Algorithms Review for Job Interview

deepwaterooo

April 25, 2015

Contents

1 4/25/2015, Saturday, May-Summer Section 2015 Study Plan

- **Algorithms & Software Engineering Education**:

  - I took **cs502 Algorithms** and **cs502 Software Engineering** directed background study 2 credits each course from a famous professor from the department in Spring 2013. The courses are P/F, and we study by meeting the intructor once each week for 40 minutes for raising questions if we have any (2 students only, the other one was a Ph.D Candidate from Math Department without any programming experience). At the same time, I audit cs395 python-based **Analysis of Algorithms** course in this Spring 2013 semester with superficial/super-easy mid-term final 2 exams and without homeworks.

  - It has been barely any learning experience for these two courses, and that was one main reason I registered **CS480 Senior Design** course in Fall 2014.

  - Good or bad, reasonable or not, those are the education I got from the university⋯.

  - So, I have always been paying careful attention to my Algorithms and Software Engineering practises.

- The Algorithms parts I have finished:

  - **ctci:** Cracking the Coding Interview, practised a basic c++ version during winter break 2013;

    * Don't know **Emacs org-mode** yet at that time, purely latex-based src files.

    * I included all the src files in case somebody else would want to make his own personal modifications.

  - **LeetCode:** https://leetcode.com/problemset/algorithms/ (lc)

    * between 3/25/2014 and 4/30/2014, finished slightly easier about 100 problems using **c++**, finished about the rest 50 during followed summer using c++;

    * During winter break 2014, finished about 150 problems using **Java** for the second round for lc; **Up to this point, feels comfortable using Java programming language;**

- **LintCode:** <http://www.lintcode.com/en/problem/>
  - * During winter break 2014, finished about 50 problems using **Java**, about 130 problems left undone yet; **Up to this point, feels comfortable using Java programming language;**
- < **Nine Chapter Algorithms** >: It's an online learning Camp my friends and I have attented during late Summer 2014. The course instructor is a genius and explains the theories especially easy to understand.
- Others include **Mitbbs** Chinese forum **JobHunting, Java, Programming** boards, and **MeetQun** forum <http://meetqun.com/> and online judges as well, and the famous "¶   "   °   in Chinese community.

- The Algorithms parts I plan to work on during May-Summer section 2015:
  - **Finish the rest about 130 algorithms problems in LintCode using Java**; LeetCode is a great coding set as well, but after c++ & Java two rounds of coding, feels like I could recite the answers by bad studing habits (I should at least understand each problems and algorithms instead); So a round using Java for LintCode could help refresh my mind, and LintCode coding set does inspire further potential critical thinking for me; Expect to understand the algorithms pretty well when finish;
  - **Coding LeetCode a third round using Python programming language** for Python programming propose only. I have coding experience using Python for only one month during 2013 Internship season for three small projects [a log module insertion within SSD MSTK test Suite by parsing original software/driver generated log files (8 to 11 python module files), an independent VDBench test suite development for STEL Automation Python Framework), and a complete full-functional GUI project for Medusa excel data statistical plots]. Expect this round Python coding ends my "EASY" algorithms journey, and understand Python language to a slightly deeper layer;
  - **EPI: Elements of Programming Interviews**, start "MEDIUM" or "HARD" algorithms study process from this book. Practise like ctci, LeetCode, LintCode⋯.
  - **Study Java Spring framework, build a Java-based dynamic personal blog for fun** and to practise project handling abilities.
  - **Study and review OOP, Operating System questions, design patterns for interview.**
  - Solve all the **bug** I have in algorithms before. It was the solving process that helps.
  - Temporatorily won't work on **Sum_JobHunting.org** for the first months or so, but will focus on updating it when finish Python LeetCode round.
  - Form a habit to **solve 3-5 algorithms problems each day** for programming and algorithms practise propose only.

2   2/22/2015, Sunday

- Whether I like it or not, I am into the midiUI project now, and will have to try my best to make it work. It is challenging, but I have to work on it.

- Many things to do recently, but try my best to make everything work out as expected.

- fall asleep late last night, too tired today, waked up at 8:47, went to work without washing cleaning⋯

- work on midiUI tomorrow, spend couple of hours to write for gs update, hope will make some progress on midiUI tomorrow; ever since Saturday night, I began to realize how much work/efford I need to make to make this midiUI GUI responsive, so far my main UI still got blocked, and I could only play and stop for one key, afterwards will get blocked, well dive into it⋯

- work on JH problems after midiUI if midiUI done if recently possible

3   2/11/2015, Wednesday

- Reverse Nodes in k-Group recursion bug !~ ~ ~ ~

- live dead recently, woke up by another rommoate's drying cloth at 6:00am, that morning ended up to be 12:00am - 12:00pm 12 hours continuous sleep on Sunday⋯

- 12:00 pm - 12:00 am for the followed two days, 2:00 - 12:00 last night⋯

- Scheduled weekly meeting time with advisor on Wednesday 12:30-1:30pm past Tuesday, will report to him from coming week, and had been assigned warm up the project by finish more of the 25 keys instead of only one, and meet and start from there⋯

- Strengthless in mind recently, severe and tough⋯.

- waiting for Wednesday, made up the mind to study and search for job, try to be environmentally more stable ⋯

- Miss an old friend⋯

4 2/7/2015, Saturday

- Reverse Nodes in k-Group recursion bug !~ ~ ~ ~

- 3:00-10:00, roommate began to use dryer at 10:00am, gosh⋯

- so tired recently, read books⋯

- will work in the afternoon, but will work on algorithms in the evening⋯.

5 2/6/2015, Friday

- Reverse Nodes in k-Group recursion bug !~ ~ ~ ~

- 2:30-8:00, headache day⋯

- 9:00-5:00, rest 6:30-7:30, didn't fall asleep⋯

- will work on algorithm questions tomorrow⋯

6 2/5/2015, Thursday

- Reverse Nodes in k-Group recursion bug !~ ~ ~ ~

- spent 1.5 hours rearrange the room so that avoid shower & washer dryer for bed and study desk, now desk facing Window⋯ should be so much better now⋯

- went outside and came back in the afternoon

- appreciate a lot for LeetCode having been helpping me getting farmilar with these algorithms, I can recite the answers, but maybe one more round of algorithms so that I do UNDERSTAND instead of memorizing them by mistake⋯target for finishing in one week⋯

- work during day time, but will combe back for algorithms in the evening,

- LeetCode Summary .org file is too large killing my computer, maybe go back to it after one week⋯

- began to prepare for the projects, algorithms deeper understand and summarizing, after this week, no more problems, project-oriented alter on⋯.

7 2/4/2015, Wednesday

- Reverse Nodes in k-Group recursion bug !~ ~ ~ ~

- 1:30-10:30, it happens, don't know why⋯

- read initial chapters of EPI⋯.

8   2/3/2015, Tuesday

- Reverse Nodes in k-Group recursion bug !~ ~ ~ ~

- Last night schedule was assigned extra heavy one, got really tired···

- took shower, washed my feet using hot boiled water helping relax the body, watched sth for that half an hour, and fall asleep 12:00-8:30am, which was really getting my schedule back and nice···

- work as mush as I can before work at 3 today, and try to fall asleep around 12 tonight too···

- need some more material for threads···

- will try to read some book in the morning, maybe try EPI tomorrow before work.

9   2/2/2015, Monday

- Reverse Nodes in k-Group recursion bug !~ ~ ~ ~

- 5:00-11:30am; will work in the afternoon like yesterday, schedule not fixed yet, guess the arrangement right now just for tmp only····.

- work as mush as I can before work···

10   2/1/2015, Sunday

- Reverse Nodes in k-Group recursion bug !~ ~ ~ ~

- 5:00-12:30am; worked day time; coming days breaks into parts too···

- worked on trees, , will try to finish trees tonight···

11   1/31/2015, Saturday

- Reverse Nodes in k-Group recursion bug !~ ~ ~ ~

- 3:00-10:30am; drmi dizi most painful body ever, drinking glasses & glasses water all day···

- wanted to work on threads, but got speedbar work instead;

- worked on trees, , will try to finish trees tonight···

- way too tired, watch <sth> for rest···

12   1/30/2015, Friday

- Reverse Nodes in k-Group recursion bug !~ ~ ~ ~

- 1:30-7:30am; started to do labor work recently, had been sitting in chairs for weeks about one month without moving, got physically tired recently, have good rest & get schedule back.

- work on trees, threads and project tomorrow.

13   1/29/2015, Thursday

- 6:00-8:00am; 12:00-1:40 fall asleep; work in food court 2:00-9:30, 0.5 hr dinner;

- Scheduled appointment with lawyer to be 2/5/2014 2:00pm;

- Next court day will be 2/13/2015, Friday 9:00am;

- finish leetcode java code review as soon as possible;

- Try to work on web scheduling system as soon as possible;

- need to work hard on algorithms and projects⋯

- start to work on java thread a little bit, terminal is ok, Emacs unreasonably throws java.lang.IllegalThreadState and I don't understand why emacs behaves Difficulty yet⋯

- work tomorrow day time, but will work on algorithms in the evening.

14   1/28/2015, Wednesday

- decode ways java version, bug ⋯..

- `4:30~09:45, have no reason won't be headache today, but to get my schedule back, worth a headach`

- accompany the landlord for cleaning the house for half an hour 2:30 - 3:00

- too tired to continue work on it. have rest earlier⋯

15   1/27/2015, Tuesday

- decode ways java version, bug ⋯..

- ~7:00-13:30,

16   1/26/2015, Monday

- Unique path, bug ⋯..

- 8:00-12:00, know I have too much copy-paste labor work to do today, so less rest doesn't matter when don't need a mind⋯

- have rest after dinner, evening depends, either:

    - Summarize dp, greedy and Backtracking first;
    - Or try to finish the question contents copy-paste for today then, 175 questions;

- call food court tomorrow, check first day of work⋯nothing wrong with promoting oneself⋯.

17   1/25/2015, Sunday

17.1   worked on 3 problems, 175/175: finally Java once ~ !!

- connect next Right

- Wildcard Matching

- regular expression matching

17.2 Other things

- (4:30~5:00) ~ 12:30, much better than yesterday~

- think about what I should do next

- **Target:** make a book of LeetCode just like them made it, which is pretty good~

- Schedule appointment with layer

- Try to summarize LeetCode questions, want to make a book of my own, just like the one I made for ctci⋯

18 1/24/2015, Saturday

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

- Sudoku Solver

18.2 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%8I
  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⋯

19 1/23/2015, Friday

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

- find substring idxes

- sort Colors

- distinct Sequence

- Interleaving Sequence

- Scramble String

- Candy

19.2 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

20 1/22/2015, Thursday

20.1 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

20.2 Other things

- (5:30~6:00) ~ 12:00, headache!!!

- have rest after dinner, do as much as I can for today~!!

21 1/21/2015, Wednesday

21.1 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

21.2 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 ~!!

22 1/20/2015, Tuesday

22.1 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

22.2 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

23 1/19/2015, Monday

23.1 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

23.2 Other things

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

24 1/18/2015, Sunday

24.1 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

24.2 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;

25 1/17/2015, Saturday

25.1 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

25.2 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⋯

26   1/16/2015, Friday

26.1   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) ???

26.2   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 ~!

27   1/15/2015, Thursday

27.1   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

28 1/14/2015, Wednesday

28.1 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

28.2 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~!

29 1/13/2015, Tuesday

29.1 worked on 4 problems, 90/173:

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

29.2 Other things

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

30 1/12/2015, Monday

30.1 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

30.2 Other things

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

31 1/11/2015, Sunday

31.1 worked on 7 problems, 80/173:

- Spiral matrix II

- rotate list

- Unique paths

- Unique paths II

- Minimum path sum

- add binary

- Text Justification

32 1/10/2015, Saturday

32.1 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!

33 1/9/2015, Friday

33.1 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

34 1/8/2015, Thursday

34.1 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

35 1/7/2015, Wednesday

35.1 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

36 1/6/2015, Tuesday

36.1 worked on 5 problems, 47/173:

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

37 1/5/2015, Monday

- worked on 0 succeed problems

37.1 Other things

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

38 1/4/2015, Sunday

38.1 worked on 2 problems, 42/173:

- binary tree Maximum path sum
- Valid Palindrom

38.2 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/

39   1/3/2015, Saturday

39.1   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

39.2   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.

40   1/2/2015, Friday

40.1   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

40.2   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.

41   1/1/2015, Thursday

41.1   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

42   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

43   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

44   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,

45   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;

46   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

47   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

48 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%

49   12/25/2014, Thursday

- List a detailed plan of working on the algorithms; **Question Tags** according to the Website:

- Sent about 10 applications/interns;

50   12/26/2014, Friday

- two sum III

51   12/29/2014, Monday

- read N characters given read4