Placement Questions 2016-17

1. ***Informatica***
    a. ***TEST-1(45 mins)***
        i. *MCQ based questions covering the following topics: – Data Structures,Operating Systems and Database Management System*

    b. ***TEST-2 (90 minutes Online Coding)***
        i. *Given a string in encoded form, decode it. Some rules were explained in the question based on which we had to come up with an algorithm.(Cannot use temporary string)*
        ii. *Find ceil value in a BST.*
        iii. *Given a graph in the form of a matrix having either 0s or 1s, find the number of islands of 1s.*
        iv. *Given two sorted arrays, find the median of the elements of the two arrays combined. (Can use temporary array)*

    c. ***INTERVIEW***
        i. Convert Binary Tree to a Heap.
        ii. Find a least common ancestor in a Binary Tree
        iii. Given a stack, sort it.
        iv. Given two strings, check if they both are anagrams of each other. I began with O(n^2) approach, optimised with O(nlogn) and finally came to O(n) approach(with two temp arrays). He asked me to do it in just 1 temp array.
        v. Merge two sorted arrays without using a temporary array. He wanted a solution of less than O(m*n) complexity. I gave a solution using binary search.
        vi. He began with asking me about the courses that I had taken up. He was pretty impressed by seeing Distributed Systems in my resume and asked questions about the CAP theorem and so on.
        vii. Which method helps us in dividing the actual problem and solving it. I said, Divide and Conquer and Dynamic Programming. He then asked me what is Dynamic Programming and what is memoization.
        viii. He asked me to write code for LRU cache implementation.
        ix. A small discussion on AVL trees.
        x. Talked about Software Defined Networks, a course I had taken up the previous semester.
        xi. Given a matrix with 0s and 1s, find the shorted path to reach m,n starting at 0,0. You can only walk on 1 tiles.

xii. There is a stream of data coming, and you need to perform searching and sorting on them. You have only 20 MB of RAM.
xiii. General questions on where do I see myself in 5 years, my family background, some intensive discussion about my organisational skills etc

2. ***Future First :-***
   a. ***TEST-1*** *(pattern :-)*
      i. *Aptitude and simple math based questions*
      ii. *+1, -1/3 marking.*
      iii. *Once you answer/ skip a question, you cannot go back to previous question*
      iv. *Question numbers aren't indicated on the screen, there is a completion bar at the top of the screen which shows the progress. The completion bar is rigged, so even if the test is about to finish, it can show any random number.*
      Eg: Even though I had time, my test finished at 69% progress.
   b. ***INTERVIEW***

      The interview process was straightforward, questions asked on your personality, whether you can take risks or not. Knowledge of market is helpful, but not necessarily required. We were asked to fill a questionnaire before the process, they also questioned us on the stuff we had written there. A couple of puzzles were asked.The second interview was very similar to the first one, although it focused more on whether you are comfortable with the timings and the high attrition rates, etc. Post this, the results were declared.

3. ***Gemini:-***
   a. ***TEST-1*** *:-* The first round was an Objective type test containing MCQ questions pertaining to programming topics and there were 5 Aptitude questions too which needed numerical answers .In a nutshell , i believe that the level of aptitude questions was decent as out of the 5 , in one or two questions you needed to think your way out to arrive at the correct approach for solving the questions . The level of programming MCQs was also good as i believe that in order to solve those you needed to be thorough with the topics and everything had to be clear in your mind , then only one could solve them . I remember that there were questions which expected you to correctly guess the output of the given code and that could only be done when you are clear with your concepts so i believe that the first test was a great evaluation of how much one knows about the basic concepts and if he's clear with that , it won't be that tough for him to clear that round .

   b. ***TEST-2*** *:-* The second round was the coding round . The coding round had 2 coding questions . One was to write the code for power function i.e you are given two integers x and n and you need to output x^n . This was a very basic question

as this can be solved both using recursion or iteration in O(n) time . Though i wrote the code for power function which runs in O(logn) time . In the second question , we had to replace special characters (like *,^,$) with the tags . I would consider this to be a medium level question as in this you had to replace characters with strings so you needed to take care of the size of the character array too . But this was also easily solvable if one had idea about how to replace characters with strings using functions present in String.h header file of C . So , all in all , this was a decent coding test which actually assessed both the knowledge of programming language and also needed you to apply your fundamentals to solve the question.

c. ***INTERVIEW*** There were 2 tech interview rounds and 1 functional interview round . In the tech interview round , a vast range of subjects were discussed . In the beginning i was asked to explain the code which i had submitted in the coding round so that the interviewers could get an idea of the approach i followed .Then we started with a question on comparison of Linked lists . If one has knowledge of Data structures , this would be easily solvable . Then , we discussed Java concepts like polymorphism , encapsulation , abstraction and several others . Then i was asked to write some SQL queries to solve certain tasks . We discussed about several topics in Algorithms sections too and questions regarding time complexity , space complexity , worst case time complexity were also asked. Then , the interviewers asked me questions on the things which were mentioned in my resume . These ranged from the projects i listed to my co-curricular activities . I gave a detailed explanation on what all was written in my resume . So , in a nutshell during my interview basically all the topics (Data Structures , Algorithms , Database Management , Computer Networks , Operating Systems) were covered in depth and the questions asked were also very detailed .I believe i could answer every question asked in the interview correctly since i had worked a lot on getting my basics right in every topic . Then , during the functional round , i was firstly asked some puzzles . The puzzles needed a lot of application of brain and i could solve all the puzzles correctly . Then , i was asked questions like “Why Gemini Solutions?” or “Where do you see yourself 5 years down the line?”. My resume was again discussed during this round too . I believe i could satisfy all the interviewers with the answers i gave to all these questions .

4. ***Digital Green :-***
   a. ***TEST-1*** *Three sections-*
      i. *1. Output based questions, spotting the error, basically programming based section*
      ii. *DBMS queries-Finding the output of given queries and formulation of queries based on a given dataset*
      iii. *Algo based questions. Eg: Knapsack problem code, code to find the no of trailing zeroes in n!, finding the no, in array for which (arr[i]=i) i.e. index=elements at that index (magic index)*

b. ***INTERVIEW*** *Three interviews-technical, HR, CV round*
   i. *Technical-Questions on Projects, better way to achieve whatever have been done in your projects, Logic for finding the middle of a list, code for sorting an array of 0s 1s and 2s, How to create a DB to store Tweets with the info of people who have tweeted it, First normalize this table since it will have redundancy, How to get top 20% marks along with the student name in a large file having students along with their marks (suggested approach-store marks m at arr[m]), Code to find the start of loop in a linked list, number of ways you can go from top left cell to bottom right cell if you can move in 4 directions, find the element that occurs more than n times in an array of size 2n*
   ii. *HR-General ques like why Digital Green, family background, what your friends think of you*
   iii. *CV-Summarize your cv/everything about you in 5 mins, some puzzles (measure 90mins and 45 mins with 2 wires, each of which take 60mins each to burn, burning rate is not proportional to time i.e. non-uniform rate, how would you find no. of badminton courts in delhi-basically they were looking for an approach to solve tough probs, how would you wake up/notify a deaf person-possible answer: a vibrating wrist watch which vibrates at specified time), why DG, questions on Hobbies, Life goal, etc*

5. ***Accolite :-***
   a. ***TEST-1*** *(pattern :- 30mins 20 questions MCQ online Technical) C,C++,DS,Algorithms,DBMS (All were previous GATE questions from GeeksforGeeks)*
   b. ***TEST-2*** *(pattern :- 1hr - 3 Coding Questions.Pen Paper.)*
      i. *Given a graph and source and destination vertex. Each vertex is marked either safe or unsafe.While travelling through the path, unsafe vertex needs to be converted to safe vertex using one magic card.Find a path from the source to destination using minimum number of magic cards.*
      ii. *Find nth ugly number. An ugly number is one that is only divisible by 2 or 3 or 5. 1 is exception.For ex. 1,2,3,4,5,6,8,9,10 are ugly numbers.*
      iii. *Find first positive integer, whose numbers when multiplied give the given number.For ex. Given number : 100. So, First positive integer is 455 such that 4*5*5 = 100.*
   c. ***INTERVIEW (*** 2 Technical rounds + 1 HR)
      i. What is minHeap, ACBT , Implementation.
      ii. Write Code to insert an element in minheap(done using array).Can you do it using Linked List.
      iii. Write code to reverse linked list in single traversal.
      iv. Write Code to check whether TIC-TAC(zero-cross) game is in valid state or not.For ex , No two rows / col / diagonals can be filled with same zeroes or crosses.And there can't be 4 zeroes and 2 crosses at a point in game.
      v. Swap nth node from beginning and nth node from end in single traversal.

vi. Series of 0,1,2. Sort it in single traversal. Write code.
vii. Make rand2() from rand5()
viii. Questions on Projects done
ix. Some complexities were given. Arrange them in increasing order of time.
x. Difference between MONGODB and MYSQL. Applications.
xi. P v/s NP . Definition , example, NPC , NPH. What is Polynomial time reduction of problems.
xii. Whether P=NP or P is subset of NP. What do you think about the case.
xiii. Difference between Java Interface and Abstract class
xiv. Diff Stack Area and Heap area, Example.
xv. Garbage Collection. How JVM does it.
xvi. SQL queries
xvii. http and https difference
xviii. find if any path sums to a number k in an n-ary tree
xix. http://www.geeksforgeeks.org/count-ways-reach-nth-stair/
xx. Given a set of strings find out if there is a circle.
Abc, cde,ea forms a circle.
http://www.geeksforgeeks.org/given-array-strings-find-strings-can-chained-form-circle/
Xxi. given a rand(5) , build a rand(2) method
Xxii. Given a random array check if there is a number element k such that there are k elements greater than it.
Xxiii. Find the maximum sinusoidal pattern in an array
xxi. Given an array of integers. Find first immediate number that is greater than it,, in single traversal. Write Code.For ex.

2 1 6 4 3 10 9

O/P: 2 6
1 6
6 10
4 10
3 10
10 -1
9 -1

6. ***Nucleus :-***
   a. ***TEST-1*** *(pattern :- MCQ by CoCubes)(Shortlisting was done after this round)* Aptitude Test (60 min 60 questions)English Skills,Analytical Skills,Quantitative Skills.Technical Test (30 min 30 Questions)Operation Systems synchronisation,Basic DSA (Pointers,Recurrence, Time complexity, etc.
   b. ***TEST-2*** *(pattern :- Pen-and-Paper Pseudocode)(No Short Listing.All gave interviews)* Given a sequence, write a pseudocode to print the sequence using just one variable and one loop

c. ***INTERVIEW***

i. Resume Based Questions
ii. Questions about projects done, details about that
iii. Questions about research interest/Favourite Subjects
iv. Java questions,OOPS concepts
v. AVL Trees,Linked Lists,Maps,Hashing,Dynamic Programming
vi. Pseudocode questions: finding the Nth largest number in an unsorted linked list
vii. Database Questions :- Transactions
viii. Family background
ix. HR based questions ,Situation based
x. How to get first and second maximum in an array (traversing array only once)
xi. Parent of all classes in java (Object class)
xii. There is a function with signature void func(Object o). What will happen if it is called with a string argument : func("abc")
xiii. Questions on exception handling
xiv. Difference between throw and throws
xv. Why is 'finally' used
xvi. Detect whether a loop exists in a singly linked list or not
xvii. Questions based on abstract class and interfaces.
xviii. Question on different tree traversal techniques.
xix. Print following pattern using 1 loop

1
2 4
3 6 9
4 8 12 16
5 10 15 20 25

7. Coding Ninja :-

a. ***TEST***

*i. A train130 meters long travels at a speed of 45 km/hr crosses a bridge in 30 seconds. The length of the bridge is:270 m,235 m,**245 m,**220 m*

ii. *A total of 250 players participated in a single tennis knock out tournament. What is the total number of matches played in the tournament? (Knockout means if a player loses, he is out of the tournament). No match ends in a tie.125,250,**249,**124*

iii. *The Pokemon Republic has some very strange customs. Couples only wish to have female children as only females can inherit the family's wealth, so if they have a male child they keep having more children until they have a girl. If they have a girl, they stop having children. What is the ratio of girls to boys in Pokemon Republic?**1:1,**2:1,1:2,3:2*

iv. *If the probability that Stock A will increase in value during the next month is 0.54, and the probability that Stock B will increase in value during the next month is 0.68. What is the greatest value for the probability that neither of these two events will occur?0.22,**0.32,**0.37,0.46*

v. *There is a circular jail with 100 cells numbered from 1 to 100. One night the jailer gets drunk and starts running around the jail in circles. In his first round he opens every door. In his second round he visits every 2nd door (2,4,6,...) and shuts the door. In the 3rd round he visits every 3rd door (3,6,9,...) and if the door is shut he opens it, if it is open he shuts it. This process of crazy drunken-ness continues for 100 rounds and finally the jailor gets exhausted and falls down. Let us assume the prisoners are all kind enough to wait until the crazy jailor stops and finally they decide to escape. By the end of all this, how many prisoners find their doors open?100,50,**10,**25*

vi. *Which of the following is FALSE about references in C++?*

*References cannot be NULL,A reference must be initialized when declared,Once a reference is created, it cannot be later made to reference another object; it cannot be reset.**References cannot refer to constant value***

vii. *What is the output of following C program?*

```
#include <stdio.h>

int main()
{
    int *ptr, a = 10;
    ptr = &a;
    *ptr += 1;
    printf("%d,%d/n", *ptr, a);
}
```

*10,10 10,11 11,10 **11,11***

viii. *What is the output of following C program?*

```
#include <stdio.h>

void foo( int[] );
int main()
{
    int ary[4] = {1, 2, 3, 4};
    foo(ary);
    printf("%d ", ary[0]);
}
```

```
void foo(int p[4])
{
    int i = 10;
    p = &i;
    printf("%d ", p[0]);
}
```
*10 10 ,Undefined Behaviour,Compile Time Error,**10 1***

ix. *What is the time complexity of following code?*
```
while(n){
  j=n;
  while(j>1){
    j-=1;
  }
  n/=2;
}
```
*O(n^2),**O(n),**O(nlogn),None of These*

x. *What is the time complexity for the following function?*
```
void fun2(int m, int n = 1)
{
  if (n <= 0)
    return;
  if (n > m)
    return;
  fun2(m, 2*n);
}
```
*O(logn),**O(logm),**O(m),O(n)*

xi. ***Without using any addition LL arrange elements in a LL such that all even numbers are placed after odd numbers, relative order of even and odd shouldn't change .****Input Format : Input contains multiple numbers each with separated by a space except last ,representing each node of linked list with -1 stating as end or NULL.Output Format: Print the output LL, each element should be separated by a space and LL end should be shown by a -1 . Sample test case : 1 2 3 4 -1 Output: 1 3 2 4 -1 . Function Signature: ListNode & Node classes are defined for you in the sample file.CPP: ListNode* oddEvenList(ListNode* head);Java: public static Node<Integer> evenAfterOdd(Node<Integer> head);*

xii. ***Find equilibrium index of an array. Equilibrium index of an array is an index such that the sum of elements at lower indexes is equal to the sum of elements at higher indexes.****Input format: Input contains size of the array followed by the array.Output format: Print the obtained index*
Sample Test: Input:

7

-7 1 5 2 -4 3 0

Output:

3

(implies that a[0]+a[1]+a[2] = a[4]+a[5]+a[6])

Function Signature:

CPP: int equilibrium_Index(vector<int> &ar); Java: private static int getEquilibriumIndex(int[] input);

xiii. ***Given a integer h, find the possible number of balanced binary trees of height h. This number can be huge, so return output modulus 10^9 + 7.***
Sample Input: 3

Sample Output: 15

You need to write a function with following signature.

C++: int BTreeOfGivenHeight(int Required_height);

Java: public static int balancedTreesOfHeight(int height);

b. INTERVIEW

i. Given a string s, generate all the possible substrings of s. E.g. if s = “abc” output should be {“”, a, b, c, ab, bc, abc}
ii. Given a string s, find the length of maximum possible palindrome that can be generated from s.
iii. Given a Binary Tree, Count the number of nodes.
iv. Given a Binary tree, print all nodes that does not have their siblings.
v. Given a Binary Tree, print all leaf nodes.
vi. Explain your best project.
vii. What motivated you to join Coding Ninjas.
viii. Where do you see yourself in five years.

8. Coding Blocks :-

a. TEST-1 *(pattern :- Objective)*

i. Objective question related to virtual function, recursion.
ii. OOPS concept, Upcasting, Output based questions

b. TEST-2 *(pattern :- Coding)*

i. In n time, put all even elements of array in starting , odd elements later
ii. Print Pascal triangle using 1. Recursion only 2. Iteration only
iii. Using recursion print 10 8 6 4 2 0 2 4 6 8 10 or any such series given start and step. In the above sequence start=10 and step=2.

Another Eg: start=11, step =3
Print the following sequence 11 8 5 2 -1 2 5 8 11

c. INTERVIEW

i. Print a Binary tree Spirally
ii. Reverse a Linked list using iteration and recursion.
iii. Reverse a LL using recursion in such a way that function accepts just one parameter.
iv. Check if a Linked List is palindrome or not using recursion.
v. In a dynamic array, what is the average time complexity.
vi. Average time complexities of various operations on Linked list.
vii. Questions on SQL queries.
viii. Print Axis Sum of a Binary tree
ix. Partition a linked list.
x. Find if a bit string is divisible by 3 or not.
xi. Find L.C.A in a binary tree(not bst).
xii. Convert sorted array to balanced B.S.T.
xiii. Given price of stock on n days find the optimal buying and selling date.

9. Opshub :-

a. INTERVIEW(No Test)
i. Project discussion
ii. Create a data element in the singly linked list.
iii. Breadth Firbase for a chess game
iv. Connect a web server with a perl program
v. Asked how did i handle any big teams in any project
vi. Non-recursive code for tree inorder traversal
vii. Print Singly Linked List in reverse order.
viii. Find the middle est Traversal.
ix. Check whether a number is power of 2 or not.
x. Work distribution in a project
xi. 3,5,4 water jug problem
xii. What were the loopholes in your project
xiii. Project discussion
xiv. Sort an array of 0s and 1s
xv. Reverse a paragraph in java i.e. i am a boy becomes boy a am i
xvi. Asked how much time would it take me learn java
xvii. Use case for creating a water bottle
xviii. Why do you want to join Opshub
xix. What do you think about technology and which technology fascinates you
xx. Difference between String str="abc" and String str=new String("abc")
xxi. What is race condition?
xxii. Interfaces in java. Difference between abstract class and interface.
xxiii. Project Discussion

xxiv. *Find min in array*
xxv. *Find middle node in linked list*
xxvi. *Find fourth last node in linked list*
xxvii. *5, 4, 7 bucket puzzle*
xxviii. *Reverse a string, and then a sentence*
xxix. *Reverse two variables without any temporary variable*
xxx. *Sql query to find the row having maximum and minimum element in a table.*
xxxi. *How will you handle a situation when your team member is not willing to work*
xxxii. *There is a sequence: "5,25,30,125,130,150,625...". Find Nth term in the sequence.*
xxxiii. *4 lions and 4 goats. Make all cross a river using a boat which can carry only 2 animals at time. Condition: N(Goats)>=N(Lions) on any side of the river.*

b. *HR INTERVIEW (with CEO)*
   i. *Introduce yourself.*
   ii. *Project discussion*
   iii. *Which is the most challenging project you have done so far?*
   iv. *Reason for choosing Ahmedabad*
   v. *Machine Learning Algorithms*
   vi. *Sorting Algorithms - which algorithm is better in different cases.*
   vii. *Asked questions from the subject which you find interesting*
   viii. *How will you handle a situation when your team member is not willing to work*
   ix. *What are your interest areas*
   x. *Why not go for higher studies?*
   xi. *Why Opshub*
   xii. *Why should Opshub select you? What's unique about you?*

10. <u>TCS Research</u>

i. Questions about CV and Projects (What was your contribution?) and Internships done.
ii. Questions related to the field you have worked in (Math -- SVD etc, DSP -- DCT etc).
iii. Questions on Image analysis, basic things like fourier transforms filtering etc.
iv. Questions on area of interest, in my case Machine Learning and Cryptology.
v. Questions related to equations used in some of the projects, asked to state the assumptions involved.
vi. Questions about the courses taken and projects done in them.
vii. Some discussion about hobbies.

viii. Some questions related to the courses done (Robotics -- RRT, Bug, project etc, OCS -- LQR, LQT).
ix. Questions on machine learning.
x. Questions on research projects.
xi. Questions on data structures and algorithms, Compilers, Image analysis, Linear Algebra,
xii. OOP, basic programming concepts.
xiii. About family background. Targets in life etc.
xiv. Questions about interests and preferences of different fields.
xv. Details about projects, and how long will you be staying with the company, and if you plan to go for higher studies.
xvi. Discussion about courses and projects

11. Mathworks :-

a. Online survey interview

i. There were basically HR interview questions like why you want to apply to the company, strength & weaknesses, give example of some situation etc. The question varies for everybody but essential idea is same. You have to record these answers using their application portal.
ii. You will choose, two programming languages you are good at (please select only two. no more no less), your domain (ex. Embedded, CSE, Control, SP).

b. Online Test

i. It consists of four section Domain related questions (in my case it was Signal Processing,i.e, SP.), Questions from your selection of programming languages (I chose C and Matlab) and Basic Engineering mathematics.
ii. In Domain related questions (Signal processing), the ask from DSP and Signal & Systems. In my paper questions were mostly related to DFT/FFT, Z-transform, Sampling, System properties (ex. Linearity, time-invariance etc.), filtering.
iii. In C Programming they asked about basic c programming questions related to if-else, switch-case, looping, pointers, recursion etc. (even if you are an EC student, they need in depth knowledge of at least one of C/C++/Java apart from Matlab). Most of them were about finding the output.
iv. In Matlab section, all the questions were again finding the current output questions. These questions were relatively on the tougher side for normal Matlab programmer and requires somewhat more detailed knowledge of Matlab programming.
v. In Math section, the questions were from Calculus, Linear Algebra, Differential Equations, Complex Numbers and Vectors. The questions were easier and required only basic knowledge of Math from all the topics.

vi. *Many questions had multiple answers, which added to the difficulty level.*

c. INTERVIEWs

i. *It had three rounds TR-Technical Round, MR-Manager Round and HR-Human resource Round.*
ii. *In TR they asked questions from C, Matlab, SP and Maths. The syllabus was the same but in interview they go deep into the subject. In interview they ask from data structure and algorithms also.*
iii. *In MR, they will give you a situation and you have to answer with a real life example you had. For ex. Tell me about a situation where you had conflict with your friend, and how you handled it.*
iv. *In HR, they will ask you about the position you are offered, to know that how well you have done your research on the company and how well you understand what your role will be in the company. They will ask you to explain what is your role, how it will help you in your career etc. They will ask about some basic info about the company.*

12. EMC

a. TEST-1

i. *Aptitude - Questions on general aptitude and data interpretation*
ii. *Technical - Data Structures, Operating system, DBMS and output questions*

b. INTERVIEW-1

i. *Memory management in OS.*
ii. *Virtual memory.*
iii. *Page replacement algorithms*
iv. *Advantages of Hash Table over Binary Search tree*
v. *Different segments in main memory(code segment, data segment, stack, heap)*
vi. *Where is code stored in memory(code segment)? How is the code executed? (Program counter keeps track of the line of code and instructions are fetched one by one into the instruction register.)*
vii. *Page table, Paging*
viii. *Why EMC*
ix. *Family background*

c. INTERVIEW-2

i. Family background.
ii. Why EMC.
iii. Why should we hire you.
iv. What do you know about EMC.
v. What does education mean for you
vi. How do you feel about the EMC hiring process

13. Nagarro

a. Test Questions

i. ***Round 1 :*** Aptitude and Logical reasoning questions (30 questions with negative marking).(Medium level)

ii. ***Round 2*** : C/C++ programming MCQ (Output based) (20 questions with negative marking)

iii. ***Round 3*** *:*

1. Given a string S, write a method to generate all its unique substring.Example: S = aaba Output: a, b, aa, ab, ba, aab, aba, aaba
2. Given a String array ARR and an interleaving string S. Write a function to find 2 strings from string array which constitutes the interleaving string. Example: ARR = (“dog”,”met”,”foot”,”god”,”doll”,”door”) and S = “dmeogt”.Output: dog and met.
3. Print all possible words from phone digits.http://www.geeksforgeeks.org/find-possible-words-phone-digits/

b. ***Technical Interview*** *:*

i. Discussion on all the above questions and interviewer asked about approach, time complexity and further optimization to reduce complexity.

ii. Discussion about projects mentioned in CV.

iii. Duration: 15 - 20 minutes.

c. HR Interview

i. Introduce yourself and tell me about your family.

ii. Why Nagarro ?

iii. Are you active in competitive programming?

iv. How many interview you faced before and got rejected ?

v. Technologies you know and had done project in?

vi. Higher studies plan?

vii. What do you know about Nagarro ?

14. PWC

a. TEST-1

i. A thief runs from a jail and has a lead of half an hour. A police cop runs after him (after half an hour) with a speed of 4 mph. The speed of the thief is 3 mph. A bloodhound also starts running along with the cop with a speed of 12 mph. The bloodhound runs to the thief and comes back to the cop and repeats doing so until the cop catches the thief. What is the total distance travelled by the bloodhound?

b. INTERVIEW-1

i. Resume based questions :

1. Your favourite course? Why so? Discussion on that course.
2. Elaborate on any one of your projects/internships. I did on one of my internships.
    a. What is a bounce rate?
    b. What will a low bounce rate mean?
    c. What does it mean if a website (say IIITD) has a low bounce rate or a high bounce rate.
    d.

c. INTERVIEW-2 (Director Interview)

i. I was given a situation - There is a blind person and he loves cooking, though when he works in the kitchen he doesn't want anyone else to be there. I have to design a system for him so that he can cook without any error and with minimum hit and trials.
    1. The answer was building a vending machine that worked on voice commands.

ii. Other questions were mainly based on my resume and why do I want to join PwC. Also, some questions were on why am I fit for the position of Cyber Security Consultant?

15. Axtria

a. ***TEST*** *General Aptitude Paper* ***(CAT Style)***

b. ***INTERVIEW***

i. ESTIMATE TOTAL AREA OF PIZZA CONSUMED IN MALVIYA NAGAR IN A MONTH
ii. HOW TO MEASURE 4 L WITH HELP OF 3 AND 5L JARS
iii. FORM number 37 FROM FIVE 5s. [{5! / (5+5) } + 5x5]
iv. Estimate total area of fan on the ceiling
v. SQL Queries
vi. Why Axtria?
vii. How can you contribute to Axtria?
viii. Discussion on Puzzles asked.

16. KPMG

a. GD Topics

i. Doomsday is approaching, select five things you want to save for future.
ii. Technology and Indian Politics
iii. Digital Detoxification

b. INTERVIEW

i. Tell us about yourself. Your family background.
ii. Why should KPMG hire you?
iii. Tell us how will you audit your project ?
iv. What will you pick quality or meeting deadlines ?
v. What is auditing ?

vi. Explain your project .
vii. Resume based questions.

17. MAQ Software

a. ***TEST QUESTIONS***
   i. Part a) (30 minutes) 30 apti and logical questions.
   ii. Part b) (30 minutes)
      1. Dutch National Flag Problem
      2. N Queen Problem

b. ***INTERVIEW QUESTIONS(*** *1 Technical round ,1 HR*)
   i. Write a program to find the nth prime no.
   ii. How to build english dictionary using Tree structure
   iii. How can you represent all dates of month using two 6 sided dice ?
   iv. You can write one number on each face of the dice from 0 to 9 and you have to represent days from 1 to 31, for example for 1, one dice should show 0 and another should show 1, similarly for 31 one dice should show 3 and another should show 1.
   v. SQL query: Two tables were given as Emp(EmpID, EmpName) and Dept(DeptID, ProfID(FK referring to EmpID), DeptName). Find out EmpName who is teaching in maximum departments.Factorial of very large number.
   vi. 1+2*3+3*4*5+4*5*6*7+....Write a recursive program to find the result to n terms in the series
   vii. If any date is given, find out which day it is? A random date with some day has already been given. Asked to write code with covering all corner cases regarding leap year, earlier/later day according to date etc.
   viii. You have infinite amount of zero in a list.Make 120 out those zeroes just by using mathematical operators (puzzle question).

18. Kuliza

a. ***Test Questions***
   i. There are X girls and Y boys. You want to seat them such that you have the minimum number of girls sitting together and boys sitting together. Print the minimum number of girls/boys that have to be seated together. For example, if there are 5 girls and 2 boys, the output should be 2.
   ii. We are given an array of numbers A. They represent values of coins that you have. You are a magician and can only manipulate the array as follows:(1)Except for the first and last elements, you can change the value at A[i] to the average of A[i-1] and A[i+1] if and only if both A[i-1] and A[i+1] are even;(2) If a value of A[j] is changed, it must have changed after the last changed value A[i]. i.e. j>i
   You have two friends Raj and Tanuj. You want to distribute the coins

amongst them such that Raj gets the first coin and Tanuj gets the last simultaneously. If there are an odd number of coins, the middle coin goes to a third friend, Mary. Find the minimum absolute difference between each pair that is distributed and output it.
Eg. Input: 5 2 1 2 3 1 2 3 7 5
Output: 8
Explanation: We have,(5-5)+(7-2)+(3-2)+(2-2)+(3-1)=8
Here the value of A[2] is 1 but can be changed to (A[1]+A[3])/2=2. This gives us 3-2=1 which is lesser than 3-1=2. Therefore we change the value to 2.

iii. We were given the wrong code for recursive fibonacci series and quick sort. We had to fix the bugs and correct them.

b. Interview Questions

i. Given a table, print employee with max salary. Then print max salary of an employee whose department has more than 5 employees. Difference between “WHERE” and “HAVING”.

ii. You have an array of negative and positive numbers. Put negative numbers first and then positive numbers at the end of the array. The negative/positive numbers should be in the same order they were previously in. Must be done without extra space

iii. Given two strings, check if they both are anagrams of each other.

iv. Implement a database for a School Management System. Optimize it

v. Questions about JRE, JDK and JVM.

vi. Difference between Interpreter and Compiler.

vii. Questions on Hadoop, Spark, MongoDB, NoSQL, MySQL, Big Data Analytics, Distributed Systems, Android programming, server-side scripting and projects. (From Resume) Most of all questions in the three interviews were asked on these.

viii. There was no HR round. But in every technical round I was asked to tell them about myself, why I wanted to join Kuliza and what I expected from them.

ix. For an input n, create matrices in the following form. (Spiral form)

n=3
5 4 3
6 1 2
7 8 9

n=4
16 15 14 13
5 4 3 12
6 1 2 11
7 8 9 10

19. EXL

- ***a. Test Questions***
  - i. MCQs

- ***b. INTERVIEW-1***
  - i. Fibonacci Series, max of three numbers, 2 sql queries, difference between inner join and outer join. Different type of joins. Given two triangle of (3,4,5) and (3,4,7), which has greater area.
- ***c. INTERVIEW-2***
  - i. How could you divide the 24 liters of liquid into three equal parts, so that you have three buckets containing 8 liters each? (given 4 buckets of size 24 ,13, 11 & 5 ltrs where only 24 ltr bucket is full and rest empty)
- ***d. INTERVIEW-3***
  - Case Interview - DLF is constructing an office complex and you have to design an lift system.

20. ***NAGARRO***

a. **Round 1**: Aptitude and Logical reasoning questions (30 questions with negative marking).(Medium level)
b. **Round 2:** C/C++ programming MCQ (Output based) (20 questions with negative marking)
c. **Round 3:**(Programming Written Round)
   i. Given a string S, write a method to generate all its unique substring.Example: S = aaba Output: a, b, aa, ab, ba, aab, aba, aaba
   ii. Given a String array ARR and an interleaving string S. Write a function to find 2 strings from string array which constitutes the interleaving string.Example: ARR = (“dog”,”met”,”foot”,”god”,”doll”,”door”) and S = “dmeogt”.Output: dog and met.
   iii. Print all possible words from phone digits. http://www.geeksforgeeks.org/find-possible-words-phone-digits/
d. **Technical Interview 1:**Discussion on all the above questions and interviewer asked about approach, time complexity and further optimization to reduce complexity.Discussion about projects mentioned in CV.Duration: 15 - 20 minutes.
e. HR Interview 1:
   i. Introduce yourself and tell me about your family.
   ii. Why Nagarro ?
   iii. Are you active in competitive programming?
   iv. How many interview you faced before and got rejected ?
   v. Technologies you know and had done project in?
   vi. Higher studies plan?
   vii. What do you know about Nagarro ?

21. Sandisk

- **a. Test Questions**

i. Circuit given to identify -was binary to grey converter
ii. Clocks per instructions for 2 machines compared
iii. Sequence detector FSM was a simple T flip flop

b. Technical Interview Questions

i. Puzzle - 100 story building , there are 2 bulbs . The bulb will break at floor N and above. How many minimum trials are needed to find the exact floor where the bulb will break
ii. Bit manipulation - Find remainder of a number with 128 without using mod, division, subtraction, addition and loop
iii. Scheduler in C
iv. 3D array dynamic allocation
v. 2D array dynamic allocation
vi. Bit Manipulation question(Swap 5th and 10th bit of a 32 bit integer)
vii. Dynamic array vs Static array(Given : int a[10] , can we perform a++ ? ,etc)
viii. How does the interrupt work? What are the various kinds of interrupts? What is Interrupt Service Routine? Given a sample code for an Interrupt handler, analyze whether it is good or bad. How does the OS resume the previous running operation immediately after responding to an interrupt?
ix. Difference between Structure and Union and their uses. Given a code for Union, analyze the output.
x. Questions regarding Preprocessor directives and Macros.
xi. Questions regarding function pointers.
xii. Questions on header files.
xiii. C code to plot histogram of an image.
xiv. Bit manipulation - Swap 1st and 32nd bit in a 32 bit integer.
xv. Questions on interrupts - types and their working
xvi. Many topics from digitsl circuits - FSM, Counters, Adders, Frequence/clock dividers.
xvii. How does a flip-flop work

c. HR Interview Questions

i. What kind of personality are you?
ii. What is your goal in life?
iii. If you join the company, how will you make your presence felt?
iv. Hobbies/What do you like to do in your free time?
v. Apart from your Job/Career, what would you like to achieve in life?
vi. If we had different events like dance events, slogan writing etc., which events would you like to participate in?
vii. In a theme park, which rides will be your favourite?
viii. Why would you like to join Sandisk?
ix. How do you feel about Bangalore?
x. If we select you today, what would be the first thing you do?
xi. Which places do you like to visit in Delhi?
xii. If we assign a mentor for you, what should be his/her personality?

22. Wipro Digital

a. Technical Interview

i. Implement Stack using Linked List
ii. Find 3rd largest number in an array
iii. Find next greatest number using the same digits
iv. Reverse a string using recursion
v. Given an array of 0,1 and 2's, segregate such that 0's are placed first, then 1 and then 2.
vi. OOPS concepts
vii. Tree vs Arrays
viii. Arrays vs Linked List
ix. 798652, what will be the next largest number in this series.
EG: 119 will have 191
x. Swap two integers stored in a variable without using 3rd variable:Also without using arithmetic operators.Can use arithmetic operators but numbers can be -ve

b. *HR Interview*

i. About family background
ii. Do you have problem with their 15 months contract?
iii. Why do you want to join Wipro?
iv. Why should we hire you?
v. Your strengths
vi. Your weakness, passion

23. Wipro (CSP Profile - Telecom Engineer)

a. Test Questions

i. Quantitative Aptitude.
ii. Verbal Ability and Reasoning.
iii. Basic C questions(mostly code output questions).
iv. Questions on Basics of Communications and Circuits.

b. Technical Interview

i. Explain PCM, PSK, AM?
ii. What is Sampling theorem, Nyquist rate, Shannon theorem?
iii. What is characteristic impedance?
iv. NOT gate oscillator (feedback) and it's frequency of oscillation?
v. Why few microprocessors go to FFFE rather than going to 0000 when reset?
vi. What is a multiplexer?
vii. Mention one device used for demodulation?
viii. Name the motor driver IC that you used?
ix. What does LM and HC in IC's means?
x. What is a K-map and explain?
xi. How speed of light changes in optical fibre?

xii. What is DSR(Dynamic Source Routing)?

c. HR Interview

i. Tell me about yourself?
ii. Why Wipro?
iii. Tell me what you remember in the PPT?
iv. Your strengths and weaknesses?
v. How would you try to improve your weaknesses?
vi. Any questions from your side?

24. General Electric

a. Test Pattern : Similar to amcat - Aptitude, coding, Comm. skills
b. Test Questions
   i. Aptitude questions
   ii. Total 2 coding questions ; 1 coding question : addition of 2 polynomials
c. Technical Interview Questions
   i. Cloud Technologies based like spring.
   ii. REST architecture
   iii. Big Data architecture
   iv. Oop basics (polymorphism etc)
   v. 2nd Maximum in SQL
   vi. About projects mentioned in Resume
   vii. Few puzzles
   viii. Questions on database, like design a schema for given case study
d. HR Interview Questions
   i. Tell about person who inspires you and why?
   ii. Why GE digital?
   iii. General HR questions.
   iv. Why Mtech ??

25. Sapient

a. Test Questions

i. Amcat Test - 4 sections
   1. English
   2. Quant
   3. Aptitude
   4. Technical questions

b. Technical Interview Questions

i. What is static class?
ii. Given input of numbers, make sure that no two consecutive numbers are together. Eg: in an LL of 3->6->1->2, 1 and 2 cannot be together.
iii. Write single SQL Queries for :

1. Given two tables T1 and T2, one duplicate of another. If somehow, some rows of T2 gets deleted, how will you check which all rows are deleted
2. Top 10 rows of a table.

iv. Java concepts/definitions and examples such as abstraction, overridding, overloading, super(), polymorphism, inheritance, difference between extend and implement, where to use what. Examples of the same

v. Project related questions.

vi. Puzzles

1. Given a cake cut from corner, divide it into equal halves.
2. Given five 0's, make 120 from it.
3. http://quiz.geeksforgeeks.org/puzzle-7-3-bulbs-and-3-switches/
4. http://quiz.geeksforgeeks.org/puzzle-18-torch-and-bridge/
5. http://quiz.geeksforgeeks.org/puzzle-1-how-to-measure-45-minutes-using-two-identical-wires/

c. HR Interview Questions

i. What makes you fit for this job

ii. Give example

1. Of you as a positive team member
2. As a team leader

iii. If your group didn't listen to your suggestion, what would you do next and how would you react to the same.

iv. Tell the best thing about yourself.

v. One thing you think, you need to work upon.

vi. You have been given a product. What will you do to find out if it will sell in your neighbourhood?

26. Samtel

a. Test Questions(CSE)

b. Test Questions(ECE)

c. Group Discussion Topics

i. Who is more responsible for discipline of children parents or teachers?

ii. What do you think "make in india" is just a marketing strategy or reality?

d. ***CSE Interview Questions***

i. *Tell me something about yourself.*

ii. *Why your CGPA is not good?*

iii. Why samtel?

iv. Can you code in c?

v. Write a function to do summation

vi. Asked questions from courses taken, CV

vii. Write a C program which takes an array of integers and compute sin(x) for all elements in the array

viii. Do you want to go for higher studies?

e. ECE Interview Questions

i. *Tell me something about yourself.*
ii. *Why your CGPA is not good?*
iii. *Where do you stand in your class?*
iv. *List all your subjects .*
v. *Which is your favorite subject.*
vi. *Make a circuit using op-amp in non-inverting config.*
vii. *Properties of op-amp*
viii. *Draw symbol of npn transistor*
ix. *Connect it in common emitter config.*

27. Azcom

a. Test Questions and Pattern

i. *Subjective test*
   1. *Given a number, how many 1's are there in its binary representation?*
   2. *Tell whether a number is positive or negative using bitwise operator.*
   3. *sizeof(NULL)?*
   4. *Plot PSD of white noise.*
   5. *Sketch the sampled version of sine wave of fundamental frequency 20kHz sampled at 20kHz.*
   6. *An audio signal of duration 40s is sampled at 15kHz sampling frequency, given signal to quantization ratio is 20dB, what is the size of the signal?*
   7. *Basic convolution of two sequences.*
   8. *Finding DFT.*
   9. *Write a code to find the Parity bit of a number.*
   10. *Plot Fourier transform of a sinusoidal signal.*
   11. *Monty Hall problem.*

b. Technical Interview Questions

i. *Difference between 16QAM and QPSK.*
ii. *Convolution of two triangular pulses.*
iii. *Reversing the nibbles of a 16 bit number.*
iv. *What is OFDM. What are its advantages?*
v. *Own implementation on string concatenation*
vi. *For sorted array create balanced binary search tree*
vii. *Basic questions of OS (replacement policy , threshing)*
viii. *Some question on storage classes like address of variable which is initialized as* `register int a; printf("%x",&a);`
ix. *Some questions on project , which database you used and why?*
x. *C program to take integer as input, store it in char array and the print reverse of it.*
xi. *Bitwise program to count number of ones in binary representation of given number.*

xii. *Reversing the nibbles of character input.*
xiii. *C program to get height of tree.*
xiv. *Which data structure you are comfortable with.*
xv. *Find out the mistakes committed in questions attempted in written exam and correct them*
xvi. *Explain in brief about your thesis problem.*
xvii. *Difference between 4g and 5g*
xviii. *Difference between bandwidth and frequency*

c. ***HR Interview Questions***
   i. *Tell me about yourself.*
   ii. *Your strengths and weaknesses.*
   iii. *Justify telling a situation where you showed your strength.*
   iv. *Why you want to join our company*
   v. *Any past working experience.*
   vi. *What are your aspirations related to your career*
   vii. *Do you have any questions from us.*

28. Transorg

a. Test Questions and Pattern

i. Contains aptitude question mainly focus on data interpretation using plots.

b. Technical Interview Questions

i. *Swap two number without using temporary variable*
ii. *Find 3rd minimum number in unsorted array*
iii. *Questions on projects (which technology used and what is use of it)*
iv. *Which data structure is used to store phone numbers and searching mechanism of number in that data structure*
v. *Puzzles*

29. Coviam (Intern+Job Offer)

a. Test Questions and Pattern

i. MCQ type question related to Java and Quantitative Aptitude.

b. Interview - 1 Questions

i. Why Java is better than C++ or C ?
ii. Define singleton pattern and how would you achieve it ?
iii. Define Observer Pattern ?
iv. What is encapsulation ? How do you do it in Java ?
v. How is abstract class different from interface ? And in what different cases they are used ?
vi. Questions based on resume.

c. Interview - 2 Questions

i. Questions related to multithreading in Java.
ii. What is polymorphism?How would you implement it ? Give example.
iii. How do we call static method of Class A from Class B ?
iv. Write code for digit sum of a number. (both iterative and recursive).
v. What is the next nearest palindrome date from today's date.(Date format : dd/mm/yy)

d. Interview - 3 Questions

i. Questions based on Resume and Android and Python.
ii. Difference between list and tuples.
iii. What are lambda functions in python.
iv. What is .pyc file ? What's its use ?
v. What are the data types in python ?
vi. What are args and kwargs ?
vii. What are the advantages of fragments over activity?
viii. What are content providers ? How would you implement a content provider for your own app ?
ix. What is NDK and AATT ?
x. What are the uses of onpause() and onStop() ?
xi. What are Services in Android ? Why are they used ? How would you implement in your app ?

30. CISO Cybersecurity

a. Test Pattern

i. 1st round aptitude (pen and paper)
ii. 2nd round coding (pen and paper)
    1. 5 programming questions. Had to write programs for them in sheets. Simple ones.
iii. Both are compulsory for all students
iv. Shortlisted based on both test and cgpa also.

b. Test Questions

i. Simple aptitude
ii. Tree and stack and their complexity questions

c. Technical Interview Questions

i. Introduction
ii. Projects worked on
iii. Android Development
iv. Retrofit
v. Shared preferences and its code
vi. Technologies used in the projects
vii. How to design Netflix type application, selection of technology,database and so on.
viii. How REST and SOAP works
ix. XML vs JSON

x. Propose some problem related to mobile computing and information security and solution to it
xi. Question related to projects mentioned in resume mostly focussing on web/mobile domain.

d. HR Interview Questions

i. No HR interview

31. Edfora

a. Test Pattern
   i.
b. Test Questions
   i.
c. Technical Interview Questions
   i.
d. HR Interview Questions

32. Samsung

a. Test Pattern
   i. 1 coding question (3 hours)
b. Test Questions
   i. Backtracking and matrices ,BFS,DFS
c. Technical Interview Questions
d. HR Interview Questions

33. Works Application

a. Programming Test :-

b. Interview Questions :-

i. Zigzag string - https://www.interviewbit.com/problems/zigzag-string/
ii. Single Number 2 - https://www.interviewbit.com/problems/single-number-ii/
iii. Single Number - https://www.interviewbit.com/problems/single-number/

34. Heico

a. ***Interview Questions(No Test Taken)***
   i. What sensor is used in Lifts?
   ii. What is PID controller and drive the expression of it?
   iii. Do you know inheritance and inheritance types ?
   iv. What is OOPS concept and what is abstract class?
   v. What is encoder and multiplexer?
   vi. Questions related to hardware projects

vii. How will you code the expression of PID controller?
viii. Knowledge of embedded and c++
ix. Thesis topic related questions
x. Write the code of square root of a number
xi. What is a transducer? Name some of them.
xii. What is the difference between microcontroller and microprocessor?
xiii. Name some of the microcontrollers.
xiv. Questions on inheritance and partial classes
xv. Question on PID controller

35. Newgen

a. Test Pattern :-
    i. Test was divided into 4 sections - English, aptitude - 2 sections, technical . Each section had about 30 minutes.
b. Test Questions :-
    i. Aptitude and english were general questions on data interpretation, comprehension etc.
    ii. Technical questions spanned areas of OS, DBMS, CN, Data Structures
    iii. Some questions were theory related, few questions were on finding output of given code (Java, C).
c. Interview Pattern :-
    i. 1 Tech round
    ii. 1 HR round
d. Interview Questions :-
    i. Asked about a project. What I did in it.
    ii. What is function overloading or overriding?
    iii. What is entity relationship?
    iv. What are deadlocks? Give an example of such scenario.
    v. Some basic logic questions.
    vi. Linux Page Size
    vii. Linux default scheduler
    viii. Threads/Processes/Resources-Permissions

36. Think Future Technologies

a. Test Pattern :-
    i. Online Test: 20 objective questions, 1 coding question
    ii. Duration of Test: 1.5 hours
b. Test Questions :-
    i. Suppose four friends play a game. The first two friends stand on the ends of one line and the other two friends stands at the ends of another line. Each of these lines are either parallel to the x axis or the y axis. The friends' coordinates are presented in an array of size 8 like this: {1, 23, 1, 72, 3, 36, 3, 55} where (1, 23) are first friend's coordinates, (1, 72) are

second friend's coordinates, (3, 36) are third friend's coordinates and (3, 55) are fourth friend's coordinates. Find whether these two lines intersect or not.

Input would be array of size 8, output would be a string:
INTERSECT if these two lines intersect at one point, eg. {3, 44, 3, 75, 10, 5, 20, 5}
OVERLAP if these two lines intersect at multiple points, eg. {3, 44, 3, 75, 3, 5, 3, 2}
NO if they do not intersect at all, eg. {3, 4, 3, 67, 4, 12, 4, 23} or {72, 6, 45, 6, 97, 7, 102, 7}
Function
char* intersect(int input[])
{
}

c. Interview Pattern :-

i. 3 rounds of interview

d. Interview Questions :-

i.

37. <u>Mahindra Defence</u>

a. GD Topics

i. Black Dot on white board
ii. Need for education in a society

b. Test Questions

i. AB` + AB =
ii. What is Piezoelectric accelerometer ? and what it senses?
iii. What hall sensor senses?
iv. Peak power and average power is given. Calculate duty cycle.
v. Convert a hexadecimal number into binary number.
vi. Calculate 4 bit Kmap.
vii. Many questions related to op-amp.
viii. Setup and Hold time related question to calculate maximum clock frequency
ix. Opamp related
x. Calculate the determinant of a given matrix ?

c. Interview Questions

i. Difference between C and Verilog
ii. Working of Temperature sensor, hydraulic actuators
iii. Scope of mechatronics
iv. Difference between open loop and closed loop systems, along with an example of each
v. What is transducer

vi. What is sensor . Difference between transducer and sensor.
vii. What is mechatronics. What is codecs . Video codecs
viii. What kinds of motors are used in robots . Give examples and their differences.

38. Khosla Labs

a. Test Questions :-
i. N mad joker's , Catalan numbers , dynamic graph
ii. Questions about stochastic gradient descent, probability, data structures

b. Interview Pattern :-
i. Only one round

c. Interview Questions :-
i. Project based, basically all those mentioned in the resume.
ii. Python scripting questions, if mentioned in resume.
iii. Discussion about projects and questions related to your area of interest
iv. Question on adding a continuous stream of numbers.(running total)

39. Factset

a. Resume shortlisting
b. Interview
i. NLP
ii. Logistics Regression
iii. SVM, CNN,
iv. Describe your projects
v. basic OOP questions
vi. basic questions of past experience, some projects, location clarification, working hours.

40. Convegenius

a. Test Pattern :- Test consists of 3 papers(first is 20 questions on aptitude, second is 20 technical mcq and third consists 3 programming ques and 1 ques was on sql query)

b. Test Questions :-
i. Programming ques :
1. In a binary tree, find the path from root node to leaf with path value equals to some given value.
2. Write a program for matrix multiplication.
3. Program to merge file in optimal cost.

c. Interview Pattern :-
i. Interview was based on algorithm on data structure.

d. Interview Questions :-

i. 3-4 ques on linked list, sorting algo (merge and quick), two pair sum in an array, heap tree construction, egg drop puzzle.

41. Elucidata

a. Selection Pattern :-

i. [Resume shortlisting + 3 Interviews]

b. Interview Pattern :-

i. Interview 1: HR round
ii. Interview 2: Technical round
iii. Interview 3: Technical round

c. Interview Questions :-

i. Interview 1

1. Introduce yourself
2. Resume based questions
3. Questions on projects done so far

ii. **Interview 2**

1. Asked to download a package based on genomics data in R, then extract the data files in it, uncompress in R, show data statistics
2. Given a program with exceptions and ask where the final exception will be thrown or handled and what will be the final output
3. Code of Producer/Consumer problem on pen-paper with handling of all corner cases

iii. Interview 3

1. Introduce yourself
2. Resume based questions
3. Questions on projects done so far
4. Code Producer Consumer Problem in java
5. Designing of database schema for an experiment (given on the spot) conducted for a drug discovery

42. Inbound Mantra

a. Application Form Questions

i. How digitally savvy are you from a Business perspective?
ii. Why would you like to join Inbound Mantra
iii. What has been your biggest accomplishment till date
iv. Have you managed and delivered on Projects
v. Are you a hungry learner
vi. Do you "Get Things Done"
vii. Are you a kick-ass Marketer
viii. 1 Suggestion for Inbound Mantra

b. Marketing Assignment Questions

i. How AI is impacting the Inbound Marketing

c. Interview

i. No interview taken

43. MapMyIndia

a. Test Pattern

i. No Test,,Direct Interviews

b. Test Questions

i. NA

c. CSE Technical Interview Questions

i. Asked about questions related to courses taken. One question asked was Suppose I have a collection of images of a scene/place. How would you detect change in it?

ii. What is Big Data?

iii. If I write postal addresses of places in a different way like IIIT-Delhi Okhla Phase-3, IIIT-Delhi Okhla Industrial Area Phase-3, IIITD Okhla Phase-III,etc. How would you group similar addresses?

iv. Asked questions from projects mentioned in CV

v. Pros and Cons of the computer languages written on your CV.

vi. Make an API which helps in correcting postal address of place.

d. **ECE Technical Interview Questions** :

i. Deep Discussion about your Projects.

ii. Walk me through your Resume?

e. HR Questions

i. Tell me about yourself

ii. Your Family Background

iii. Why do you want to join this company?

iv. Why should we hire you?

44. IBM GBS

a. Test

i. Number Series(18 questions,each 2.25 minutes)

ii. Aptitude(18 questions,each 2,25 minutes)

iii. English grammar, business letter writing(22 questions,20 minutes)

b. Interview : Pending

45. Acxiom Consulting

a. **Test Pattern** Psychometric

b. **Test Questions**

i. What is erp?

ii. Why do you want to join a company related to erp?

iii. At what position you want to retire?
iv. What do you want to do after retirement?
v. Who is your personal and professional role model?
vi. Details of a project , what you like and dislike while doing that project?
vii. What things you don't like in personal and professional life.
viii. What would your dream job be like?
ix. What kind of company you would like to work with?
x. What kind of company you would like to work with?
xi. How much time is needed for a fresher to learn things he is going to work on?

c. **Technical Interview Questions** : process pending
d. **HR Interview Questions** : process pending

46. Tata Power

a. Test Pattern and Questions

i. AMCAT test- Quant, english, verbal ability, technical-Electronics and semiconductors engineering
ii. Questions of simple counter, K-map.

b. Technical Interview Questions

i. Difference between multithreading ,multiprocessing
ii. RISC and CISC architecture
iii. What happens when Computer is just turned on
iv. What is thread ? Explain with example.
v. What is the ip address of your present laptop?-> Answer : Don't know. Its dynamically allocated using DHCP protocol.
vi. What is subnet ?? What's its use.
vii. Give an example of unlicensed spectrum band. Ans: Say the bandwidth of bluetooth/wifi with center frequency of operation.
viii. Given two pulses 1)one very narrow width and pointed and 2) wide width pulse. (Time axis->x axis and magnitude-> y axis). Which will take more bandwidth to transmit. Ans: "pointed narrow one" as more frequencies are required to construct that pulse,also give justification how??.

47. Microsemi

a. Test Pattern

i. Aptitude- level-above average
ii. Technical- basic c, verilog, VHDL, digital circuits questions(flipflops etc)

b. Test Questions

i. Correct way to define a constant pointer
ii. Output questions related to pointers, call by reference, call by value'
iii. Questions related to unix commands
iv. Given a MUX which has A input at 0 and B input at 1. And a select line, what will the assign statement?

1. Assign z = (sel == 1'b0)? A:B
2. Assign z = (sel == 1'b1)? B:A
3. Assign z= (sel!=1'b0) ? A:B
4. Assign z= (sel!=1'b1)? B:A

v. There was a question regarding stuck at 0 model. What should be the input pattern so that we can detect the fault

vi. X=4, Y=5, what would be the output of Z= X+++Y
1. x=5 y=5 Z=10
2. x=4 y=6 z=10
3. x=4 y=5 z=9
4. x=4 y=5 z=10

vii. A flower in a pond expands itself at a rate of 2. If is starts on day 1, and on day 20 it covers the whole pond, then how many days it will take to find exactly half of the pond
1. 19
2. 15
3. 9
4. 10

viii. If there are 66 handshakes in a party so the number of persons attended that party
1. 10
2. 12
3. 13
4. 14

ix. If there are 7 girls in a train . Each of them has 7 bag which has 7 big cats. Each big cat has 7 small cats. Total how many legs are there?
1. 9608
2. 9614
3. 10242
4. 9600

c. **Technical Interview Questions**
   i. Digital design ,projects , finite state machine
d. **HR Interview Questions**

48. <u>Amazon Web Service</u>

49. <u>Zillious</u>

50. <u>Vehant Technologies</u>

a. Test Pattern(First 3 sections in 30 min and last one in 1 hour)
   i. 4 output questions also to mention reasons
   ii. 4 aptitude questions

iii. 5 Reasoning questions with explanation
iv. 4 coding questions

b. Test Questions
    i. C++ output question with various constructor and destructor.
    ii. Recursion and looping output questions.
c. Technical Interview Questions
    i. Tell me about yourself
    ii. Details about the projects mentioned in resume.
    iii. Image processing techniques like edge detection, histogram matching.
    iv. Advance data structure like trie.
    v. Puzzle based coding questions.
    vi. In OS they asked producer consumer problem with variants of that.
d. HR Interview Questions
    i. Not asked

51. Qualcomm

a. General tip:
    i. Don't jump on solving the question see the options. Try to eliminate.
    ii. Almost every question has some simple trick to solve it. If you are taking longer than 15 sec to solve than most likely you are missing something.
    iii. Some questions are meant to consume time. Brush past the question. Solve easy one first. Don't fight with questions. Leave it and try to see all the questions in a section. Most people are not even able to see all the questions.
b. Test Pattern :-
c. CSE Test Questions
    i.
d. Electronics Test Questions
    i.
e. Communication Test Questions
    i. Basic questions related to butterworth, elliptic, notch, chebyshev filter. Like which is maximally flat filter, which is equiripple filter, given the response which type of filter it is.
    ii. Property based question on Eigenvector , eigenvalues, n square positive definite matrix question. Most can be solved by assuming the matrix as identity matrix.
    iii. Questions related to entropy and information rate.
    iv. Questions related to find the avg bit length of the encoded symbol generator source. Given the tree diagram of the encoding and probability.
    v. Huffman and other type of simple encoding scheme.

vi. Question related to matched filter in communication system (a must), Ans: the matched filter response will be the diagram which corresponds to H(T-tau).
vii. Question related to simply convolution property of random variable. For example: Let x be a RV with mean 1 and variance 4 and y be a RV with mean 2 and variance 6 than what will be the distribution of z=y-x. Ans:- mean =(2-1)=1 (mean gets added or subtracted according to the equation) and variance (2+6)=8 (variance always gets added)
viii. Let x and y be a uniform RV distributed from [-1,1]. What is the probability of max(y,x) greater than 0.5 . Ans:9/16.
ix. Question on identifying a linear phase filter given its response or its circuit diagram. Procedure:- Identify the step response then see whether the response is symmetric(even) or anti-symmetric(odd) around any point in the response. Also remember an IIR filter will never be linear phase.(Try to identify IIR filter in order to eliminate).
x. Property based question on z transform (a clear picture of ROC of different type of signal is enough)
xi. Knowledge of pole and zero plot of IIR and FIR filter in z domain is prefered.

f. C/C++ Test Questions(Common for all)
   i. Convert binary to decimal . Don't jump to solve it . Identify whether it is even or odd and eliminate the options.
   ii. Convert hexadecimal to octal.
   iii. A recursion question (surely come). Try to identify the pattern like in our case it was generating fibonacci series.
   iv. Basic concept related to friend function and static function/variable is must.
   v. Concept of increment and decrement operator.
   vi. Concept of pointer.
   vii. Output questions from gfg
g. CSE Technical Interview Questions
   i. Design tree from infix and postfix given
   ii. OOPs concepts
   iii. Code for doubly linked list.
   iv. Circular Queue
   v. Dijkstra Algorithm
h. ECE Technical Interview Questions
   i. Related to Communication
      1. Everything related to OFDM
      2. Notch filter
      3. What is frequency reuse.
      4. What is In phase and Quadrature phase signal.
      5. Why qpsk signal constellation is generally shown as having an offset of 45 degree from x axis. Any reason?

ii. Related to vlsi
    1. Simple question based on setup time
    2. A recursion based question in c++
    3. Question to reduce the delay due to a signal in combinational ckt. Use that signal as selector for Mux and decompose the rest of logic taking delay signal as 1 and then 0. Feed the output of these two logic into Mux.

i. HR Interview Questions
    i. Common questions

52. <u>Century Link</u>

a. Test
- i. English
- ii. Reasoning
- iii. Quantitative Aptitude
- iv. Table and Statistics

b. Technical Interview
- ***i.*** LIS psuedocode
- ***ii.*** fibonacci psuedocode
- ***iii.*** Measure 45 minutes using 2 candle Puzzle
- ***iv.*** The 3 and 5 litre Water Puzzle
- ***v.*** Related to calculating average speed. I do not remember exact question.
- ***vi.*** Types of sensors used in mobile phones, how many sensors you have worked on.
- ***vii.*** Questions related to projects in academics and internship. Technologies used in each project.
- ***viii.*** If any project is related to mobile or cloud computing they ask that project in detail and challenges faced.
- ***ix.*** Your resume should only include things you have complete knowledge about. They ask few things in detail to check your knowledge. Do not write anything you are not confident about.
- ***x.*** One question was related to what they already told in PPT. Listen to all technologies they are using in PPT.
- ***xi.*** What is big data? Explain using an example and What is MAP-REDUCE ,explain using an example?
- ***xii.*** What is SVM?Where we should use SVM?
- ***xiii.*** Give an example where we can use concepts of collaborative Filtering?
- ***xiv.*** Area under curve,Specificity,ROC curve

c. HR Interview
- **i.** Behaviour questions like how did you manage project with team size
- **ii.** How do you deal with failure.
- **iii.** How many interviews you faced earlier and why do you think you could not clear it.

iv. Tell me about yourself
v. Why do you want to join CenturyLink?
vi. What are your Hobbies?

Placement Questions 2015-16

1. ***Amazon***
    a. ***Written Test Coding Questions***:
        i. 1. Print the first non-repeating character in a given string (which is case sensitive, 'a' and 'A' are considered different.)
        ii. 2. Print all permutations of a string. Example: given string = AB Output: A,B,AB,BA
    b. ***Interview Questions***
        i. Return the diameter of a tree.
        ii. In a 2d matrix sorted by row and column output all the elements in sorted order.
        iii. In an array with elements that first increase and then decrease, return the maximum element.
        iv. You are given a list of songs. Generate a random playlist from the songs. You can play each song only once in an iteration. Later, optimise the code when there are a large number of songs.
        v. Given a tree, how will you transfer the tree to the other party so that (s)he can reproduce the exact tree. Given two traversals, construct the tree.
        vi. Given an m x n matrix filled with only zeroes and ones, you have to point out the location of square matrices filled with only ones.
        vii. Given a set of integral ranges on the number line, you will have to output the range after merging the overlapping ranges.

viii. Given two strings, x and y (x is large and y is small), find the smallest window (along with indices) of x that contains all the characters of y (if there is any repetition, frequency must be the same).
ix. Given a tree, print the nodes in zig-zag order.
x. Given a linked list representing a number, find the next largest number by rearranging the digits. For eg. Linked list = 1 2 3 then next largest will be 132.
xi. Program to check whether a given binary tree is complete or not.
xii. Program to find out path between two nodes of a binary tree.
xiii. Given an array with a pattern where next element is +1 or -1 of previous element for eg 3 2 1 0 1 2 1 0 1 2 3 4 , find the given element in the array.
xiv. Given a grid and source and destination, find the path.
xv. Given a two nodes, find LCA. Either parent pointer is given or root of tree is given.
xvi. Given a sequence of sorted numbers, group the consecutive numbers and print the ranges. Eg: input 1 2 4 5 6 9, output: [1 2] [4 6] [9 9]
xvii. Same Question as above but this time the size of array is large and the missing numbers in a given range are quite less. Solve in better than O(n)
xviii. Given n jobs in an array (sorted in descending order) and m (parallel) machines, using the longest job first algorithm, tell which job will go to which machine.
xix. Implement queue using 2 stacks. Constant time.
xx. Connect all the nodes on the same level of a tree. An extra pointer is given in the nodes.
xxi. Given an array of integers. You have to label, for every element a[i], which is the rightmost element(greatest index) to the left of it(i.e. index <i) that is greater than a[i]. If none are, label -1.
xxii. Given a maze represented as a matrix and a source cell, label all cells with their distance from the source.
xxiii. Given an array with both positive and negative elements, find the set of three elements (not necessarily continuous) whose sum is equal to a given number.
xxiv. You are given a binary tree. You have to send it across the network and reconstruct the tree. How will you transfer the tree? How will you reconstruct it on the other machine?
xxv. Adding two numbers. Numbers given in the form of linked list.
xxvi. Reverse alternate K nodes in a singly linked list.
xxvii. Reverse a linked list
xxviii. Treat each node of a linked list as a digit. Concatenate these digits and treat them as a number. Add two such lists and produce another one

xxix. Doubly linked list - make its binary tree using level order traversal

c. Adobe

d. http://www.geeksforgeeks.org/adobe-interview-experience-set-25-on-campus-for-mts-1/
Xerox interview Question:
e. 1. insertion sort 2. recurrence of fibonacci series 3. 3 ants and triangle problem 4. find two numbers in a BST whose sum is equal to N 5. quick sort 6. public key encryption 7. cache memory working, how and why 8. selection sort in linked list 9. prove complexity of selection sort 10. probability and statistics, cumulative distribution function 11. process scheduling 12. memory management in OS 13. OSI layer 14. give an example where Dijkstra algo will give wrong results 15. given N & an array of values (S1, S2..... Sm), print all combination of values from this
f. array that add upto N 16. print ith level of a tree 17. print all boundary nodes of a tree 18. set/hashset/map/hash map the implementation and use of these 19. difference between abstract classes and interface 20. what happen when url is entered in a browser 21. difference between spatial locality and temporal locality 22. how do say that your program is NP hard or NP complete 23. Drawback if we attach multiple caches of same size 24. limited vision robot traversing through a maze with blockage 25. ADA- NP hard (complexity) 26. Python - interpreted/complied 27. URL of a page, what happen in back ground 28. diamond problem in C++ 29. Distribution : probability and statistics 30. probability density and distribution 31. define a random variable 32. given a biggest URL, create a smaller one using it 33. NLP(natural language process) 34. 2nd round interview(they ask about your projects, about Xerox and some question about
g. Probability)

h. # Flipkart

i. # Online test question- Interview questions-

j. 1. Given a linked list where every node has two pointers: next &
down. You
k. need to flatten the linked list, i.e. make it a singly linked list. 2. A
stream of characters are coming in. At any point, you need to print the
l. first non-repeating character. This needs to be done in O(1). 3.
Describe external merge sorting. 4. Describe different types of sorting
algorithms, their best, worst and average complexities. Also describe
the different scenarios in which the specific algorithms should be
used. 5. Same as 2 but stream of strings rather than character. 6. You
are given even sized array of integers and an integer k. You have to
pair
m. up the elements of the array such that sum of each pair is divisible by
k. Each element can be pair with only one other element. If it is not
possible return false else return true 7. You are given a range [1, n]
and an array A. You have to remove elements
n. in A from range. Cost of removal of element is no of continous
elements to the left of A[i] + no of continous elements to the right of
A[i]. You have to minimize the overall cost. 8. All nodes at distance k
from a given node in a binary tree. 9. A stream of integers is coming
in. Tell top k elements at any time. 10. print sum of mirror image
nodes of a binary tree in-order. 11. print all paths from root to leaf
which is having sum equal to given sum 12. given an array of
characters, find the length of largest substring provided
o. that no character should be repeated in substring. 13.Given a binary
tree. each node has a switch and edge has a bulb. On
p. switching on a node, all bulbs on the edges linked to the node light up.
Give the minimum number of nodes needed to light all the edges.

q. 14.A stream of numbers is coming and k is given. At any point you need to find
r. out the top k numbers whose frequency is the maximum till now. 15. Given a stream of numbers, find the median of the numbers read till time t. 16.Given a binary search tree with nodes swapped. Locate the node and restore
s. the original BST. 17. Sort an array only having elements 0,1,2 eg 0,0,1,2,1,2,2,1,0,0,1,2

t. # Myntra Interview Questions

u. # Interns

v. 1. Given the array find the number of repetitions of all the numbers.(code) 2. Given a binary tree find the nodes that are at maximum depth. 3. No questions asked. Talked about projects. A little about concurrency,

w. databases, self. 4. Given a linked list of letters , remove all vowels. 5. Given a stack of letters , remove all vowels. 6. Create linked list from an array (code) 7. Add two numbers (with a million or so digits each). The numbers are given

x. as a string. Basically checking how to handle carry.(code) 8. Basic Discussion about self, linux (Booting, difference from windows),

y. networking (OSI Model, topologies, basic troubleshooting), What is Unix. 9. Print fibonacci series in the following format

z. S.no Fibonacci number 0 0 1 1 n fib(n) 10. Print a spiral of numbers from 1-16 FT

aa. 1. Given the array find the number of repetitions of all the numbers. 2. Given two linked lists representing the 2 numbers add the two and save the

bb. result in third linked list. 3. Given an array take each elements from an array and put it into a linked list

cc. then return the root node(coding). 4. Mention all the computer networks protocol. 5. Explain the OSI layers. 6. Difference between windows and linux. 7. different stages in the life cycle of an android activity

dd. 8. fibonacci using loops and recursion 9. database basics 10. reverse a character array 11.pascals triangle print 12.OS concepts 13. coding questions: stack implementation using linked lists and array;

ee. # Grey Orange Interview Questions

ff. # Firmware Profile

gg. 1. What is I2C? In which cases will you choose I2C and why? 2. If you're given a rotating disc and any sensor or components you want how will you determine the speed and direction or rotation? 3. If given a number pad of switches, let's say 9, and any microcontroller with infinite pins. How will you find out which button is pressed? 4. How is I2C better than SPI?

hh. # Hardware Profile

ii. 1. What is ADC? 2. Basic theory and equations behind LED? 3. Full Form of OpAmp? 4. What is sinking and sourcing? 5. How do you filter values coming from an accelerometer? 6. What is chebyshev filter? 7. What do you mean by ripple? 8. Basic Voltage Divider Circuit? 9. Represent a circuit in s-domain? 10. Is s-domain same as laplace? 11. Working of Force Sensitive Resistor? 12. Working of PWM? 13. Interfacing a device using PWM? 14. What is duty cycle? 15. How to read datasheet of an IC? 16. Basic OpAmp Circuits?

jj. 17. Implement a simple CPU using FSM? 18.
kk. How
ll. UART works? 19.
mm. Given
nn. there are two UART units that need to interface with each other. One unit has vcc = 3.3 other has 5v. How will you interface them? 20.
oo. Asked
pp. about the BTech projects and the past internships. 21.
qq. What
rr. is h bridge circuit? How is it operated? 22.
ss. How
tt. a DTMF works. Make a hardware circuit for that. 23.
uu. Make
vv. a hardware interface for GPS navigation system.

ww. # DirectI Interview Questions

xx. # <Software Development> Profile

yy. Online Round:

zz. 1. 0-1 Knapsack problem. Given N food items with C[i] as calories and P[i] as

aaa. the price, find the maximum number of calories you can gain in B rupees. 2. Balanced Parentheses problem. XML validation. Given a string containing

bbb. opening and closing xml tags, find if it's valid 3. Dynamic Programming problem. There are 2 staircases A and B, you can at

ccc. most jump K steps (i.e. move forward 1, 2, ... or K steps) to the same staircase. Penalty for going from A[i] to A[j] would be A[j]. You can also move to the other staircase with additional penalty P, i.e. penalty from A[i] to B[j] would be B[j] + P. All the penalties add up. Reach the top of any stairs from bottom of any stairs with least penalty.

ddd. Algo Round 1 There are N points in 2D space with x from 0 to R-1 and y from 0 to C-1. Each point has one of the colors - red, blue, or green. Find triangle with largest area such that all 3 vertices of the triangle have different colors and at least one of the 3 sides is parallel to either X-axis or Y-axis.

eee. Algo Round 2 There are N houses each having red or blue color. Each house has some magical number A[i]. A thief can enter from any house and exit from any house. (S)he initially has ₹1. INTERVIEW: You have 2 strings, anagrams of each other. Need to convert from string 2 to string 1, and the constraint is that you can shift any alphabet to the front only.

fff. Operations Profile

ggg. Coding Round

hhh. 1.) Write a script to emulate functions of crontab (user level process scheduling

iii. script in Linux). You are provided with a text file that's formatted in the following manner: <decimal value> <bash command>. Sample text file: 1. ps aux | grep -i init 2. df -TH 3. ls -al ... Here, the decimal value is the interval after which the corresponding command is supposed to run. Taking above case as an example, df -TH must execute after every 2 seconds, ls -al after every 3 seconds and so on. Your script should parse this text file and do the aforementioned task. Output the result(s) of the command(s) on standard output (terminal). 2.) Handle stalls/starvation of processes, ie, a process should execute according

jjj. to its schedule even if some other process has stalled. 3.) Real time changes: if the text file is changed while the script is running

kkk. (basically, if you add/remove commands, change intervals etc), the script should also change the schedule accordingly (output should change, obviously). 4.) explain scheduling types 5.) explain filesystem organization 6.) http handshake 7.) heartbleed attack 8.) mac protocols 9.) how does ARP work 10.) list a few DMA devices 11.) If your system is getting slow how would you go about debugging it and

lll. possibly fixing it

Applications Profile

1. Given a tree. Every edge has a weight. Need to go from root to leaf, such that all paths have the same total weight/ path from root to leaf have same weight. Only possible operations are to increase the weight of one edge. Tell the minimum increment. 2. Find number of uni-valued substrees in a tree. 3. You have been given ‘n’ ranges, n upto 10^6. Need to find number of unique integers in the ‘n’ ranges.

Sumologic

1) Regex based questions: Matching strings, etc. 2) Implement a time travel map 3) In place reversing of a string 4) Given a an array of characters, find out if it can be broken down into meaningful words 5) Questions based on minheap 6) Build a minheap. Complexity based questions. 7) Given a tree, change the node values such that the value = node value+sum of children (Will be done recursively) 8) Given a dictionary of strings, and an input string, can you divide the string in such a way that all the strings in dictionary are present in the obtained divided strings. 9) Implement a priority queue using heap data structure. 10)Store a tree in a file and reconstruct 11)Print top K elements from stream of numbers (optimise space & time) 12)Print the n’th number in a lucky sequence where a lucky sequence is defined as: any number that has only multiples of 2, 3 and 5 as factors.

Practo Interview Questions

1. Given 2 sets find the intersection of 2 and put the elements in 3rd set. 2. In the above question put the elements(intersecting ones) in the 3rd set same number of times as appearing in the combination of both sets.

a. a = {1, 2, 2, 3, 4} b. b = {1, 2}

yyy. c. c = {1, 1, 2, 2, 2} 3. Given a string s, find a substring of longest length which is also a pattern in the original

zzz. string. 4. SQL questions related to practo's database design. Like, Getting next five appointments

aaaa. for a patient based on a given recurring format from the current appointment date. Format can be: Once every week on the same date, or, number of days per week, or Once once a month on the same date, or, 1st day of the month, or, last day of the month.

bbbb. MAKE MY TRIP Questions

cccc. Interview:

dddd. 1. Asked for BTech Project 2. 25 horses, pick the top 5 and the constraint is you can race 5 at a time. 3. How can you design a flyover? What are the constraints to be handled in building a

eeee. flyover(in general)? 4. Java based: Collections, interfaces, OOPS concepts(Real world scenario), strings, JBM,

ffff. JRE, 5. Ball-Jar defective problem 6. Efficient Dynamic Data structure to store distance between cities 7. Producer Consumer threading problem 8. 2 ropes given, takes 60 minutes to burn a single rope, how to burn a rope in 45 minutes? 9. Red, blue cap people cannot see each other. Cannot see their own cap, but can see

gggg. other's. Need to stand in a row with red together followed by blue or vice-versa. 10. Random playback of songs, no repetition of a songs before all other songs are played. 11. 3 switches, 1 bulb in the room, can enter a room once and need to tell which switch is the

hhhh. bulb connected to? 12. Multiplication of 2 big numbers. 13. Reversing a linked list, 14. Check for a BST 15. You are blindfolded. There are 10 coins on a table. 5 of them have head facing up, the rest are tails. You need to create 2 piles of coins (5 each) such that both have equal number of heads facing up. 16. You are given 2 very large numbers (such that they cannot be accommodated in any

iiii. available data structure). You need to add these two numbers. 17. There is an array. Sort the numbers in O(N) complexity given that there is no boundation

jjjj. of space.

kkkk. 18. 10 jars, each having more than 10 balls and weight of each ball is 1g. 1 jar is defective

llll. and it has balls each of which weigh 0.9 gram. You are given a weighing machine which you can use only once, and need to tell which jar is defective. Balls can be added/removed from any jar. 19. Basket of 10 apples and there are 10 friends. Given an apple to each friend, and still you

mmmm. are left with one apple. How is it possible ? 20. 100 horses, select top 15 from them, with minimum number of races (don't use brute

nnnn. force)? 21. Code for Mergesort, but divide the array into 4 partitions. 22. Implement Priority Queue 23. Reverse linked list 24. 2d matrix of 0 and 1's. every row is sorted. find row with maximum 1's. 25. Edit distance problem: DP 26. Given an array of tower heights, 27. Given a BST, and a number, find pair of nodes whose sum is equal to that number. 28. 35 horses. 5 racetracks, top 5? 29. Mutex and Semaphore difference in application usage? 30. 9 balls, one is defective, and we have a weighing machine.Find the defective one in

oooo. minimum iterations. 31. 5l bucket, 3l bucket and endless supply of water. We want 4l of water. 32. Detect loop in a linked list. 33. 2 elements of a BST are swapped. correct them. 34. There are 3 bags. one with 2 white balls, one with 2 black balls,and one with 1 white and

pppp. 1 black. Randomly choose a bag, and draw a ball. ball is white. What is the probability that the next ball that i draw from the same bag is also white. 35. Using 1,9,9,6 exactly once, form 100 and 1000 using any number of operations. 36. Given two big numbers, write a function to add them. If you use linked lists to store those

qqqq. numbers, then consider the MSB to be at the head of linked list. 37. Implement a web crawler ensuring that same link is not visited twice 38. Storing data in a data warehouse based on user queries. Implement get and put functions

rrrr.in the most optimal way possible 39. Implement an algorithm to run 6 elevators simultaneously. 40. How do you implement a hashmap in java? 41. Difference between mutex and semaphore? 42. Difference between web server and application server? On a web server, you are getting client requests. How do you set a limit on number of requests that you get every second, minute, hour and day? 43. What are AVL trees, B+ trees? 44. External sort.

ssss. 45. Cloning linked list having one random and one next pointer. 46. Maintain multiple stacks using a single array.

tttt. Cube26 Questions: Interview:

uuuu. 1. Write a program to check whether a number is binary or not? 2. What are the different projects that you have done? 3. What are the courses you have taken? They can ask some questions about some terms

vvvv. and concepts of the subject. 4. What is an AVL Tree? 5. Convert a tree which is not AVL into AVL? Is it possible to do that? 6. Write SQL queries like "select person id's having total salaries more than 1lac if 1 person

wwww. can have more than 1 salaries"? 7. Which one is better merge sort or quick sort? What are there complexities? 8. Birthday Paradox question with some variations like how many persons are required in a room so that the probability of having two persons with same birthdays is greater than half? 9. Explain the heapsort algorithm? 10. Compare two telephone numbers optimally? 11. Give and explain O(n) sorting algorithms? 12. Given a string typed in QWERTY keyboard and a dictionary, output the closest word? 13. Best optimal way to store data of a tree? How to decode that data?(Huffman coding) 14. Puzzle about 25 horses and to find top 3 in minimum races? 15. Puzzle about 25 horses and to find top 4 in minimum races? 16. How to swap two values without using third variable? 17. Report all the single characters of a word? 18. Execute if and else of a condition? Tell a condition with which you can run both of them? 19. What is Red Black tree? 20. Explain the entire Android Life Cycle? 21. There is a loop in a linked list. How will you find out such a loop? How many nodes are

xxxx. there in the loop? What is the start node of the loop? 22. What is the best data structure for insert, delete, min and max finding? 23. What is Abstract keyword in java? 24. A string is given rotated about a point. Find if a given substring is part of original string? 25. How to find factorial of a very large number such as 1 million? 26. What are abstract data types?

yyyy. 27. Consider a closed room without any windows. It is raining outside. How will you get to

zzzz. know if it actually is raining outside?

aaaaa. **Informatica Questions Interview:**

bbbbb. 1. DFS traversal of tree 2. Auto pointer in C++ 3. String concatenation using char* without using extra memory 4. Topics related to computer security 5. Const pointers 6. Implement sizeof without using inbuilt function 7. Detect palindrome in linked list with loop 8. JDBC 9. Shortest path in a matrix with 0's and 1's 10. Scheduling algo: Reverse priority 11. What is Normalization, Example, write code for heapify 12. Given a set of tasks, each with their deadline, cost and a task time of 1, schedule jobs

ccccc. such that total cost is maximised and a job is never scheduled after its deadline.(It is not necessary to schedule all jobs). 13. Given a large database of numbers, what is the most efficient way to store top 100

ddddd. numbers ? 14. Minimum in a stack O(1) 15. Design an algo to normalize given relation database 16. Insertion in a BST using semaphore 17. Find the unique element in an array where except 1 element, all are repeated(any number

eeeee. of times). 18. Structure of locations, date, name, etc. Find frequency of locations.

fffff. Accolite Written Test Questions: 1. Given two strings str1 and str2, find the shortest string that has both str1 and str2 as subsequences. Examples: Input: str1 = "geek", str2 = "eke" Output: "geeke"

ggggg. Input: str1 = "AGGTAB", str2 = "GXTXAYB" Output: "AGXGTXAYB"

hhhhh. 2. Given an array of positive numbers, find the maximum sum of a subsequence with the constraint that no 2 numbers in the sequence should be adjacent in the array. So 3 2 7 10 should return 13 (sum of 3 and 10) or 3 2 5 10 7 should return 15 (sum of 3, 5 and 7).Answer the question in most efficient way.

iiiii. 3. there was a party.there was a log register in which entry and exit time of all the guests was logged.you have to tell the time at which there was maximum guest in the party. input will be the entry and exit time of all the n guests [1,4] [2,5] [9,12] [5,9] [5,12] the output will be t=5 as there was maximum 3 guest were there namly guest(starting from 1) 2,4 and 5.

jjjjj. **Interview Questions:**

kkkkk. 1 (i)Given a Rod of Length L. find the maximum profit by dividing Rod in sub pieces. Given Piece Length and corresponding profit.

lllll. Length Profit

mmmmm. 1 2

nnnnn. 2 3

ooooo. 3 5

ppppp. 4 7

qqqqq. (ii) find pieces which were used for getting maximum profit.

rrrrr. 2. Given a 2 dimensional array. in which row and column both are sorted in ascending order. search an item in it.

sssss. 3. Given two number in linked list.

ttttt. (i) 3 → 4 → 5 (ii) 4 → 5 → 8 → 9 Return third linked list which is sum of these two linked list. Also, same question was asked separately to compute list1 / list2 without using divide operator.

uuuuu. Answer :- 4 --> 9 --> 3 --> 4.

vvvvv. 4. Design a syntax parser. asked approach only.

wwwww. 5. Given Two Linked list which are intersecting at some point. Find that node.

xxxxx. eg:- 3 → 4 → 5 → 6 → 7 → 8

yyyyy. | 10 → 11 → 12 hi So node is 6.

zzzzz. 6. A Old Phone is given. 1(abc) 2(def) 3(ghi) 4(jkl) 5(mno) 6(pqr) 7(stu) 8(vwx) 9(yz#) And A dictionary is also given which consist of valid words. So when a number is pressed say 235. It should show all valid words which can form from corresponding letters.

aaaaaa. Note:- Its up to you how you build your dictionary.

bbbbbb. 7. A king have 1000 wine bottles. among them one bottle is having poisson. King have infinite number of slaves. That poisson is so much powerful such that even a single drop of it can kill in 6 hours. So king wants to find out as minimum as possible slaves such that he will come to know that which bottle is having poisson.

cccccc. 8. Given an array from 1 to n contains has one missing no. and one duplicate find the nos.?

dddddd. 9. Given an array print all those values whose square root is present in this array.

eeeeee. 10. An array contains 1's 2's and 3's only arrange them such that 1s are all in first part of array 2's are in next part and 3's in last part of array no extra space?

ffffff. 11. Implement queue using stack optimize.

gggggg. 12. Implement stack using queue.Also how do u keep track of minimum element in stack in constant time. Even after n number of pushes and pops.

hhhhhh. 13.. Given an equation x+5y+10z=480. Find x,y,z.

iiiiii. 14.. There are 270 players. How many matches should be conducted before we declare a winner.

jjjjjj.Digital Green: Interview

kkkkkk. : 1. Project and internship related 2. Company/website understanding. 3. Asked about all the projects in round 1 and the way they were done, libraries used etc. 4. Given a billions of data , say of past 10 years. How will you store it and retrieve top 20% lllllll.of it? 5. Asked for the better approaches of two of the questions that came in the written exam.

mmmmmm. # InfoEdge

nnnnnn. ## Interview:

oooooo. 1) reverse a linked list 2) probability question 3) your project and its architecture 4) find unique word in a very long string of words 5) find minimum length substring which will contain all the unique words in th string given 6) optimal path in graph 7) HashMap 8) ordered unordered tuple in python 9) serialization and deserialization of objects in python 10) insertion sort 11) selection sort 12) multiprocessing , multithreading 13) kernel 14) find union and intersection of two arrays 15) implement your own string compare function 16) two trees given, same or not 17) lcm of three numbers 18) Hello World 19) Significance of return 0 20) O(1) time. 21) Anagram Check 22) Subtree 23) URL to tiny URL 24) Check if a number is perfect square (optimal solution) 25) Given a stream of words separated by spaces find the word whose occurrence is median

pppppp. of occurrence of all the words in stream 26) Build backend of a search engine (how will you store database, how will you optimize

qqqqqq. search on very big database and how will handle different search cases) 27) Write Quicksort 28) Find GCD of three numbers 29) Find the maximum length of the palindrome in the given string. 30) You are given 3 values namely :

rrrrrr. i) Loan Amount ii) Interest Rate iii) Number of Months Find the monthly repayment amount (EMI). 31) Find the median value in an unsorted array (without using sorting). 32)

ssssss. EMC

tttttt. 1) local, global and static variable explain 2) call by reference and call by value 3) polymorphism, function overloading and operator overloading 4) threads 5) os structure 6) file system 7) linux stack

uuuuuu. TCS RESEARCH INTERVIEW QUESTIONS

vvvvvv. 1. Questions based on projects in Pattern Recognition- Naive Bayes, SVM, Neural

wwwwww. Networks. 2. Some questions on Probability and Statistics. 3. Data structures→ linked lists, DFS. 4. Linear Algebra. 5. Kalman Filter and Extended Kalman Filter. 6. What is rank, random variables, eigenvalues, null space, PCA, central limit theorem,

xxxxxx. Baye's theorem,PDF, CDF. 7. Optimisation, minimization of a function, 8. Machine learning→ neural networks, classifier-Linear and non linear, RBM's, K-nearest

yyyyyy. neighbour algo. 9. Projects

zzzzzz. SANDISK INTERVIEW QUESTIONS

aaaaaaa. 1. Write verilog code for mux, d flip flop 2. Draw module synthesized from given verilog code. 3. Static Characteristics of CMOS 4. Tripping point, impact of additional load on tripping point. 5. order of MOS transistor input, and impact on speed. 6. Level to pulse signal (Not pulse train)

bbbbbbb. 7. mosfet basics equations 8. feed back syatem properties 9. bjt basics 10. High Pass,Low pass filter current and voltage charecteristic 11. intutive analysis of any circuit for analog. 12. dominant pole, phase margin, gain-bw product concepts 13. threshold voltage physics concept 14. current mirror

ccccccc. KPMG

ddddddd. - Group discussion - (facebook boon/bane, importance of sports) - Resume based questions - Computer Networks - OSI layers - Computer security related questions - Trident

eeeeeee. - group discussion - Resume based questions - Details about any internship/project

fffffff. Zillious

ggggggg. 1. How to reverse a linked list. 2. To check a palindrome in a linked list 3. To clone a linked list. 4. puzzle - russian roulette 5. puzzle - ant and triangle 6. find greatest number formed from permuting the digits of a number 7. find pair of numbers from an array such that their sum is k 8. To check if an array is a palindrome or not 9. An array is circularly rotated n times. You are given the circularly roated array.

hhhhhhh. Find a given number 10.Puzzle - 10 bags containing balls . 9 bags have same weight and 1 bag has less

iiiiiii. weight. You have a single weighing machine and can weigh only once. Find the less weighted bag.

kkkkkkk.