible, 7-12,
- didn't do anything in the evening, better not behave this way any more~!

12 1/13/2015, Tuesday

12.1 worked on 4 problems, 90/173:

- 98, 99, 100, 101
- Validate binary search tree
- Recover binary search tree
- same tree
- Symmetric tree

12.2 Other things

- got very headache and 3:30-6:00pm food court training

13 1/12/2015, Monday

13.1 worked on 6 problems, 86/173:

- 73, 74, 79, 83, 86, 92
- Set Matrix Zeroes
- Search a 2D matrix
- Word Search
- Remove Duplicates from Sorted Lists
- Partition list
- Reverse Linked List II

13.2 Other things

- wrote quite a few nippets for java-mode, works quite great~!

14 1/11/2015, Sunday

14.1 worked on 7 problems, 80/173:

- Spiral matrix II
- rotate list
- Unique paths
- Unique paths II
- Minimum path sum
- add binary
- Text Justification

15 1/10/2015, Saturday

15.1 worked on 3 problems, 73/173:

- Spiral matrix
- merge Interval
- insert Interval
- udgrade jdk from 1.6 to be 1.8, Emacs 1.6 to be 1.8 as well, don't have wired errors like Arrays.asList(), Collections.sort() any more, nice!

16 1/9/2015, Friday

16.1 worked on 2 problems, 70/173:

- Permutation: Arrays.asList() not working in 1.6, spent hours here, figured it should be the openjde-1 too outdated for being openjde-1.6
- retate Image

17 1/8/2015, Thursday

17.1 worked on 9 problems, 68/173:

- remove element
- search for a range
- search insert position
- valid sudoku
- count and say
- Multiply string
- Length of last word
- Pascal's Triangle
- merge sorted array

18 1/7/2015, Wednesday

18.1 worked on 12 problems, 59/173:

- Integer to roman
- roman to Integer
- Longest Common Prefix
- 3Sum
- 3Sum closest
- letter Combination of a phone number
- 4Sum
- remove nth node from end of list
- Valid Parentheses

- merge two sorted list
- swap nodes in pairs
- reverse nodes in k-Group

19 1/6/2015, Tuesday

19.1 worked on 5 problems, 47/173:

- sorrounded region
- two sum
- add two numbers
- longest substring without Repeating characters
- ZigZag conversion string

20 1/5/2015, Monday

- worked on 0 succeed problems

20.1 Other things

- Go to a on 1/14/2015, Wednesday

21 1/4/2015, Sunday

21.1 worked on 2 problems, 42/173:

- binary tree Maximum path sum
- Valid Palindrom

21.2 Other things

- want to look into them and got JUnit framework for leetcode ready
- http://www.vogella.com/tutorials/JUnit/article.html
- http://junit.org/

22 1/3/2015, Saturday

22.1 worked on 5 problems, 40/173:

- copy list with random pointer, failed on tmp to move to next yesterday;
- word break; **word break II** TLE DP not thinking
- best time to buy and sell stock
- best time to buy and sell stock II
- best time to buy and sell stock III

22.2 Other things

- finally got the package working now with the help from online;
- These two days, especially bad sleep. 7(8)~12:30pm last night, feeling can fall asleep now at 1:00am, hope tomorrow will be another day.
- only 5 today, Left all those slightly challenged ones for tomorrow.

23 1/2/2015, Friday

23.1 worked on 7 problems, 35/173:

- LRU Cache, need to rework on it sometime, doubly-linked list to maintain frequency not proficient;
- Insertion sort list, straight forward
- sort list, merge sort, when break it down into pieces, it's not that hard;
- evaluate reverse polish notation
- gas station
- single number
- single number II, half done, most basic, but needs the perfect method, **tomorrow**
- **Now:** I am not afraid of lists, or even trees, but still don't feel confortable with DP yet. Need some quality time on couple of questions of that type. For Graphics as well. I will not touch them when I am headache, but will work on them when I have a mind.
- **undone:** binary tree Preorder Traversal - iterative method still thinking

23.2 Other things

- When thought about sth, cannot fall asleep, fall asleep at 8:00am, and waked up at 12:00, so today would be filled with tidious things;
- The haircurt store was closed during Christmas (I went to the store most probably on 12/26 on the afternoon after I met the two who were leaving for CA on 24th, but I don't really remember. The door was closed and the note on door said they would open today), and I called today and they did, so I spent $7+$1 tip and half an hour in store got my hair cut, but still spent 1 hours at home to redo it to thin the hair layers; Cut hair has nothing to do with love life, but rather that I don't want to waste time on the hair at this semster;
- try to organize previous courses contents, get the projects done better, and upload into github, and so far keep them secret until the time I need them in case in war;
- need to work on the appointment with professor web scheduling projects, because it is important, and sure will be beaten if I fail in case in war;
- target for fall asleep at 4:00am, but target for 8-10 easier algorithms problems be done before sleep; Time is so limited, I need change my schedule and use time more efficiently.

24 1/1/2015, Thursday

24.1 worked on 8 problems, 28/173:

- intersection of wto linked list
- reverse words in string
- find Minimum in rotated sorted array
- find Minimum in rotated sorted array with Duplicates
- min stack

- linked list cycle
- linked list cycle II find start
- Reorder list
- binary tree Preorder Traversal - iterative method still thinking

25 12/31/2014, Wednesday

- java-mode autofill functions and yasnippets snippets, while keeping tab-indent block are all working now, like the emacs environment;
- worked on **9?10** problems, **19/173**:
  - Longest substring with at most 2 distinct characters, took my effort to rewrite it, sth can be done;
  - 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

26 12/30/2014, Tuesday

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

27 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,

28 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;

29 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

30 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

31 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%

32 12/25/2014, Thursday

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

33 12/26/2014, Friday

- two sum III

34 12/29/2014, Monday

- read N characters given read4