Old ques:

Technical interview(sample questions):

1. Given N, Find a,b,c if a2+b2+c2=N (1<n<5000000)

2. Given a string, remove all occurences of vowels in it.

3. Find the smallest one-zero multiple of the given number N. Ex: if N=4 then output should be 100.

1) Some data structures questions like insert item into singly linkedlist.

2) Some codes like Fibonacci series, finding a substring in a given string were asked to be written and executed. Minimum of 5 test cases (valid/invalid) were asked for these questions .

Personal interview (Sample Questions):

1. Given three strings, replace the second string with the third string in the first string.

2. Given a number N, find the next prime number.

3. Given two strings, find if one is a part of another.

Matrix:

Q) A 3x3 normal magic square is a 3x3 grid where the numbers on each row, each column, and both diagonals all add up to the same number, and the square contains the numbers 1 to 9 exactly. For example, the following is the Lo Shu magic square:

4 9 2  
3 5 7  
8 1 6

Implement a function which, given a two-dimensional 3 by 3 array of ints returns a boolean that tells us if the given square (represented by the array) is a normal 3 by 3 magic square or not.

Strings:

Q)

[Make a Distribution](http://programmingquestions.blogspot.in/2008/04/make-distribution.html)

Write a function which takes as input a string that consists only of the digits from 0 to 9 and outputs a distribution (like a grade distribution) showing how many times each digit appears in the string. Specifically, the following main

**public** **static** void main(String args[]){  
 String s = "01223334444566";  
 Distribution.doDistribution(s);  
 }  
}

should produce the following output:

0:\*  
1:\*  
2:\*\*  
3:\*\*\*  
4:\*\*\*\*  
5:\*  
6:\*\*  
7:  
8:  
9:

Q) Write function that translated a text to Pig Latin and back. English is translated to Pig Latin by taking the first letter of every word, moving it to the end of the word and adding ‘ay’. “The quick brown fox” becomes “Hetay uickqay rownbay oxfay”.

Q) Write a program that finds the longest palindromic substring of a given string. Try to be as efficient as possible!

Q) Write a program that gives count of common characters presented in an array of strings..(or array of character arrays)   
  
For eg.. for the following input strings..   
  
aghkafgklt   
dfghako   
qwemnaarkf   
  
The output should be 3. because the characters a, f and k are present in all 3 strings.   
  
Note: The input strings contains only lower case alphabets

Arrays:

Q) [Bigger than N](http://programmingquestions.blogspot.in/2008/04/bigger-than-n.html)

Write a function which, given an array and a number n, returns an array of all the numbers in the original array that are bigger than n.

Q) [Reverse Array](http://programmingquestions.blogspot.in/2008/04/reverse-array.html)

Write a function which reverses the contents of an array in place.

Q) [Find Duplicate in Linear Time](http://programmingquestions.blogspot.in/2008/04/you-are-given-array-of-numbers-that.html)

You are given an array of numbers that contains all numbers from 0 to n, in some random order, except that one number is missing and another number is repeated (thus, there are still n numbers in the array). Find the repeated number in linear time and do not use any other data structure.

Q) [Nth Smallest Number](http://programmingquestions.blogspot.in/2008/04/nth-smallest-number.html)

Find the nth smallest number in an unsorted array of numbers. Do it in linear time and without using any added memory.

Q) Write a program that asks the user for a number n and prints the sum of the numbers 1 to n. Modify the previous program such that only multiples of three or five are considered in the sum, e.g. 3, 5, 6, 9, 10, 12, 15 for n=17

Q) Write a guessing game where the user has to guess a secret number. After every guess the program tells the user whether his number was too large or too small. At the end the number of tries needed should be printed. I counts only as one try if the user inputs the same number consecutively.

Q) Write a function on\_all that applies a function to every element of an array. Use it to print the first twenty perfect squares.

Q) Write a function that merges two sorted arrays into a new array.

Q) Given a array of positive integers, find all possible triangle triplets that can be formed from this array.   
eg: 9 8 10 7   
ans: 9 8 10, 9 8 7, 9 10 7, 7 8 10   
Note : array not sorted, there is no limit on the array length

Lists:

Q) Write function that reverses a list, preferably in place.

Q) Implement a datastructure for graphs that allows modification (insertion, deletion). It should be possible to store values at edges and nodes. It might be easiest to use a dictionary of (node, edgelist) to do this.

Q) Reverse last 5 nodes of linkedlist. Please let me know if there is any better way.