String

1. Find min distance between two character in a string ex. a x c a e r r a d e min dis between a and e is 1
2. Write a program to find a string in a page of text.
3. Rearrange a string such that duplicate characters are at least k positions away.
4. write a function that takes in an int and returns a string that would be how one would say that number (ex: 123 -&gt; one hundred twenty three; 50019 -&gt; five thousand nineteen).
5. Given a set of points (x,y) and an integer "n", return n number of points which are close to the origin
6. Given a triangle of integers, find the path of the largest sum without skipping.
7. write a function that, given a particular filename ending, returns a list of all files with this extension with a language of choice.
8. given a rand5() function which provide a random number between 1-5 at equal probability. Write a rand7() fuction to provide a random number between 1-7 with equal probability...
9. Implement atoi function with all exception handling and same behavior as C++ inbuilt atoi.
10. How would you identify phone numbers from a file containing employee data.

[Input is a string of Bytes E.g.341B   
Convert it to human readable form: 3 characters long (excluding decimal)   
No trailing or leading zeros   
E.g:   
Input 341B   
Output 341B   
Input 12345B   
Output 12.3K   
Input 1234567B   
Output 1.23M   
Input 1000000000B   
Output 1G   
  
Do not round off   
Assume input will not be more than 1G   
For this problem 1000B = 1K, so on and so forth](http://www.careercup.com/question?id=5651177001713664)

Given a log file which consists of timestamp, customer ID, page id visited by that particular customer. Write a function to return all customers who have visited 5 unique pages in last 30 mins

Array

1. Given thousand lists, find the longest common sublis
2. How to keep track of max and min numbers from a continuous stream of numbers
3. In an array you have all the numbers from 1 through n (not in order) with one number missing. Find that number. Now, you have two numbers missing. Find both the numbers. Notes: O(n) time solution, O(1) extra space. n may be very large, so beware of overflows!
4. Log file contains UserId.Every day has new log file.Given range of n days find top 10 users?
5. Converting two D char array to a int
6. Rotate a 2D array 90 degrees
7. Given a set of pairs e.g (5,4) (6,2) (9,3) (2,5) (4,9) .write a function to find the K biggest elements in the array, and return the sum in linear time
8. .Number (like 157, you can find a number 144 + 1 + 5 + 7 = 153), then 144 is a number of 153. find all of possible number in given a N.
9. Find the maximum length of consecutive ones in a nxm matrix which has only 0's and 1's.
10. You have a list of numbers from 1-1000, each number only exists once and they are in random order. You randomly take one out. How do you know which is the missing number?
11. Find the maximum sum subset for a given array .
12. Given a N\*N array where N is even such as 4, 8 and so on . Print the array from the center. a= [1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16] the output should be [6 10 12 7 3 2 1 5 9 13 14 15 16 12 8 4 ]
13. Find 4 numbers in an integer array and they sum zero
14. .Find all the subsets of an array
15. Find top k largest numbers in array in O(n) time
16. Given an array of integers find the element for which the sum of left = sum of right. example -1 100 1 98 1 should return index of 1 i.e 2 Answer: First told him about Brute Force approach and then told him if we can iterate once and get the total sum
17. Given a list of integers as input (ex. {1, 4, 5, 2, 6, 7, 1, 4, 2}), return the biggest sequence of ascending numbers (ex {2, 6, 7}).
18. You are given a 2D Array that contains only 0s and 1s in sorted order. i.e. First Os and then 1s.

Array:

0 0 0 1

1 1 1 1

0 0 1 1

0 1 1 1

You have to figure out the row that contains maximum number of 1s.

e.g. in above case we have row 2 as the answer.

http://www.careercup.com/question?id=5652423706148864

Linked list

1. sort a linked list which has mangled pointers
2. For any positive integer n, define d(n) to be n plus the sum of the digits of n. For example, d(75) = 75 + 7 + 5 = 87. The number n is called a generator of d(n). Some numbers have more than one generator: for example, 101 has two generators, 91 and 100. A number with no generators is a self-number. There are thirteen self-numbers less than 100: 1, 3, 5, 7, 9, 20, 31, 42, 53, 64, 75, 86, and 97. Write a function that returns the number of positive self-numbers less than a number, threshold.

Stack, Queue:

Smallest element in a Queue in O(1) time   using priority queue we can implment

1. how would you find the element of the tree at a particular "index", where index is defined as the position in the tree's ordering.
2. Given a tree and a number N, construct another tree such that each node of the tree has either 0 or N elements,except for one node which has between 0 to N elements.Only other constraint is that ancestry is preserved in the new tree.
3. Given a BS tree, give the median number in the tree with O(1) space.
4. mplement an n-ary tree

Sorting:

http://www.careercup.com/question?id=5183920823861248

Bit Manipul;ation:

1. Given a list of numbers, return a list of all possible permutations. eg. given {1,2,3}, return {{},{1},{2},{3},{1,2},...,{1,2,3}} Had to use bit manipulation where I fumbled.
2. How do you check if the 5th bit is a 1 in a binary number

https://github.com/KartikTalwar/Algorithms/issues/3

Graph

1. Compute number and print all possible paths from (0,0) to (7,7) in a chess board. you can either move down or right
2. Graph coding question regarding showing all the possible movies that contain the same themes.
3. Social Graph : In this problem, we want to parse a members social graup on the hot new social network. For the unfamiliar, each member in the network has n-many friends. Each of those friends has n-many more friends an on and on and on. We would like to write a program that given a socal graph, outputs each level of friends. Each friend should only be output once, at the first level they are encountered. The root friend should not be output. Input will consists of serveral lines, where each line represents a member and their friends. The final line will be the student of whom we will begin our traversal. For instance, a member and their friends will be represented as a string: A:B,C,D Where A is the member and B, C and D are the friends of A. If a member is listed without a colon, you can assume they have no friends of their own. Input 4 A:B,C,D B:A,D,E C:E,B A output: B:C,D E
4. word ladder I. (I used BFS)
5. implement a trie tree

puzzles:

1. 5th Interview Director tech Asked two puzzles 1.3 bulbs and switch board outside room.Find which switch belongs to which bulb in one pass 2.10 Bags with 100 gold coins each. Each coin weighs 10 gms in 9 bags and each coin weighs 9 gms in one bag find out which bag has coins of 9 gms in one weight? '
2. : I have 25 horses and I want to find the fastest amongst them. The contraint is that I do not have any time measuring device. I am given a circular racecourse wherein a max of 5 horses can run in parallel at a given instance of time. How will you find the fastest one.

Given a sorted circularly linked list of Nodes that store integers and a new Node, insert the new Node into the correct position. (Duplicates allowed)

- K nearest neighbors

Debugging questions will be of 7 questions for 21 minutes. Ex: An array will be sorted in descending you need to change the code to sort it in ascending.  [5 Answers](https://www.glassdoor.com/Interview/Debugging-questions-will-be-of-7-questions-for-21-minutes-Ex-An-array-will-be-sorted-in-descending-you-need-to-change-the-QTN_1769702.htm)

* Coding Challenge 2) You will be given N number of points as an array (CPPoint class). CPPoint class will have x and y coordinate. Find the closest k number of points from the origin.  [7 Answers](https://www.glassdoor.com/Interview/Coding-Challenge-2-You-will-be-given-N-number-of-points-as-an-array-CPPoint-class-CPPoint-class-will-have-x-and-y-coord-QTN_1769704.htm)
* Coding Challenge 3) You are given a linkedlist with next and arbitary pointers. Create a new linkedlist similar to the given linkedlist. You need to create a code for deep copy of a linkedlist.
* =

Given a matrix of integers, start from any column of the first row. can only move diagonally left, diagonally right and down. find the max sum possible. This is a DP problem.

3)Print valid QWERTY keyboard suggestions.  
4)Write an algorithm for bitmap application.  
5)Serialize and Deserialize an N-ary Tree.

Find the max number in an array between start and end. The function would like:  
  
findMaxbetween(start, end, array):  
  
   return maxNumber

Design Reservations, Design Recommendations,

What was a time you had to deal with a customer when you felt the customer wasn't correct?

Write a function that rotates a 2-dimensional array clockwise or counter clockwise 90 degrees depending on a given parameter, which I believe was either -1 or 1, which told you which way to rotate it. You are given the 2D array as a parameter as well.

* Given a sorted array of integers in increasing order (can contain duplicates), return the last index of a specified target integer, or return -1 otherwise. Thus 1, 2, 2, 3, 4 and the target is 2, the function should return 2.  [3 Answers](https://www.glassdoor.com/Interview/Given-a-sorted-array-of-integers-in-increasing-order-can-contain-duplicates-return-the-last-index-of-a-specified-target-QTN_1981699.htm)
* Given a stream of letters (like a DNA sequence), scan the stream for occurrences of keywords from a list.  [1 Answer](https://www.glassdoor.com/Interview/Given-a-stream-of-letters-like-a-DNA-sequence-scan-the-stream-for-occurrences-of-keywords-from-a-list-QTN_2069442.htm)
* Design an API to add new filters to an extensible version of the unix 'find' command line tool.

Given a list of weighted edges between nodes, find the minimum cost spanning tre

Rotation of matrix by 90 degrees and smallest sum in Binary Tree.

- Return the k-closest points to the center of a cartesian plane given an array of coordinates.  
- Create and return a deep copy of a singly linked list where each node also has an additional pointer to a random node in the list.

Design a program equivalent to Microsoft Paint. This contains shapes, print/load/save functionality, etc.

Division without divide operator

How to determine if a graph is a binary tree

List down the paths in a binary tree that sum up to the given sum

Given a list of movies and a priority value is given for each movie, the task is to retrieve a given particular movie from the list and predict the similar movies sort by priority. The movie is also categorized under genres for each movi

Longest substring

Merge two binary search trees in O(1) space.

Behavrious :

Describe the last time you let your customers feel happy and how you did it.

Why do you want to work at Amazon?

Programming:

Find the maximum number of substrings with k distinct characters. input: "pqpqs", k=2 output: [pq,pqp,pqpq,qp,qpq,pq,qs]