

Interview-Corner Archive

Fiberlink (maas360) Interview Experience | Set 5 (Online Coding Question)

Question:

Ticket Scalpers:

Given an array of tickets held by n scalpers.

The cost of a ticket at the scalper is equal to the number of tickets at a scalper at that particular moment. i.e if a 1st Scalper has 4 tickets at present then the cost of a ticket will be \$4. After he sells that ticket he has 3 tickets, so the next ticket will cost \$3 and so on.

If N number of tickets scalpers are seated outside a hockey stadium what is the maximum amount they can earn for the first 'k' tickets sold:

Input: Given n (Number of scalpers), given an array which has number of tickets held by each ticket scalper, the value of k.

Output: the max amount that can be earned by them by selling k tickets.

Eg:

Input:

2

2

5

4

Output: 14

Solution: $5+4+3+2 = 14$

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Fiberlink

Fiberlink (maas360) Interview Experience | Set 4 (Off-Campus)

I got a call from consultancy asking me, whether they can process my profile for the position of Software Engineer with FiberLink. My profile got short-listed.

They asked me to appear for an on-line coding test.

Initial Round

On-line Coding Test

The test contains only one coding questions.

– Given a string, print all distinct palindromic sub-string .

Round 1

– what is singleton?

– write a class for singleton

use case of singleton

– Given an array which contains many elements including repeating numbers.

You have to print repeating numbers

– how do you traverse array

– do you have any questions for me

Round 2

– what is your role in current company

– Describe your project architectural overview

– Please go through projects mentioned in your resume properly, they will go into very depth of the project, and try to understand, what actually you have done in your work.

– What is exceptions?

– types of exceptions

– how do you release resources if exceptions does not occur.

– if forcefully system is set down, how do you release resources

I have given answer, by creating a clean up script which contains all resource releasing commands and whenever we require to release resources , we run the clean up script by checking the process id, whether its running in the system or not

– explain database

– In my resume I mentioned junit, so he asked me how do you test multi-threading using Junit

– Given a puzzle,

Given $10 \times 10 \times 10$ grid, which is built by using $1 \times 1 \times 1$ grid, if outer most boundary of $1 \times 1 \times 1$ is broken down, how many grid will be removed.

– Given a string like gggggaaaannnnnnwww

o/p:n7g4w4a3

write program which will take above input and gives the mentioned output

Please note that in the output 'g' and 'w' has same frequency number but have to print in alphabetical order.

why are you looking for change

Round 3

– Tell me something about yourself

– Tell me about your work and projects.Long discussions about the project.

– bridge and torch problem

– why are you looking for change

HR Round

– how comfortable are you relocating

– basic questions/HR questions

GeeksFoeGeeks is very good website to prepare for the interviews.

It helped me a lot during preparation.

Hope this will help you as well.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Fiberlink

Fiberlink (maas360) Interview | Set 3

I applied at Fiberlink thorough a referral.

Round 1 (Coding test): 1 question to solve at HackerRank with a time limit of 1 hour.

Q. Find all distinct palindromic sub-strings of a given string.

[GeeksforGeeks link](#)

Round 2: (Telephonic Interview)

– Basic data structures

– OOPS concepts, private constructors, virtual functions

– Given a stack, a version of a stack is the set current elements in the

Stack Values (top value first)	Operation	Version No.	Output of GetVersion(int)
Empty	–	0	
5	Push(5)	1	5
10,5	Push(10)	2	10,5
11,10,5	Push(11)	3	11,10,5
10,5	Pop	4	10,5
17,10,5	Push(17)	5	17,10,5

You have to implement a function GetVersion(int) , which prints out the whole stack for a particular version.

Need to optimize it to best possible solution.

– How to find intersection point of two linked lists in single traversals for both lists.

Round 3: (Telephonic Interview)

– Discussions on projects I have worked on in my current organization. They dig in really deep on to find out the level of work and understanding on the projects worked.

Round 4: (Skype Interview)

– Discussions on projects.

– Questions on inheritance and polymorphism, other OOPS related questions

– Allocating memory using calloc, malloc and realloc in C

– How are virtual functions implemented internally in C++ ?

– Given a stack, implement GetMax() which returns the maximum element in the stack

– Sort an array containing 0, 1 and 2 (Dutch National Flag problem)

– Find the element occurring more than n/2 times in an array

Round 5: (Skype Interview)

– Behavioral questions like Why do you want to change your job with less than 1 year of experience

– Discussions on projects.

– Given a string, find the longest substring having same characters.

E.g- **Input:** abgetsdffffasw
Output: fff

– Given a building with infinite number of floors. The number of rooms on each floor are 20,21,20,21.. and so on starting from the ground floor. The room number starts from 1 and keeps on increasing. Given a room number, find the floor on which room lies and the position of room from the left. Write a code for it.

– Other logical puzzles

After clearing the above rounds, they called me up to Fiberlink Office, Bangalore for some F2F rounds.

F2F Round 1 with manager:

– Project Discussions

– Architectural Discussions on projects and improvements/ drawbacks

– Core Java Questions

– Discussions on how are packages created in Java

– Questions on OOPS and design patterns

– Some SQL queries on inner and self joins with aggregation operators

– Questions on Areas of Interest, mine being networks asked about different networking concepts

F2F Round 2 with Tech Lead:

– Project Discussions

- Basic SQL queries
- Discussions on semaphores and monitors(to solve deadlock related problems)
- Logical Puzzles
- Count all possible paths from top left to bottom right of an MxN matrix [GeeksforGeeks link](#)
- Other average data structure codes

F2F Round 3 with Senior Tech Lead:

- Project Discussions
- Design a distributed system for a Content Delivery Network(CDN). Thorough discussions for this one
- Open ended puzzles to test the approach to solve a problem
- Mirror image of a tree [GeeksforGeeks link](#)
- Flattening a linked list [GeeksforGeeks link](#)
- Other discussions regarding the interests and domain I would like to work on.

F2F Round 4 HR:

1. Why you want to leave your current job/organization?
2. Current CTC, expected CTC.
3. How soon you can join?
4. What do you expect from this job.

After the HR interview, the HR told me that it has been very positive for me and that she has to do a formal discussion with all the interviewers for a final nod, and you can expect the offer structure by tomorrow (got the final offer letter after a week).

Overall, the experience was really nice. The interviewers were amazingly curious and helpful. They are open to other approaches and answers rather than the one they know. A lot of questions were on projects you have worked upon.

Some words for the GeeksforGeeks team:

Thanks to you guys for compiling up all the super awesome stuff out there at GeeksforGeeks.org. Even the app has been quite amazing. The recent update of the website to responsive design is splendid.

Keep up the good work.

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Interview Experiences
Fiberlink

Fiberlink (maas360) Interview | Set 2 (Written Test Question)

Write a function “runCustomerSimulation” that takes two inputs – an integer: total number of computers in a cafe and a string: a sequence of uppercase letters. Letters in the sequence occur in pairs. The first occurrence indicates the arrival of a customer; the second indicates the departure of that same customer. A customer will be serviced if there is an unoccupied computer. No letter will occur more than two times.

Customers who leave without using a computer always depart before customers who are currently using the computers. There are at most 20 computers per cafe.

Output:

For each set of input the function should output a number telling how many customers, if any walked away without using a computer. Return 0 if all the customers were able to use a computer.

runCustomerSimulation (2, “ABBAJKZKZ”) should return 0

runCustomerSimulation (3, “GACCBDBBAGEE”) should return 1

runCustomerSimulation (3, “GACCBGDDBAEE”) should return 0

runCustomerSimulation (1, “ABCBCA”) should return 2

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Interview Experiences
Fiberlink

Fiberlink (maas360) Interview | Set 1

I was shortlisted for fiberlink interview. Following was my experience.

1. **Online test**, one question, 60 mins. Given an array with marks for ‘n’ students. (The size of array will be ‘n’). Given the marks secured, you have to find out the rank of that student. Also note that array can have duplicate marks(means same marks can be obtained by multiple students). The program should be time and space optimized.

Ans : Completed in 30 mins. Used a heap to get rank 1 and so on.

Onsite:

Round 1: Given a building with infinite number of floors. The number of rooms on each floor are 10,5,10,5.. and so on starting from the ground floor. The room number starts from 1 and keeps on increasing. Given a room number, find the floor on which room lies and the position of room from the left.

Very simple.

Other questions from previous projects.

Round 2: Computer fundamentals, dll, multi-threading, How debuggers work, TCP/IP.

Prob: Given a binary tree. Given a leaf node, you have to convert the binary tree in such a way that the leaf node becomes the root node.

Round 3: (With director)

Why you left the previous job and all.

Prob1: Given a queue. Every time an insertion or deletion happens, a new version of the queue is created. At any time, you have to print any older version of the queue with minimal time and space complexity.

Prob2: Given a telephone keypad.

1 2 3

4 5 6

7 8 9

* 0 #

You can start from any number other than '0'. You can move to the next number the way a chess bishop moves. You can go back to the same number. Any number should not contain * or #. Generate all possible six digit numbers.

Round 4 HR:

1. Why you left your job?
2. Current CTC, expected CTC.
3. How soon you can join?
4. What do you expect from this job.

Final verdict:

Disqualified !!! Surprising for me. Because I didn't miss even a single question. Was able to solve all of them. The only thing I feel that went wrong was when I asked about company workload, oncall stuffs and all. They got an impression that higher workload was a concern for me which was not the case actually.

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Interview Experiences
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D E Shaw Interview Experience | Set 20 (For Q&A Profile)

Was called through a referral from a friend already working there.

Round 1 (Telephonic)

- Tell me about yourself
- Explain one of your projects
- questions on pointers and a long list was given comprising of binaries 0/1 in random order . The task was to achieve longest possible alternating sequence possible without using extra space. I gave a solution in quadratic time then optimized to linear.
- Question on stack, reversing a string without using for loop and reversing a stack without using auxiliary space.
- Included few more questions but don't remember them
- Interview went for 1 hour.

After 1 week I was given a call and asked to come down to their office for interviewing.

I reached at 12 and had about 5 rounds of an hour each

Round 2(on-site)

- Tell about yourself
- had some discussion on projects i had done through out bachelors and masters
- was given a list of numbers had to find the number which occurs twice in the list
- One scenario in which a reporting of alarm happens each time the memory occupied by a process crosses some mark, had to minimize the number of alarms reported as it would not be feasible alarming the user each time the memory was above threshold(using patterns).
- given a number of digits finding the next possible maximum number using those digits

Round 3

- Tell about yourself
- Jumped to questions had to find the number which occurred only once(others occurred twice and consecutively) in a given list of numbers ,did it in linear tried for sub linear solution finding a solution.

Some use cases for testing scenario

Given a complex database make testing scenarios so as to ascertain the durability of the database.(had to deal with finding possible shortcomings in the system)

Round 4

- Tell about yourself
- Implement Stacks using single queue

- Given a string, find number of strings using 'n' distinct alphabets eg. given aabb and n=2, answer=aab, abb, ab and aabb
- Some more questions on string permutation and combination
- Asked oops concepts and compare java with c++
- Asked a few questions on Unix scripting

Round 5

- Tell about yourself
- given a list of size n find should have numbers from 1-n, but a number occurs twice and other number doesn't occur. Find both the numbers in linear time.
- A leaf grows twice the size it is yesterday.how many days would it cover half the pond, given the number of days in which it covers the whole pond.
- A few more questions in do not remember
- I was comfortable in Java so asked concepts of java here and there and other oops concepts

Round 6 HR (Finally 7:00 pm)

- was given a task to make a placement portal what technologies would you use I answered it using html, css and php etc
- Asked to estimate the number of people playing football in india on guess
- and was asked to do the same on estimate
- horses and races puzzle, I told I had already seen the problem so the hr twisted the problem here and there.
- about yourself, strength and weaknesses
- Some personal questions
- About the role and few details of the company.

All in all the interviewers were quite knowledgeable and kept on hinting a bit as and when i used to get stuck and asked for any questions I had about(Interview, company etc). Overall it was exhausting but good experience.

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Interview Experiences
D-E-Shaw

D E Shaw Interview Experience | Set 19 (Off-Campus)

1st Round (Hackerrank Code Pair)

- Majority Element
- Return 10 elements at any point
- Static Polymorphism vs Dynamic Polymorphism
- Diff between list and tuple in python

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Interview Experiences
D-E-Shaw

D E Shaw Interview Experience | Set 18 (On-Campus)

ROUND 1:

About 250 students having (8 or 8.5 cgpa) cutoff were shortlisted for an online test in Hackerrank. It consisted of 3 sections-

Section 1: One programming question, which was quite simple, many test cases were based on end cases. (20 minutes)

Section 2: General aptitude, 10 questions which was difficult for most of us. I could get two correct. It was +2 and -0.5 for each question, questions were really long, related to probability and took a long time to solve. Though I wasn't sure about few other questions I'd marked 4 more and got only 2 marks in that entire section.(20 min)

Section 3: Technical Aptitude, 5 questions related to networking, os, unix. It was easy if your basics were strong.

After round one, 17 students were shortlisted for interview. It started the next day from 9:30.

ROUND 2:

INTERVIEW 1:

This round was technical, the interviewers were really cool and made me comfortable by asking what I thought about the marking scheme and DE Shaw. My resume was only one page and they were impressed by it (I'd specified only 3 of my main projects and had given one or two line description regarding each project).

They asked me to tell me about myself and my project, so I started explaining, and it went on for 30 min, with their questions. Next they started asking many questions related to networking, os, input-output and cao. They asked some general questions about BIOS, CMOS, file systems etc. It was more like a discussion and went smoothly, they mainly saw how much work you'd done in your project and how much did you know.

INTERVIEW 2:

This was HR round, people really chilled in this round too, they asked where am I from. What's my favorite food, hobbies etc. They later asked to tell something more and interesting. This went on for 30 minutes.

After the two rounds 3 moved on to the third and final technical round.

INTERVIEW 3:

They asked if I was tired. Now since the first round was on my project, they asked my language of preference, it was java. A lot of questions on core java topics. They had given few scenarios to which I'd to construct a class. Since I didn't know the exact answers for few scenarios, I told them my approach about how I thought it could be solved. They asked few programming question, and asked me to improve the complexity and do it in other ways. Puzzles were also asked. Since I didn't have any database background, they didn't ask any questions on that.

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Interview Experiences
D-E-Shaw

D E Shaw Interview Experience | Set 17 (On-Campus)

Round 1

Online test on HackerRank contains 3 sections

Section 1: 2 Coding Questions (20 & 40 Marks) in 50 minutes

Section 2: 10 Computer Aptitude (Easy) (C, C++, OS, DBMS, CN, DSA) (20 Marks, +2, -0.5) in 20 minutes

Section 3: 10 Aptitude Questions (Hard) (20 Marks, +2, -0.5) in 20 minutes

Coding Questions –

1. Given an array of numbers, find number of pairs of $h[i] > h[j] > h[k]$ such that $i < j < k$.
2. Given an array of numbers, find the maximum and minimum sum of sub sequences at a distance $> m$

Example –

arr = {3, 4, -2, 1, -2, 4, 6, -3, 5} & m = 2

Solution – max = 13 {4 + 4 + 5}, min = -5 {-2-3}

Round 2

Face to Face HR Round (25 minutes)

1. Tell me about yourself.
2. Biggest achievement of your life?
3. How your friends think of you?
4. Rank – money, power, love & fame according to your preference and explain why?
5. If you're best friend is in your team and he is not working seriously on the project assigned to your team then what would you do?
6. What if that project is failed now, who will you held responsible?

Face to Face Technical Round (20 minutes)

1. Explain Trie Data structure used in your project with code?
2. Why you have use map as nodes in trie data structure?
3. You have given a BST, find the elements in the tree under a given range?
4. You have given a 100 MB memory and a 150 MB file of strings, how will you sort the strings.
5. You have given a table containing employee id, employee name, manager id, manager name. Write a SQL Query to print all employees of all the managers. (Transitive relation possible)

Out of 15 only 2 are selected in next round.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw

D E Shaw Interview Experience | Set 16 (On-Campus for Internship)

First shortlisted based on CGPA ≥ 7.5 and ONLY CSE student allowed to sit in interview. They(D E Shaw) had 2 phases of selection procedure.

FIRST PHASE :

This phase has 2 interview one is technical interview and HR interview.

TECHNICAL INTERVIEW :

First they asked to me introduced myself and they asked my interest. I told them about me and mentioned my interest areas as Data Structure And Algorithm. Then they start discussion about DSA.

Q 1). Implement Stack using two Queue .

(Hints : <http://www.geeksforgeeks.org/implement-stack-using-queue/>)

Q 2).Implement Queue using two Stack.

(Hints : <http://www.geeksforgeeks.org/queue-using-stacks/>)

Both questions are quite easy BUT you should know thoroughly how to implement and what action should we take on particular query and working code too.

Then they asked me to write code for both problem and analyze Time complexity of each operation.

(Advice : read this Book Data Structures and Algorithms Made Easy – Narasimha Karumanchi to understand thoroughly to basics of Data structure...)

After this, they asked my project(OS Based) and asked to me following Question :

- 1). What you have done in your project which is not present before?
 - 2). How it can affect to real world application?
 - 3). What difficulties you faced in your project?
 - 4). How you can implement to Real Time OS?
-lot more other stuff about it.

And asked lot more Question about OS.

(Advice : Don't mention project in which your contribution is very less or don't know fully about that project. They don't expect lot of project from interns BUT they want to know how much effort you put in your project and how well know you your project...Be ready with all stuffs.....)

Then again , They asked a very good question Algorithmic Based(step by step, they increased difficulty level).

They said..

You have a array size with some integer. You have to return sum of Lth index to Rth index of array element(inclusive).

I just write a function which will run within given range and return sum.

Time Complexity of Each Query : O(R-L)

They asked me to optimize to further with this solution....as they are not happy with my solution.

After a while I came up a solution using one more array say cumm_Array in which I will store sum of all element 1st to ith indexed element at cumm_Array[i]. For each Query I will return (cumm_Array[R]-cumm_Array[L-1]).

I can not stop me to write code because I love coding.....

Here is code :

```
//here all array is 1-Based indexed

int cumm_Array[size+1];
void cumm_Sum(int arr[],int size){

    int cumm_Array[0]=0;

    for (int i=1;i<=size;i++)
        cumm_Array[i]=arr[i]+cumm_Array[i-1];
}

int Query(int L,int R){

    return (cumm_Array[R]-cumm_Array[L-1]);
}
```

Time Complexity Each Query : O(1)

Over All Time Complexity : O(N*1)

Now they said me ...you have to perform two query.

Query 1). Update ith element to given value say x

Query 2). Calculate sum of given range

Now question become difficult.

(Hints : This can be done using Binary Indexed Tree or Segment Tree..don't worry if you don't know..

here is my code..

Segment Tree Implementation..

Binary Indexed Tree Implementation..

https://github.com/rameshchandrasira/My-CODE/blob/master/Sum_Of_Given_Range_Using_Bit.cpp)

Now Time complexity for Query 1 : O(logN)

Time complexity for Query 2 : O(logN)

Now they asked me write Psuedo code for this...i have done this...After this I saw faces of them..They are looking impressed because they are not expecting me that things..because for solving first 2-question I took 10-15 minutes to each.

HR INTERVIEW

In this phase, they asked about ourself, some regular HR questions. After this, they asked some puzzles and lot more stuff which only about our general awareness.

Advice: Be cool and attentive.

SECOND PHASE :

TECHNICAL INTERVIEW

First they said to me, "Now you are in 2nd phase ". They asked me about 1st phase interview experience.

After that, they asked first question based on real problem which require data structure concepts.

Q 1). Suppose you have to store buyer_id, buying_time, dept, buyer_contact_info. Design a data structure to store this information.

Now they added some more stuff to question to make it hard. They said, "You have to find a buyer who spent maximum money for shopping in each half an hour interval in each dept". Again they asked to find a buyer who spent maximum money from previously selected buyer's list.

Later they asked me to announce winner provided some more constraints. This question was very heavy in whole interview process.

They asked me to write code(not psuedo code) for this problem quickly and analyze time complexity and space complexity.

Q 2). Design a DFA for binary input(0's and 1's string) whose decimal value is multiple of 5.

Solution: look at following link...

<http://stackoverflow.com/questions/21897554/design-dfa-accepting-binary-strings-divisible-by-a-number-n>

Q 3). You have two number say A and B . You have a given range say [L,R] set all bits in B in given range who all bits ae set in A in that range.(didn't got, Sometimes They mention things which seems to very ambiguous,They want to how you tackle these kind problem...If you ever face these kind of situation...Please ask for more clarification..)

I didn't got question at all. They laughed at me.....lol..I also feel very sad. At last what happened to me.

Then they clarify like this...

You have to set all bits in Binary Representation of B who are set in A between given Lth position to Rth Position in Binary Representation of A.

Then I demonstrated an example to them...(If you also didn't get see example) ..

A = 10(1010)

B = 13(1101)

[L,R] = [2,3]

bit position 1 .2 ,3 .4
A 1 0 1 0
B 1 1 0 1

Here you can see between range [2,3] , A have 2nd Position bit is unset which set in 2nd Position in B and 3rd position bit of A will be uneffected. You should set only 2nd bit of A

Final ans : A = 14(1110)

NOTE : don't unset bits in A who already are set and don't perform any operation out of range.

Solution:

first solution I gave them, just convert A and B in binary and do required operation as mentioned in question and get back decimal value from ans.

Then they asked me optimize further with saying that computer store every information in binary.

I was just thinking that this question can be done by simple XOR-ing as I had already solved some problem on bits.

After a while, I came up with a solution of constant time complexity.

I design a bit-mask having all 1's in given range and AND with B, finally OR with A;

Choosing such bit-mask programmatically is not so tough, so left to reader.

BEST OF LUCK

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Internship
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D-E-Shaw
Internship

D E Shaw Interview Experience | Set 15 (On-Campus)

Round 1: Written (pen & paper) :

Paper 1 : 20 Ques on Aptitude, hard to crack in time constraint (20 mints) – DIFFICULT to MODERATE

Paper 2 : 20 Ques on Programming Language (C,C++,Java) and on core CS (OS, DBMS, CN, DSA) (20 mints) – MODERATE to EASY

No coding round.

One should focus on number of correct ques rather than increasing overall attempt,

Shortlisted 14 students out of 100.

Round 2: F2F Technical (45 mints) :

Started by asking how was the test ? How was your day today ?

Made me comfortable .

1. Given an array consisting of both positive as well as negative numbers, find the max sum contiguous sub array.
2. Stream of numbers is coming , at any point you need to return the top 20 elements from the elements received so far. Which data structure will you choose?
3. Implement Queue using Stacks.
4. Discussion on applications of various data structures.
5. Design problem using OOP
6. Discussion on steps for executing source code.

Round 3: F2F HR (30 mints) :

1. Meaning of your name ?
2. Gave topic on which I need to write for 5 mints.
3. Asked me about my scholastic achievements.
4. What happens when you enter URL?
5. Guesstimate
6. Difference between scripting and programming language ?
7. What makes Linux different from Windows.

Round 4: F2F HR (30 mints) :

1. Do you know this pointer, when to use virtual functions, what are constant functions.
2. What are Lattices in reference to C++.
3. Which all languages you know ?
4. Discussion on DBMS concepts
5. Which is your dream company?
6. Ques on general awareness.

Round 5: F2F Technical (45 mints) :

Ice breaker followed by these questions-

1. Standard Puzzles
2. Given some order of digits in a string, return a number which is just bigger than the present number in the string using same digits.
Asked to calculate the time complexity and to further optimize it.
3. Given a matrix with entries 0 and X, change X's to 0 if you find X cluster surrounded by 0's from all sides, return the updated matrix.
4. Discussion on different DS and sorting algorithms.
5. Asked to write SQL query for given situation.
6. Design problem
7. Fundamental questions on CN.

I thanks GeeksforGeeks team for providing wonderful platform to enhance one's skill set.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw

D E Shaw Interview Experience | Set 14 (On-Campus)

Ist round consisted of 3 sections->

Aptitude(30 mins)---> WAS A TOUGH NUT TO CRACK GIVEN THE TIME CONSTRAINTS.

Technical Aptitude(30 mins)

one coding question(20 mins).

12 were shortlisted for the next round.

1st round(F2F Technical):

Tell me something about yourself.

A lengthy discussion on my summer project(and some questionnaire on that)

What is virtual memory and real memory in Windows OS?

Proc file-system in Linux.

Why do we use & in scanf and not in printf?

Some queries in SQL like Find top n rankers in the class of students.

What is normalization? why required? Normal forms with examples?

Deletion,insertion and detect loop in a linked list?

Function overloading concepts?

TCP/IP stack with functionality of each layer.

2nd round(F2F HR):

Tell me something about yourself.

Was asked to write a paragraph on a given topic.

Where do you want to see yourself after 5 yrs.

Why DE Shaw?

What is your vision?

Some commonplace puzzles.

After this round 3 were shortlisted for the final round.

Final round(F2F technical):

Tell me something about yourself?

A coding problem similar to sum tree.

Implement Set class in C++.

What are different protocols you are aware of?

What are DNS,DHCP,etc.?

Is DNS a protocol or a service?

Finally they selected 2 out of 3 and I was the one not selected.

Tips –

Only Hard work and Practice helps. Please be thorough with the OS, DBMS, N/W.

Luck plays its role too on interview day

?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw

D E Shaw Interview Experience | Set 13 (On-Campus)

1st Round (On Paper)

(+ 4 mark for each correct and - 1 for wrong ans)

Section 1 – Logical Aptitude 20 questions for 20 minutes

Section 2 – Technical 20 questions for 20 minutes (C, C++, Java O/P questions, OS, Networking etc.)

Section 3 – One Coding Question for 20 minutes

It was a Dynamic Programming problem. We were given a 2-D matrix of size $[n \times m]$ having time to cross each block and some blocks were containing 'X' denoting a bomb. We had to find minimum time of reaching to $[n-1, m-1]$ from $[0, 0]$ without passing through any bomb.

16 students were selected for interview rounds.

2nd Round (HR interview) [20-25 mins]

1. Tell me something about yourself.
2. Feedback about written round paper.
3. Your ambition in life.
4. He asked me to solve 2 aptitude questions from written round and matched the answers from my answer sheet.
5. Why you want to join DE Shaw ?

3rd Round (Technical interview-1) [35-40 mins]

1. My written round code was not 100% correct So, he asked me to find the error in my code and then asked to write the correct code.

2. Given a 2-D matrix of 0,1 in such a way that each row has 1's in beginning and then all 0's.

```
1 1 1 1 0 0 0  
1 1 0 0 0 0 0  
1 1 1 1 1 0 0  
1 1 1 0 0 0 0
```

He asked me to write a code to find the row with maximum number of 1's.

3. Difference b/w TCP and UDP. Where is UDP used ?
 4. Which is Layer-2 in OSI Model and its functionality.
 5. What is the functioning of Switch.
 6. Difference b/w port and socket.
 7. Basics of Socket Programming.
 8. Difference b/w process and thread. He gave a scenario and asked what to use process or thread in that scenario.
 9. Congestion Control in TCP.
 10. Puzzle – 2 player game, each one can choose any value between 1-10. Value of each turn of both players will be summed. When sum reaches 50 that player wins. He asked me to make a strategy for player A to win.
 11. Difference between const int *p and int const *p.
- 8 students were selected for final round of interview.

4th Round (Technical interview – 2) [1 hour]

1. It was 3 AM in night , he asked how tiring was your 15 hrs long interview process.
 2. Given a table having [EmployeeId , EmpName , ManagerId] , he asked to write a SQL query to print name of each employee with his manager's name.
 3. What is a trigger? Why is it used?
 4. Can a trigger be written for select query?
 5. What is a cursor?
 6. Difference b/w SQL and PL/SQL.
 7. What is a view? Insertion and deletion in a view.
 8. Why is indexing done in DBMS? Types of indexing.
 9. There is an infinite stream of blocks. A random block in b/w is a ditch. A kangaroo is sitting in any block. Kangaroo will jump N times in total , ith jump will be of either 1 blocks or 0 blocks.
- What will be the maximum distance kangaroo can cover from starting point.
10. Program to reverse a singly linked list by recursion.
 11. A 2-D matrix of 0,1 is given. 0's denote water and 1's denote land.

```
0 0 0 0 0 0 0 0  
0 0 1 0 0 0 1 0  
0 1 1 0 0 0 1 0  
0 0 0 0 1 0 1 0  
0 0 0 0 0 0 0 0 0
```

Write a code to count Number of islands. Islands can be of any random shape. Any two adjacent 1's (in any of 8 directions) are part of same island.

12. He asked my ranks on Codechef , Codeforces , Spoj etc.

GeeksforGeeks helped me a lot in my placement session. Practice all GeeksQuiz questions and read all interview experiences on geeks at least once.

All the Best!!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw

D E Shaw Interview Experience | Set 12 (On-Campus)

D.E Shaw & Arcesium (A post trade technical platform)

1st Round (all question for 1 mark each and .25 negative)

section 1 20 Maths aptitude (Hard ones time limit 20 mins)

section 2 20 Programming aptitude (average, time limit 20 mins) (C , C++ , Java)

section 3 One Coding Question. (time limit 20 mins)

It was a simple question. We have given an array containing the location of n magnets placed in a horizontal line. we needed to locate points where net magnetic field strength is zero.

They shortlisted 14 people out of about 125

Round 1 HR

1. Tell me about yourself Hrishikesh.

2. How was the written test ?

3. Have you attended any interview previously? why did they reject you?

4. Do you guess the answer? why?

5. What is your greatest achievement?

6. What do you like the most?

7. What is arcesium ?

8. What do you like about the company?

9. What are your interests?

Round 2 (Technical-I)

There were 2 interviewers, and it had a time limit of 45 mins but they did interviewing me for more than 2 hours. Questions were from all subjects of computer science.

1. They discussed the coding question I had in written test. They asked me to suggest better approach. I suggested one, They asked me to use binary search, then I said it wont improve the efficiency.

2. We have given a link-list containing loop. Find head of loop (I said I know it) .

3. Detailed discussion on poly-way merge sort. How it improves running time for large files.

4. Find exact sum of all the elements in an array in less than O(n). I suggested multithreading approach. (They asked me to write code) .

5. Extension to above question do it using multiple process. What are differences in threads and process?

6. What is hash map? What is the difference between hash map and map? how does STL in c++ implements both?

7. detailed discussion on all the steps of compiler till execution of a program.

8. How will you get output of lexical analyser in gcc?

9. What is lex and yacc ? How Yacc has been implemented?

10. Difference between LL parsing and LR parsing.

11. What is linking, loading and binding ?

12. What is selection and projection in DBMS?

13. Implement selection and projection operation for a file (record wise formated) using just one unix command. (I said cat filename | grep "/[^"]+|[^.]+/" | less)for specified file format.(They liked my approach and got impressed by this)

14. How does pipe(|) works that you used in last answer. How will u implement it in unix?

15. Design your own command shell in unix. That should work for all commands in the system.

16. Implement Google spell-corrector. What data structure will you use and how will it work?

(I suggested first trie but later on made it more efficient by using suffix array data structure. They asked me to implement all operation of suffix array).(They liked my approach).

Out of 14 candidates 4 got selected for the next round. I was lucky enough to be 1 among them

Round 3 (Technical II)

1. Find the distance between two nodes in a bst.

2. Do the problem for a binary tree.

3. What is view in DBMS? How does it help in security. Can we allow a user to have access of a particular tuple instead of column? How?

4. What are Hubs, Router, and switch ? Differences.

5. how does transport layer implements tcp connection?

6. why is checksum field redundant in all the network layer headers?

7. How many class A type ip addresses are possible?

8. Describe What happens when you type a url in address bar of a browser until you get back your requested page.

9. what is trigger? How it works?

10. Can we make multiple databases in Oracle? Why?

11. write SQL query for finding a buyer details that has made maximum expense including all the transaction between given dates (there were 3 relations Buyers, Transactions and Items) ?

12. generalize the above query for finding 2nd ,3rd and nth of the buyer. (I used advanced sql features).

13. how does c++ implements virtual functions?
14. What are 4 features of an OOP design? Describe all of them .(inheritance, encapsulation, polymorphism and abstraction).
15. Can a virus corrupt a Linux machine? What is a virus? Design a virus.
16. Design a virus that can corrupt a network.

Below question are resume project specific

17. Why didnt you get selected for GSOC 2014 ? What the project and organization were all about.
18. How does your filesystem driver work?
19. How does linux provide OOP features in C language.
20. What problems did u face in compiling Linux kernel and gcc. (cross compilation of gcc). How did you overcome them?
21. How did u implement Read/write/open file operation without using system calls .

Although I have forgotten few questions, I've tried my best to recall them and include them here.

Round 4 HR

1. What do u like to do apart from coding?
2. Have you ever worked in a team?
3. Do you study alone or in a group?
4. What is your first step if you have got stuck somewhere?
5. Do you ask your friend for help?
6. Do you like to help your friend in study?
7. Will you like to share problems you facing in your project with your manager?
8. What if everything u doing and appreciation for that goes to your teammate?

This site helped me a ton and I hope this article will be helpful for others !

All the Best

Thanks geeks

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw

D E Shaw Interview Experience | Set 11 (On-Campus)

D.E Shaw & Arcesium (A spin-off from D.E Shaw which happened very recently) came to our college for recruitment.

So here is my experience .

Written Round :

- 20 Maths aptitude (Hard ones)
20 Programming aptitude (C , C++ , Java)-Many (OS , Networks, DBMS)-Few
One Coding Question .

The results were announced and 15 people were shortlisted.

Round 1 : (HR)

They saw my photography blog, and asked me a few questions regarding it first.

1. What qualities in you made you a photographer ?
2. What challenges do you think Arcesium would face ?
3. Tell me about one thing you would like to change about your life.
4. What would you do if u do all the work and someone else gets the appreciation in your team?
5. Why do u want to be a part of our company?
6. What do u know about Arceisum ?
7. What is your greatest achievement ?
8. How did u perform your Written Round ?

Round 2: (Technical – I)

This was very interesting as i was the last person to attend and it was already 10:30pm 😊

The interviewer was so kind to come out and apologize for the delay . I told him that it was a pleasure waiting for this opportunity and he took me in.

There were two people conducting the rounds in D.E.Shaw.

1. He asked me regarding my project on Hadoop.
2. What happens if a NameNode sends a heartbeat once in ten minutes?
3. Describe HDFS.
4. Describe Replication in Hadoop.
(Guys these questions were asked only because i did a project on hadoop)
5. You are given a table of 99 rows and 1 column, containing numbers from 1-100 where one number is missing. Find the missing number using an SQL Query. (NOT PL/SQL)
6. Write a query to find the distinct elements from a Table.
7. There is table where only one row is fully repeated. Write a Query to find the Repeated row.
8. What is Two – Phase Commit protocol ?
9. Explain about Super block and Boot Block in UNIX.
10. If u r given a chance to modify something in UNIX, which one would u choose.
11. What does an Inode Contain?
12. You are given an array for size N. With all numbers of values less than N. Find the Duplicate elements.
13. You are given an Integer where only one Bit is set, Identify that Bit in O(1).

14. You are given two binary trees, check if they both are Mirrors of each other.
15. Find the Height of a given binary tree.
16. Scheduling in UNIX
17. What would happen if there is an infinite loop running that creates and deletes files in UNIX? (I was thinking for few seconds , when he smiled and said, sounds Interesting right ! Don't forget to give it a try ! I said "Sure ☺")
18. Cursors in DBMS.
19. B tree, B+ Trees.
20. OOPS Concepts (Inheritance, Abstract Classes, Diamond Problem etc.)

This interview was so much fun as the panel members were so friendly !

Next day, final Round.

Round 3: (Technical II)

1. Questions about prev Rounds.
2. Find the Largest Contiguous Sum in An Array of both negative and positive Integers. He needed a O(n) Solution only.
3. Questions about RB-Trees, AVL Trees.
4. U have to list Recently Five viewed Photos from your Blog . Which Data structure would u use ?

Guys – the Above question went on for half hour !

I had to Provide all different data structures and he insisted on improving it further.

Finally he was convinced with a Unbounded buffer having a sliding window of size 5 along with a Max Heap. He also wanted to view Pictures based on their Unique ID and their Time-stamp Values .

Finally, Two people were Selected and I was Wait-listed (Meaning, they would call me in future if they have requirements as they wanted to hire only two now)

I Thank GeeksForGeeks and everyone who has posted wonderful Articles that helped me learn a lot. I Got placed in PayPal the next day ! This was a wonderful interview experience for me as it was both fun and challenging !

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw

D E Shaw Interview Experience | Set 10 (Off-Campus)

I received a call from a consultancy, informing me that there are vacancies in D E Shaw for freshers. So they take my resume from naukri.com and send it to DE Shaw. Within 10 minutes, i got another call from D E Shaw recruiter. She scheduled my telephonic interview on the next day.

Telephonic Round : (1 hour)

1. Tell me about yourself.
2. Discussion about projects. They asked me what technology i used and which classes i created in my project.
3. Difference bw C and C++.
4. OOPs principles with examples , function overloading , function overriding , types of polymorphism, templates
5. Virtual functions and how they work (vtable and vptr concept)
6. Exception handling in C++
7. difference bw C++ and java.(I told him some differences and also i clearly mentioned him that i am not comfortable in Java. So he don,t ask me any further questions on Java).
8. Difference bw array and linked list . what is stack.
9. Indexing and joins in DBMS , clustered and non clustered index
10. How to create a BST .
11. loop detection in linked list, merging of linked list
12. Which sorting algorithm is best .?
13. Private constructor . example when it use (i told singleton pattern)

After few days I got a call for the interviews at Hyd. D E Shaw has awesome office. (All rounds were taken by 2 Interviewers)

Interview round 1:

1. Tell me about yourself.
2. Discussion about projects. They asked me what technology i used and which classes i created in my project.
3. Search an element in sorted and rotated array. (I told him the approach that does not require to find the pivot.)
4. Group By in SQL , write the query for finding the second highest salary. (without using sub-query sol)
5. He asked me in which language i was most comfortable among C and C++. I told C++.
6. Some questions on C++.
7. Smart pointer concept in C++
8. Templates in C++.

Interview round 2:

1. Tell me about yourself.
2. why DE Shaw ?
3. point of intersection in two linked list(2-3 approaches)
4. write a code to check a string is palindrome or not.
5. indexing in dbms , joins , ACID properties
6. function overloading , virtual functions .
7. Singleton class
8. Deadlock, deadlock prevention techniques, paging, segmentation, dirty bit, virtual memory. IS Using virtual memory technique is always helpful??

9. Inode in Unix
10. Abstract class and interface . When to use abstract class and when interfaces are used?
11. Which data structure i will use to implement forward and backward button in browser (Doubly linked list)
12. A simple puzzle

HR round:

Some basic HR questions

Apart from that, below are some questions, asked to other candidates there.

1. Design a online reservation system for n rooms.
2. Longest palindromic substring .
3. 25 Horses puzzle
4. Which sorting algo is used to sort names in a large file .
5. Reverse a stack.
6. Reverse a doubly linked list .

Geeks for Geeks helped me lot in my preparations. I followed GFG thoroughly during my preparations, hope that my experience would help you in your interviews.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw

D E Shaw Interview Experience | Set 9

Telephonic:

1. JD (Job Description)
2. What are storage classes (Explained all different kinds of storage classes)
- 2.1 Whats register
3. How static affects life and scope of a variable
- 3.1 why can't we refer to a static variable from outside file as extern.
4. Difference between paging and segmentation
5. What is fragmentation, what is internal and external fragmentation
6. Steps of writing a code to executing it as a program (Detailed steps like lexical semantic analysis, pre-processing, intermediate code generation, linking, loading)
- 6.1 How to distinguish when to use static bindings and dynamic bindings.
7. Details about pre-processing
- 7.1 What happens when we write #include after pre-processing. Details
- 7.2 Difference between #include and #include "stdio.h"
8. What happens to a program having system-calls (Context switching, needed to explain in detail)
9. Deadlock, deadlock avoidance
10. Trashing
11. Some very simple algo questions like find intersection point of two linked lists, Address of node is given to be X, how to delete X
12. Different kinds of scheduling algorithms
13. When stack overflow happens.
14. Inheritance
- 14.1 What is the difference between runtime polymorphism and compile time polymorphism
- 14.2 How compiler internally achieves runtime polymorphism
- 14.3 How is the entry stored in VTable
15. Explain the structure of Inode table.

Face to face Interviews:

They are all two on one interviews

Round 1:

1. Job Description
2. What is BST, How can we know if a tree is BST or not. Provided 2-3 solutions. One Simple inorder traversal, limiting case occurred. Then NextMax, nextMin for every element. Asked to optimize, was not able to do it.
2. Given a paragraph, print all anagrams together. Solution, Modify DS as:

```
class newWords{
    string origWord
    string sortedWord
}
```

Sort the paragraph on the basis of sorted word, we'll get all anagrams together.

3. DBMS, Said no but Interviewer insisted to tell about ACID property. Asked to write code to ensure atomicity.
4. Just a bit about authentication
5. Structure of an Inode table entry
6. Linux command to know unique words in a File
7. Implement priority queue, write code. [Implemented using array]
8. Find nth maximum element in a BST. Modified Inorder traversal LPR (Left, parent, right) to RPL. Write a working code.
9. What are clustered and unclustered DB

Round 2:

1. Job description with used cases.
2. Operator overloading with used cases.
3. Design a structure to address employees in an organization. Used Runtime polymorphism concepts to design classes.
4. <http://www.geeksforgeeks.org/the-stock-span-problem/> Reached halfway but was not able to complete the solution.
5. Find minimum in stack at any point of time.

Some small questions.. I can't recall. Contrary to the feedback I got from people, they were very

HR Round:

1. Tell me something about yourself which I cannot get from CV
2. Tell me some interesting things about college
3. How do you like Hyderabad
4. Why do you want to switch job when after conversation I think you are having a great time in Samsung
5. You have any idea what we work on.
6. Why so much code? [I mentioned codechef, topcoder and github in my CV]
7. What are the best and worst moments of your college.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw

D E Shaw Interview | Set 8 (Telephonic Round Questions)

Recently I got interviewed on phone for De Shaw Hyderabad (1 hr)

1. Tell me about yourself and your current work.
2. Why you like to change?
3. What is a thread? How multithreading is implemented? Its advantages
4. How multithreading improves performance?
5. Difference between process and threads.
6. Can we create multithread in C ? If yes how ?
7. What is mem copy ? Implement memcpy in c/c++
8. What are virtual functions in C++ ? How it is implemented.
9. A problem : There are two stations S (source) and D (destination). In between there are many other intermediate stations whose costs are given in the form of matrix like cost[i][j] from station i to j. Find the minimum cost from source to destination.
10. There are 4 containers each of 10,10, 5 and 4 litres respectively. Both 10 l are full and each 4 and 1 are empty. How will you measure 2 litres each in both 4 and 5 litre container. There is only 20 litres of water available.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw
DE-Shaw

D E Shaw Interview | Set 7 (Off Campus)

I applied in D E Shaw through their online job portal. My profile got selected after 1-2 months. The HR called me and told that they want to have a telephonic round which was scheduled after 4 days.

Telephonic Round: (1 Hour)

1. Tell me something about yourself and Introduction.
2. He asked about the coding language I use and asked questions on OOPs concepts like Abstraction, Inheritance, and Polymorphism.
3. As I told I code in C++ he asked me about Virtual function, what the problem with multiple inheritance is and how C++ resolve that. Some questions on STL and design of the Templates.
4. I told him to ask question from DS and Algorithms as that was the part in which I was prepared.

There is a class of N students and you have to find the top K marks scorers.

(This questions was slight different from the common top K element question ,for example we have to find the top 3 marks scorers as that can be entire class if they all get same top 3 marks, after some discussions I answered the question.)

5. He then asked questions on Indexing in databases. (That day only I read it :P)
6. Again a DS question he told me what data structure you will use to design a google search, having the key words from the respective sites. (I suggested tries with Link Lists, He was happy)

This round went quite well, I knew that they will call me for the In House Interviews. So I started preparing for it. After few days I got a call for the interviews at Hyd.

D E Shaw has awesome office, we were waiting in the room where HR came and guided to the Interview rooms. (All rounds were 2 Interviewers)

Interview Round 1: (1:30 hours)

1. Brief Introduction.
 2. They ask some questions from the language you use for coding (They were expecting Java). In C++ they asked from virtual functions, STL, copy constructors etc. (After this, he knew that I know my language well.)
 3. I told them to ask me from DS and Algorithms.
- They asked the question like you have timing of arrival and departures of the trains you have to find the minimum number of platforms required to accommodate them. (I told them I know the answer, after this they didn't even ask me single DS questions (I got screwed)???)
4. He asked me to design a database which could handle the quick changes in the shares which happen in the market. (I didn't know how to use indexes and other stuffs)
 5. He told me how would you buy the shares of the companies if you know the future for some period of time. (I gave a layman solution)
 6. He then started to ask queries, Indexing, Normalization in databases in depth.
- (Find the 2nd maximum number in a table)(I used top command after that he told me the case in which it will not work, and then I corrected accordingly)
7. After that came a designing question.
- Design a class which has director, HOD, Professor and students. They all are reporting to their respective heads. I have to display the hierarchy structure of the information in a Site.
- He also told me that if a new designation comes or new employee comes then your class should handle those cases without any change. (With help I designed a tree, but he was expecting something else.) After that he told me to design a database for it which I did and he was happy with the solution.
- After this round I thought that they would send me home, there was a mixed feeling. But I was waiting for them for a round of DS and Algorithms: P.

Interview Round 2: (1:10 hours)

1. Tell me a brief about yourself.
 2. Questions on your language C++ (Basics)
 3. Various sections of memory stack, heap, data. Explain them using a code. (Answered perfectly)
 4. Find the endianess of a machine using a function (I knew the answer).
 5. Median of two sorted arrays (I told I know the answer).
 6. About semaphores and monitors.
 7. Producer consumer problem, reader's writer's problem with proper code using the semaphores.
- I wrote the complete Galvin code and explained in detail.
8. Thrashing and why it occurs. (Explained in detail)
 9. He was really impressed till then as I answered all questions perfectly, he then asked some real time examples about polymorphisms, inheritance.
 10. He then asked about Normalization in databases and by luck I remembered the Normal forms and answered.
 11. He then asked me to explain the steps when we enter a URL into a browser.
- (I told I know the solution, then he told me answer whether I knew it or I was just saying in every question I know, I explained the answer to them after that both of them became really impressed)
12. Some questions on protocols and layers of OSI model. (Answered)
- I answered every question in this round (Gangnam Style).

HR round: (20 minutes)

Some general questions.

Interests, weakness, strength, Package of the current company.

Only 4-6 students of 20-25 had their HR rounds that day, so I thought I may have a chance but I still had very bad 1st round in my mind.

On the next day I got a call for some details of my present company, after that few days later I got a call of the offer from them with a good package.

Some tips:

1. For D E Shaw you need to be good in all the subjects.
2. Be truthful in the interview if you know the answer tell them, they may like your honesty (Depends on individuals).
3. Most of them lack in databases, so come prepared with it thoroughly.
4. Best of luck.

Geeks for Geeks helped me lot in my preparations. I followed GFG thoroughly during my preparations, hope that my experience would help you in your interviews.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw
DE-Shaw

D E Shaw Interview | Set 6 (Off-Campus)

Off-Campus recruitment process. I was contacted by a recruitment consultancy.

Round 1:

There were 3 sections – Apti, MCQ based on Java question + C++, coding each for 20 min.

Aptitude exam too difficult at least as student I had never prepared for aptitude round even in college as I was not interested in preparing for CAT therefore I found it too difficult. However, students who have prepared for CAT exam may find it easy.

Even more important point to note is that they don't even evaluate Aptitude round as I have made it through the written round twice without marking a single answer on MCQ. Though I used to do some random rough work on the question paper. Because of my experience I am inclined to believe that the aptitude round is just to make a candidate feel stressed. Difficulty level was 6 out of 5. 5 being the highest difficulty level.

Section B was the technical MCQ round in which questions were asked from various topics like C-enum, recursion, stack and queues, Least Recently Used memory allocation, nested union. Java – Overriding, abstract functions, serialization, one networking question based on TCP protocol something based on congestion window. I was able to solve 17-18 questions. Difficulty level was 3.4 out of 5. 5 being the highest difficulty level.

Section C :- You are given the data of reported and manager. There is a company which wants to reduce the hierarchy level. To do the same, the manager who has only one reportee, the manager will be moved to another department and that single reportee will be moved under the manager of reportee's manager.

Ex	
Reportee	Manager
A	B
B	C
D	C

In the example above since B has only one reportee A, then B will be moved to another department and A's reporting will be moved under C.

Round 2: Re-evaluation of Section C

Round 3: Started with the discussion why do you want to join DE shaw. Since prior to my current company, I was working with a finance based company so they asked why do you want to come back to finance base company. So they asked my about debentures, bonds, mortgages and other financial jargons.

Algorithm based questions :

- 1.) How will you find 3 numbers in an array which sum to a given number
- 2.) You are given in and out time of trains, how many minimum number of tracks are required.

Discussion about my projects.

Internal fragmentation v/s external fragmentation.

Write a SQL query to find employee with third highest salary, without using TOP or inner query.

Another query to find the department which has maximum number of employees.

Discussion of Abstract classes V/s Interfaces and why multiple inheritance can't be done in Java but can be done in c++.

Can a main function return Boolean rather than an int in main function.

What makes Java platform independent.

Round 4: I am not sure whether it was HR or another F2F, may be it was their call depending on a particular candidate.

Though I would like to add a few questions which other candidates were asked like how will you divide a triangle into equal area triangles. What are register variables . Keep a track of minimum element in a stack.

For more details or questions, please comment below.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw

D E Shaw Interview | Set 5 (On-Campus for Internship)

Recently D.E Shaw visited our campus for internship and placements. They shortlisted 16 students out of 200 students on the basis of resume.

Telephonic Interview (Round 1)-

The call lasted for 40 mins

Started with tell me about yourself. I had mentioned ACM ICPC rank in my resume. So he asked few questions about ACM ICPC (what is it ?how many rounds are there etc). After that he asked few questions based on my resume. Why have you migrated to python. I said as it can handle large numbers which other programming languages cannot. He then asked what if I want to perform addition, subtraction, multiplication of numbers which are extremely large (say 1000 digits). I said by storing the numbers in character array. He then asked me give me the class declaration that you will use and then asked about overloading of operators, virtual base class, virtual functions, and virtual destructor. He then move on to data structures.

1) given a linked list of even length say a,b,c,d,e,f. Rearrange it so that the list becomes:-a,f,b,e,c,d. Do it in o(n) time and constant space.

2) Given an array: 1,3,2,5. Find out the minimum number of array elements that should be changed so that the all elements in the array are strictly greater than the previous elements

output :1

ie 1,3,4,5

(2 can be changed to 4).

He then asked some questions on journaling file systems, log based recovery etc.

Telephonic Round 2:

The call lasted for 45 mins. Started with discussion on my projects. Then asked me how much I know about python and java.

He then asked few questions on normalisation of databases. After this he then moved on to data structures.

1) an array contains elements from 1 to n. One number is missing. Find that out. I discussed about 4-5 methods with him.

2) an array contains elements from 1 to n. One number has been replaced by some other number. Find out the missing and the repeating numbers (again about 4-5 methods were discussed).

3) find out the first non repeating number in a string.

4) Puzzle:-

find out the minimum set of weights required to measure weights upto 20 kg

I said: 1,2,4,8,16

He then extended question to 40 kg

I said: 1,2,4,8,16,32 (ie powers of 2)

He then asked to do better. He gave me the hint that 2 can be measured using 1 and 3

I then came up with the general solution ie powers of 3, 1,3,9,27 etc

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GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
D-E-Shaw

D E Shaw Interview | Set 4 (On-Campus for Internship)

D. E. Shaw recently carried out intern procedure in our college. The whole process had three rounds.

Round 1:

It was CV shortlisting. Out of total 41 candidates, 12 were selected.

Round 2:

It was a telephonic interview. The call lasted 40 minutes. The interviewer asked about my academic project first. Next he asked about my preference in programming language – C/C++/JAVA. My preference was C++. So he started with OOP concepts. After I have named few of the highlights of OOP, he asked about Data Encapsulation. He then demanded an example for the same. Few questions followed about the C++ implementation of the example that I had given. He then switched to virtual functions. Next came Inheritance, upcasting and downcasting, where should the virtual keyword be used.

He asked me how do we call the constructor of base class using derived class. Next he asked DS questions. There were three questions in total.

1. Given a string. How do we check if we can obtain a palindrome by rearranging the characters of the string.
2. Given a singly linked list. How to we detect if a loop is present in the list. (Both Brute-Force as well as Floyd's Cycle Algorithm had to be explained in details).
3. Given a doubly linked list with a next pointer pointing to next node and other pointer pointing to any random node. How do we clone this list?

Round 3:

Last round was again a telephonic interview. This time too the call lasted 40 minutes. There were two interviewers this time. I was asked to explain one of my projects at the beginning. Then, I was asked to explain any of the projects.

Next, they asked me about STL, Generic classes and templates in C++. He then asked me to give an example of a class implemented using templates.

After this came the Data Structures part. This time, they asked me two questions. Both of them were related to real-life scenarios.

1. Given details of a person – First name, last name and telephone number. Sort them according to the last name. I said we can use qsort() and explained the whole process and design of comparator function. But they demanded an answer without using any of the library functions.
2. They next asked me given a number in the directory, how will you search for the person details from the directory. Your answer must be efficient enough so that it could be used on a map like Mumbai.
3. The next question was to implement a spell-check that is used in Microsoft Office Word and which data structure could be used to implement it.

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GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
D-E-Shaw

D E Shaw Interview | Set 3

Round 1 : (Telephonic Interview) (45 mins)

1. Tell me about yourself.
2. OOPS Concepts like abstraction, encapsulation and examples for each.
3. Polymorphism – Static and dynamic. why the name is static and dynamic. Again With Examples.
4. What is final keyword in Java ?

Ques: Suppose we have -- > `final ArrayList<Object> list = new ArrayList<Object>();`

Answer: Yes, it's a valid operation. We can do add/delete. The only constraint is that we can't make list to point to other ArrayList objects. e.g, we can't do `list = list1`.

5. What's a Dangling Pointer and how to correct this.

6. How would you get total number of words in a file (In Unix).

7. Given two strings .. you need to tell whether they are permutation of each other. Various approaches and their complexities.

8. Given a string. You need to print first non-repeating char. I told him we would use count array, `count[256]`.

Counter question: How would you reduce space complexity. I told him we could use Hash table. In that, we would only be needing spaces equal to number of different characters.

9. 200 storey building..One egg given (Yes, only one egg)... find from which level egg would break in number of attempts less than 200. (Still haven't got any answer for this :D)

10. Four numbers are given: 1 3 4 6 = 24. Use any mathematical operators. I asked him can i write this expression in C and run it from there to get required result. He said yeah you can.

Then i took 4 integer variables(1,3,4,6) and another integer variable result. Now, $1/3 = 0$ (C integer division). so simply $4*6$ would give me 24. Pretty simple :D. He said it's okay, but try with mathematical operators only. (No coding :D)

Answer: $(1^3) * (4*6) = 24$

Code: (It was to be sent through email)

11. Write well commented code to print Matrix in Spiral Order . Also write some test cases.

Round 2: (In-house Interview) (45 mins)

1. Discussions on Various basic concepts like What makes Java Platform Independent language, Why C is Platform dependent, difference between JDK, JRE and JVM, What's a byte code (In Java) and discussion went on like this.
2. What's a function pointer ? Where it's used. Write a code to implement the same.
3. Is it possible to have try-finally block without catch block ? And several other similar discussions on Exception Handling.
4. What's a Process ? What are various sorts of Process Scheduling Algorithms. Design a data structure which can be efficiently used to schedule processes based on their priorities. Further they added that Priorities of some processes can change any time and we should be able to pick that process which is having maximum priority (Min Heap concept). Also there can be many processes of same priority. Some discussions on approaches.
5. What's difference between extends and implements ? Some discussions on Abstract class and Interface.
6. Why Java does NOT support Multiple Inheritance ? How we solve Diamond Ring Problem in C++ (Virtual Inheritance). How to access a specific function from a class in case of multiple inheritance ? (Ans: Using scope resolution operator)
7. What's the difference between #define MAX 30 and const int max = 30.
8. What is 'register' storage class ? If we have declared any variable register and there is no free registers available, what will happen ? Will compiler throw any sort of errors/warnings ?
9. In C, Where can we find definition of printf(). Some discussions on header files and Process execution steps (like preprocessing, compilation, loading, linking etc).
10. Do we have destructors in Java ? Can we explicitly destroy objects in Java ?
11. Given a binary complete tree like:

```

5
/
3   6
/ \ / \
1  7 2  4

```

Convert it into level order sorted tree like:

```

1
/
2   3
/ \ / \
4  5 6  7

```

Code was required.

Though I did not get the offer, it was a great experience. If you want to crack DE Shaw, do have a clear concepts of whatever technology you are working on. For preparing Java/C++, refer <http://javarevisited.blogspot.in/> & <http://www.learnCPP.com/>.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw
Interview Experience

D E Shaw Interview | Set 2

Type : Off campus (Bangalore) (0-1 yr experience)

Role : Software Developer @ Hyderabad campus

Duration : 2 Days

Total Candidates : ~200

Split Up of Rounds

1) Online test (40 mins & 40 questions) | MCQ'S | .25 negative per question

Difficulty Level – Intermediate -> hard

20 Aptitude – Basic Quantitative Apt questions which they ask in CAT

20 Technical – C,C++ & JAVA related | Finding output | Basic Concepts | Finding bugs in the code

Approach – Need to be quick , if u have an idea make a guess , try to answer as many as possible

Number Remaining – ~100 students

2) Coding Round – 1 question | Give Algo/Code

Question – Find the next largest int of a given int such that it has same number of 1's in binary

Answer – google it

Question which my friend got – Find max product subarray

Number Remaining – ~60 students

3) Interview with 2 from DeShaw ~45 mins

Very Cool guys , should have no issues

Questions –

1) Basic Explanation of a few important projects

2)Please go through your resume thoroughly , get all minute details of your projets right as most of the questions wil be based out of ur projct concepts

- 3) Define Normalisation , explain advantages/disadvantages / Clustered Index /Non Clustered Indexing
- 4) Balancing of Btrees / AVL trees
- 5) Write algo to mirror a given Binary Tree
- 6) String Matching Algos | Write pseudocode for KMP algo etc
- 7) Puzzle : Given a 7mt long gld bar , need to cut and give to worker for 7 days (1 meter long)
|Max num of cut allowed =3 | This is a standard puzzle

4) Interview with a different guy ~ 30 mins | I had not studied | Screwed this up

Questions –

- 1) Intro about me
- 2) Why leaving existing job n stuff ?
- 3) Puzzles (3) – Solving the standard Hourglass puzzle | Count 7 mins
– The Hat puzzle ? who is wearing the black hat
- Tower of Hanoi Modification
- 4) OS concepts – Threading | Deadlocks | Paging | etc
- 5) Databases Questions – Transactions | ACID | etc
- 6) Code the Algorithm – LIS modified ,
Get the peak point in stock market data ,
Max sub array sum in circular array
Few more basic algos
- 7) C++ /JAVA questions

5) HR round – I did not make this round

Total Candidates selected – I think 1 or 0

- Tips :1) Get all project details in your resume
 2) Go through all concepts used in your projects (they will ask how to improve | why you used that method etc)
 3) Learn basic concepts of C++ /JAVA /OS /DB /Algos
 4) Questions won't be of any complicated topics
 5) Even if you don't get the complete solution | Your approach is valued

Hope this Helps !!!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
 D-E-Shaw
 DEShaw
 Interview Experience

Interview Experiences at D. E. Shaw & Co.

I had three rounds:

My first round was telephonic interview and it lasted for about an hour and the questions covered entire breadth of core CS subjects, there were questions on Operating Systems, questions on some SQL queries, Computer Networks, Computer Organisation, Digital Design, some algorithms and there were some questions based on the projects I did (that was specified in Resume) I was asked questions on Android since I did a project on Android, and at last they asked me a puzzle on probability.

In the second round (which was face to face interview), the emphasis was mostly on designing algorithms for some new problems, and they expected me to give optimal solutions, and they asked me to design web server and what are the various challenges you will be facing.

The third round was the most critical one and the questions were mostly on C++ concepts and some operating system design issues (e.g., spin locks, semaphores, etc..) and there were even questions on storage classes and how do you think they might be implemented, there were some questions on algorithms which were simple but there were many in-depth analysis on those questions (e.g., In finding the loop in the linked-list what happens when the fast pointer takes 3 steps instead of 2 does this algorithm converge, what is the condition under which the algorithm converges), they asked me to code some design patterns, and I was asked some puzzles to solve

I got placed in some of the dream companies, and in this journey I should say, <http://geeksforgeeks.org/> has a major role, I am following this site since my first day of graduation and I should say this one will give complete picture of what are the various questions you might be asked in various companies, along with great emphasis on core CS concepts. Thanks geeksforgeeks, I will say this is the one stop that will help you to land into some of the prestigious firms
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GATE CS Corner Company Wise Coding Practice

Interview Experiences
 D-E-Shaw
 DEShaw
 Interview Experience

D E Shaw Interview | Set 1

Total 3 rounds. 1st written followed by 2 face to face and every round was ELIMINATION one.

1st Round: Written (1hr)

3 sections. 20 min each.

1st section: 20 aptitude questions was really hard. Avg no of questions solved is 4.

2nd section: 20 (C++ & Java) oops related questions and other output questions too. (level was good. G-Facts)

In C++: mainly Virtual functions, virtual destructor, copy constructor, initialiser list, virtual inheritance questions, inner classes etc.

In java: mainly inner classes, Base reference and Child object concept, overriding questions etc.

3rd section: Write running code for following problem:

Find 2 nos in a sorted array whose DIFFERENCE is given no K.

Out of 99, 22 students got selected. They were mainly from IITs, IIITs, NITs, Amazon, Microsoft, ADB etc.

2nd Round: Face to Face (1hr)

Rapid fire questions Mainly from OOPs concept of C++, Data Structures & Algorithms, O.S

Started with simple question and moved in depth.

(1) What is dangling reference?

(2) Moved on to what happens when we access it.?

(3) How to handle it? I said we can use reference count or std::auto_ptr to avoid dangling reference. He was happy with auto_ptr smart pointer concept.

(4) Then what happens when another auto_ptr assigns previously assigned auto_ptr (i.e when we use assignment operator in auto_ptr)? I said only one auto_ptr can hold object, so old auto_ptr will point to NULL.

(5) Now, what happens when Old auto_ptr tries to access object (i.e NULL). I said runtime exception and program may crash.

(6) Name the type of exception. I said may be segmentation fault.

More questions like:

(7) Simple question. In exception handling, there is "return 1" written in try block and "return 5" written in final block. Which value will be returned from function and why?

(8) Create your own Heap overflow, Stack overflow. How will you handle them?

(9) How virtual functions internally works. Explained in detail working of Virtual Table with multiple inheritance concepts too.

(10) What is pure virtual function and what is its use?

(11) What is virtual destructor and why do we use it? Few discussions on it.

(12) What is Iterator? Write a code to implement an iterator for a given Stack Class.

And many more OOPS questions which as I said was asked rapidly.

Now D.S & Algorithms were simple like:

(1) Students are sitting in a class room in row wise order. They have been given their exam marks. Now a teacher comes and starts with 1st row 1st student and asks there marks till last row last students linearly. At any point of time highest mark upto now was to be told and after saying highest mark that student should leave class. Next time, higest marks was to be told in remaining ones. So basically insertion and deletion was there.

I gave solution using MAX heap with insertion logn and deletion logn.

Or self balancing BST with insertion logn and deletion logn.

(2) Largest BST in Binary Tree. Implemented this with O(n) time complexity.

(3) Implement phone dictionary. Gave solution using trie with hashing. Few discussions on it, but was happy at the end.

This round went excellent according to me.

Out of 22, 5 students were able to go to 3rd round.

3rd Round: Face to Face. Mainly tried to confuse everyone It was fun. (1:15 hr)

Mainly related to my present work. As I was working in java field, using Spring & Hibernate, so they asked me few basic questions of Spring & Hibernate. Not in depth.

They focused on Java, O.S & D.S & Algo.

Java:

(1) Can static method be overridden? Why?

I knew the answer so explained in detail.

(2) This is good one.

```
class Employee
{
    int age;
    String name;
    Date DOB;
}
```

In another class a function was written like:

```
Object myFun(Employee obj, String attribute)
{
    //return proper attribute value without using conditions like If-Else, ternary or
    //conditional operators like && etc.
}
```

Now if i call:

```
myFun(obj, "name");
```

then this function should return name of Employee from object "obj" which was passed as parameter. So based on name of attribute value, it should return that object's attribute value.

D.S & Algo were simple:

(3) Given sorted array. All are repeated twice except one. Find that.

Normally people will XOR and get result in O(n). Challenge comes in using sorting property to get in log(n).

(4) Sequentially Sorted Array. All present exactly once. One number was missing from sequence and was replaced with any random number. Find both missing & random numbers. This was just to confuse people who try to use sorting property without realising that searching in sorted array will not always result in log(n) solution.

More twist on this question like, all repeated exactly twice except for one which is present once and its 2nd occurrence is replaced with any random numbers. And 2 more modifications. Overall, it was simple and required little thinking.

(5) Rotate a square matrix by 90 degree with O(1) extra space. This was interesting. Solution given in "Cracking The Code Interview" book.

Operating System:

(6) What is Zombie process? Write code to create Zombie process.

(7) What is Orphan process? Write code in C to create Orphan process too.

(8) One query. Given a table having attributes stud_name, English, phy, chem., maths. Write a query to display the name of student in descending order of their aggregate marks.

(9) What is IPC? (Asked from my friend).

(10) There are N points in space. Find whether two given points are connected or not. This is a graph question. Modified Floyed Warshall's Algorithm will work. Other good algorithms are also available in GeeksForGeeks. (Asked from my friend)

Results declared after 3-4 days. Out of 5 students, 2 of them got selected finally. I was one of the lucky guys.

Special Thanks to you GeeksForGeeks team. I am following this site since 1 year. This is my favorite Geek Site. Now I got very good offer from D. E. SHAW. The way you have organized your site is awesome. The algorithms you provide are neat, efficient & easy to grasp. Though whole GeeksForGeeks content is very good, but I would recommend other Geeks to specially follow GeeksForGeeks algorithms & G-Facts.

This article is compiled by **Shahnawaz**. Many Many congratulations to Shahnawaz for his selection. If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
D-E-Shaw
Interview Experience

VMware Interview Experience | Set 7 (On-Campus for IT Application Developer)

Round 1: Online Multiple Choice Questions

It comprised of two sections.

- First section consisted around 15-20 questions related to logical reasoning (Quantitative – Easy-medium-level) and lengthy paragraphs (Verbal reasoning – Difficult – owing to the time allocated). It had to be solved within 20 minutes.
- Next section consisted around 30-35 questions related to general programming concepts including but not limited to C programming, Output based questions, Determining time complexity, Computer Networks, Operating systems, Computer organisation-and-architecture. Questions were of Easy-medium level. This section had to be solved within 45 minutes.

30 students were shortlisted for further rounds.

Round 2: Coding

A problem statement was given. We had an option to select the language. 1 hour was allocated for this round. Frequently asked questions in this round are –

- Determine whether a given number is an Armstrong number,
- Generate prime numbers less than a given number 'n',
- Infix to postfix conversion.

Almost all of them were shortlisted for the next round.

Round 3: Technical round 1(Based on design issues)

All the students were given a question based on a case study – Inventory management system. It was a dialogue between a consultant and client. Our task was to come up with a class diagram and ER diagram. Perhaps 30 minutes was allocated for drawing. After that every student had a discussion with the interviewers about the design. All the requirements must be covered in the proposed design. It was a bit challenging, but once you know how to draw a class diagram and entity diagram; and also to identify the key entities, you are good to go.

Round 4: Technical round 2

Q1) Discussion on Android. (Since I had done internship on Android)

Q2) Questions related to security of API's and authentication with respect to Android.

Q3) General discussion on databases

Q4) Serialization in java

Q5) transient modifier in java

Q6) When do you use abstract class and when do you use interface in java

Q7) Questions related to network security – SQL Injection, Client side validation and Server side validation using Javascript

Q8) Cross-site scripting (XSS)

Q9) Time-and-space complexity analysis of Armstrong number program which was given to me in Round 2

Q10) Difference between inner join, left outer join and full outer join & few problem related to the same

Round 5: HR/MR round

By far, this was the most challenging round. There were 2 interviewers. Many questions were situation-based. There was no right or wrong answer, they wanted to test the students EQ. In almost all questions a situation was presented to you and you had certain choices to pick from. You also had to justify your answer. In the end, there were few standard HR questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
VMWare

VMware Interview Experience | Set 6 (On-Campus for IT Application Developer)

VMWare visited an extension centre of our campus for hiring IT App Developer.

Round 1

The first round was a written one, conducted on HirePro platform. It had 2 sections, [Aptitude](#) and [Technical](#). Time allotted was 75 mins. The aptitude section was quite tough. In technical section, there were a mixed bag of questions ranging from Hashing, OS, DBMS, Data Structures etc. to Networking, Linux etc.

16 students were short listed for further round.

Round 2

There was also a coding round. There was only one question to be solved in one hour. There were no in-built test cases or submission portal. The coding round was held in 3 diff batches. The questions were :

- 1) Find all prime numbers less than a given prime number.
- 2) Check whether a number is an Armstrong number or not.
- 3) Convert a infix expression to postfix.

A total of 35 students were selected for next round.

Round 3

The next round consisted of a software architecture question. We had to design Class/Object and E-R diagram for web app to be built for a music store. The app needs to handle online orders, in store purchases and inventory as well.

I deviated a bit from Class/Object or E-R diagram and gave a micro services based Web App architecture with SQL based Schema design. I drew table structure for all tables including various functional dependencies and relations. I also made various middleware services for app functioning. It was later revealed that company gave a lot of weight-age to this round, at least in my case.

10 students were eliminated after this round.

Round 4

There were two Technical Interviews. To my surprise, they were really short.

- In the first, I was asked to explain about my projects in brief. After that, I was asked a coding question.
 - Given a array of numbers with elements ranging from 0-9, what is the maximum number you can make given number of swaps and you can swap only adjacent numbers.
- I gave a simple solution of finding the max number in given window of maximum swaps and bringing it to the first place and reducing the max swaps. Then repeat this recursively from second element till we've swaps left. The interviewer was quite satisfied with my solution and didn't even ask me write code. This was all from first interview.

Round 5

In the second interview, first I was asked to explain what I did during my internships. Then he asked me few questions from technical sections. Few of them were :

- 1) Explain 2NF, [Functional Dependencies](#)
- 2) How will you distribute requests from Load Balancer to different servers. He was basically asking for CPU scheduling algs.
- 3) Most used function in C lang. (Still boggled by this question)
- 4) Some questions on NoSQL and SQL databases.

This was followed by two HR interviews. Standard HR questions were asked there on why VMWare, about me etc.etc.

In the end, 5 students were selected by VMWare for full time roles as well as Six Months Internship.

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GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
VMWare

VMware Interview Experience | Set 5 (On-Campus for IT Application Developer)

Round 1: ONLINE OBJECTIVE ROUND on HIREPRO platform

This round comprised of 30 objective difficult and lengthy paragraph based aptitude questions to be solved in 45 min with no negative marking. Then there was a technical round which consisted of 50 objective questions (comprised mostly C++ output basically on operator precedence, OS concepts, DBMS, and networking) to be solved within 60 min with no negative marking.

Out of 200 students, only 35 qualified for the next round.

Round 2: ONLINE CODING ROUND on HIREPRO platform

This round consisted of a single coding question to be solved within 60 min. No constraints and test cases were provided.

Given a number n, print all primes smaller than n.

<http://www.geeksforgeeks.org/segmented-sieve/>

Given a number x, determine whether the given number is Armstrong number or not.

<http://www.geeksforgeeks.org/armstrong-numbers/>

Round 3: GROUP DISCUSSION ROUND

This was not the usual GD round. It was new and different. The 35 students were given a case study. It consisted of a conversation between a client and a consultant over an inventory management system. We had to create an object/class model for the client.

Out of 35 students, only 25 qualified for the next round.

Round 4: TECHNICAL ROUND -1

Q1: Given an API which consisted of three methods, create (), update (), delete () .and two users: X and Y, who can access all the three methods. Both users use the create () and delete () methods in the same way but update () is used by them in different ways. How will you implement this in OOPS?

(Use interface or Abstract class)

Q2: What is database hierarchy? How to implement hierarchy in database tables?

Q3: Question on HTTP 1.1 request and response messages.

Q4: Linux questions on find command, top utility

Q5: MY project was on Big Data. Hence questions on that.

Round 5: TECHNICAL ROUND – 2

Q1: MY project was on Big Data. Hence questions on that. but the questions were deep and tough.

Q2: Questions on JAVA (String Buffer class and its methods)

Q3: OOPS concepts: POLYMORPHISM in detail

Q4: OSI model in detail

Q5: Design a stack that supports getMin() in O(1) time and O(1) extra space .

<http://www.geeksforgeeks.org/design-a-stack-that-supports-getmin-in-o1-time-and-o1-extra-space/>

Q6: Reverse a linked list.<http://www.geeksforgeeks.org/write-a-function-to-reverse-the-nodes-of-a-linked-list/>

Round 6: HR ROUND

General easy questions asked in HR round.

Basically the company preferred students who had done projects on BIG DATA and CLOUD.

Took 7 from our campus.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
VMWare

VMware Interview Experience | Set 4 (On-Campus)

Recently, VMWare has visited our campus for hiring interns and they have put a CGPA cut off of 7/10. There were 2 rounds in total. An objective round initially which is then followed by a skype interview round.

Round 1 : Online objective round

This round was quite similar to the Set-3 VMWare Experience wherein we had 42 objective questions to be solved in 65min with no negative marking. There were 3 sections in total.

First section was Logical and Aptitude and there were 15 questions in total.

Difficulty : High (There was also a time limit of 15min to solve these 15 questions)

Second section was Technical which included 20 questions on Networking (High level questions on SSH, TelNet, TCP/IP etc)& OS concepts (like Memory management and Scheduling algorithms)

Difficulty : High (There was a time limit of 35min to solve these 20 questions)

For third section, I was asked to choose between C++/JAVA and there were 7 output based questions

Difficulty : Medium (There was a time limit of 15min for these 7 questions)

These were mainly based on concepts of OOPS like polymorphism, Inheritance.

Round 2 : Skype Interview(Technical)

This was a bit easier. The interviewer has asked me to code some basic questions like :

Algorithmic :

1) Mirror tree : <http://www.geeksforgeeks.org/write-an-efficient-c-function-to-convert-a-tree-into-its-mirror-tree/>

2) Validity of BST : <http://www.geeksforgeeks.org/a-program-to-check-if-a-binary-tree-is-bst-or-not/>

3) Height of a tree : <http://www.geeksforgeeks.org/write-a-c-program-to-find-the-maximum-depth-or-height-of-a-tree/>

4) Cycle in a linked list : <http://www.geeksforgeeks.org/write-a-c-function-to-detect-loop-in-a-linked-list/>

5) Middle node in a linked list in one traversal (Use 2 pointers)

6) kth largest element in an array : <http://www.geeksforgeeks.org/kth-smallestlargest-element-unsorted-array/>

Networking and OS :

Demand paging, Interpreter vs Compiler, Virtual memory vs Real Memory, DHCP vs Static IP.

Puzzle : 2 eggs, 100 floor puzzle : <http://datagenetics.com/blog/july2012/index.html>

Then we had a discussion on my previous interns and my projects. He seemed to be highly focused on my Data Mining and Machine Learning projects as he asked me to dive deep into them.

A big thank you to GeeksforGeeks for providing such invaluable material for preparation.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
VMWare

VMware Interview Experience | Set3 (On-Campus for Full Time and Internship Offers)

Recently VMware visited our campus for full time and intern positions. There was a CGPA cut off of 7/10 for attending VMware's hiring process.

Round 1: Online Test

The online test had 32 questions with no negative marking. The test consisted of the following sections – Aptitude and logical (around 10 questions), Technical questions (on microprocessors, Computer Architecture, Networks, OS, UNIX, C output questions etc. about 15 of them) and the third section we had to choose between C++ and Java. The third section had 7 questions. The Java section I'd chosen had all output based questions which mainly concentrated on inheritance and runtime polymorphism concepts.

After this round, 35 students were shortlisted for interviews.

Round 2: Technical Interview

The interviewer asked me to choose my favorite subject and I chose OS. So he asked me the following question – Given a 4GB memory requirement, how would you handle this with a machine having 2GB RAM. I said I'd do it using paging and virtual memory and I was asked to explain these concepts.

After this, I was asked a few questions on Networks – explain the sequence of actions which take place when a user types a URL in the browser and hits enter (I was asked to show a flow using 2 protocol stacks on both the client and server sides), what is a socket and what does it contain and what is a gateway router. For my last question on Networks, he asked me to tell the packet contents of a response packet arriving at the gateway router of a given network. I was expected to write the source and destination IP and MAC addresses.

I was asked to write solution code for 2 problems – (a) Given a log file containing INFO, WARNING and DEBUG statements, separate the specific log statements into specific files (E.g., all INFO statements into the INFO file and so on) and delete the original file.

(b) Given multiple occurrences of characters in a string, output the character followed by its frequency. E.g., if input is 'aaaaabbbbc', output should be 'a4b3c1'.

Since I'd worked on OpenStack projects, I was asked a few questions on OpenStack as to what OpenStack is, if OpenStack is a competitor or compliment for VMware and why?

Round 3: Technical + Managerial Interview

In this round, I was quizzed mainly on my projects. Apart from this, I was asked to write solution code for 2 problems – (a) Given 2 systems A and B, how would you programmatically run a script on A in B (given the IP of B and its access credentials)? (However, you're not allowed to access B's console)

(b) Given a configuration file having key-value pairs, write a function to accept filename, key and value as parameters and go to that particular file and either update/add the new key-value pair

The interviewer also asked if I'd worked with Eclipse and vCenter Server.

Round 4: HR Interview

Standard HR questions were asked –

- (a) About family background
- (b) How have the last 3 years been in college?
- (c) What do you expect from VMware?
- (d) Where do you see yourself in 2 years?
- (e) Would you prefer a Dev/QE role and why?

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GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
VMWare

VMWare Interview Experience | Set 3

I had interview with VMWare. Their process is 1 written test followed by 1 telephonic and 3/4 f2f interviews.

Written test

Very basic questions. They just wanted to see if you can code or not.

Round-1 Telephonic- Pair coding

Need to write working code on a shared document so that the interviewer can see if you can put your ideas into code

1) Given BST, find the pairs whose sum is equal to given number

2) Binary search.

Other basic algo questions i forgot.

Round-2 F2F Interview

I was interviewed for vcloud team so they asked me below questions

1) What is cloud ? Why cloud ? Advantages of cloud ? Challenges in cloud ?

2) My project

Then started on algos

3) Reverse every k nodes in linked list

Write working code

4) Reverse the elements in stack-inplace. No extra memory should be used.

I wrote iterative solution code but interviewer asked me to write recursive solution

One more round is supposed to happen after this but the interviewer was not available so it was cancelled.

Have not heard any response from VMWare i also thought of not troubling them.

Tips

In telephonic round they are not bothered about time complexity of your algo. They just wanted to know if you can code whatever you think.

So if you do not find best solution also it is OK but write the code for average case at-least.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
VMWare

VMWare Interview Experience | Set 2 (On-Campus)

First round was Online Test. There were totally 32 Questions divided into 3 categories with no negative marking.

1) Aptitude & Logical Questions (10 Questions)

2) Computer Science Questions (15 Questions) [C, OS, Data Structures, Microprocessors, Unix]

3) Questions on Java or C++ [We had to choose between Java & C++] (7 Questions mainly on OOP Concepts)

They Shortlisted 22 people from 200+ people. There were 3 Technical Rounds + 1 HR Round.

1st Round:

1) Write a program to Reverse a number in Java without using builtin methods.

2) Write a program to Reverse a String in Java without using builtin methods.

3) He combined the above questions such that, no matter what we provide string or an integer or a double, the program should reverse it. Basically He was expecting method overloading concept.

4) A puzzle. You will be given with a 3 Litre container & a 7 Litre Container. Measure exactly 5 Litres of water.

5) Reverse a linked list.

6) Asked about one of my projects I mentioned in my resume.

2nd Round:

1) Detailed discussion about all my projects that I mentioned in my resume.

2) Find the common elements from 3 Lists.

3) Some questions on Object Oriented Programming Concepts.

4) Some Questions on Multi-Threading.

5) Asked in detail about 'volatile' variables.

3rd Round:

1) Which protocol is used by telnet?

2) Difference between telnet and ssh

3) What happens when we open a file using one tab and delete it from the other tab of the terminal

4) Some questions from Software development life cycle.

5) Basics about Virtualization & Hypervisors.

6) Explain Cloud computing in layman's language. (Thanks to Balaji Vishwanthan for an amazing answer for a similar question Quora) ☺ ☺

HR Round:

1) About my family background.

2) Roles played by me in my various projects

3) Typical HR Questions like, Strengths, weaknesses and Hobbies.

After this the HR told that the manager of the team for which they wanted me to select has not come for the interview process that day, so, I will be having one more round with the Manager within couple of days in their office.

I waited for 2 weeks and still they havent called. I thought its better to give up. Then one morning the HR called and asked me to come to their office for the interview with the manager. Uff! A relief..

At VMWare Office, before the manager takes the interview, one more person from that team took a technical Interview.

They asked me to write the code in Java for the following questions:

1) Given an array with repeated numbers, print the frequencies of each number.

2) There are 3 kinds of balls in a big array. Red, Green, Blue color balls. Arrange them in such a way that all the red balls to the left, Green balls in the middle and Blue balls to the right of the array.

3) Modified the above question such that, the arrangement should be like, [R,G,B,R,G,B,R,G,B]. And discussed various boundary conditions.

At last, The interview with the manager:

1) Some questions on Software Development Life Cycle

Then it was a casual discussion about what their team does, and what are my roles if I get selected.

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Interview Experiences
VMWare

VMWare Interview | Set 1 (MTS-2)

VMWare interview for MTS-2 position.

I Telephonic round

1. Given an array of strings. Find the maximum prefix among all the strings.

Ans: First told about tries. Then went for trivial answer saying compare all the zeroth indices then first indices.

2. Similar to kadane's algorithm

3. I forgot this Q.

4. Monty Hall puzzle.

Ans: Told the ans as 1/2 after taking 5 mins. Tried to prove using probabilities but could not able to.

I F2F round

1. Given an unsorted array, find the max j-i such that j > i and a[j] > a[i] in O(N).

Ans: Told trivial solution in O(n²). Then used DP but still O(n²). Then told using sorting approach in O(n²).

Could not able to solve even after giving 45 mins of time as it is not trivial answer.

2. Given a rectangular cake and 3 persons have to share it. First person took a rectangular cut. How will you cut such that remaining two people will get the same amount?

Ans: First told horizontal cut where interviewer surprised with the answer and asked for different solution.

Then told cut along a line such that it touches center of mass of both the rectangles.

3. As usual about current work and why VMWare.

II F2F round

1. Given k-sorted lists. How will you sort the list into the new whole array?

Ans: Standard Q. Then asked about time complexity.

2. What if they are not sorted lists.

Ans: Sort the individual arrays first. Then told about heap solution which is not effective. But he is happy with the approaches

3. Lots of questions on C++. As I worked on C++ in current company.

.....a. What is the use of friend functions and classes? What are the advantages and disadvantages? Where do we use them?

.....b. What is virtual destructor?

.....c. Why virtual constructors do not exist ?

Forgot the remaining.

4. He is the same person who interviewed me for telephonic. So asked once again about Monty Hall Puzzle.

Ans: Proved this time with probabilities.

5. <http://www.allinterview.com/showanswers/15001.html>

Ans: Simple Question

III F2F round

1. About routing protocols.

2. How to counter count to infinity problem?

Ans: Told several approaches and he is expecting poison reverse which I could not tell.

IV F2F round

This is with the manager. This is like rapid fire where interviewer keeps on asking me questions which has either one or two line answers.

1. What are the protocols that you know in transport layer?

2. What is the difference between UDP and TCP?

3. What is the connection end point in TCP ?

4. What is the system call which creates a separate connection? (Indirect question about Accept system call)

5. Which system call is used to poll among fds? (select or epoll_wait)

6. Why virtual functions?

7. If you already have a memory, how will use that memory to allocate a new buffer? (placement new)

8. 2-D dynamic array allocation syntax?

9. Arp protocol and why it is used?

10. Why ICMP is used?

11. What are the protocols that you know at MAC layer ?

12. Virtual base classes and why it is used?

Some other questions which I forgot.

After one day HR interview was scheduled.

Typical HR questions. At that time only he told that they are going to give offer. Did not negotiate at all as they offered me decent.

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Interview Experiences
Interview Experience
VMWare

Fab.com Pune Interview | Set 2

Please find below my interview experience with Fab Technology Pune.

Round 1(Telephonic): It started off with general discussion about my current work and prior projects. It consisted of questions from the resume like explain xpath, indexing, xslt.

The DS question was arrange an array such that when merged it forms the largest number possible.

Round 2(Telephonic): It began with telling about myself and why do I want to join Fab.

Then 4 DS questions:

1. Sort an array of 0 and 1.
2. Sort an array of 0,1 and 2.
3. Given a matrix with row and column sorted. Find a number in it.
4. Reverse a stack without additional data structure.

Round 3:(F2F):

1. Given a series of stock costs for a number of days. Find two days on which a person should buy and sell stock for maximum profit.

(The solution breaks to finding two numbers in an array with maximum difference such that the smaller number appears before the greater number).

2. Given any pointer(it can be head or any other node) to a sorted cyclic linked list and a number . Insert the number in the list without disturbing the order. All the edge cases to be taken care of.

Round 4(F2F):

1. Find median of two sorted arrays of equal size.
2. In an array, find two numbers having sum closest to zero.
3. Given a string, display all possible subsets.
4. Difference between overloading and overriding.
5. Can constructor be overridden.
6. Difference between primary key and unique constraint.

Round 5:(HR):

History of Fab and Why do you want to join FAb.

Round 6:(with CTO):

1. Describe your life in a true Bollywood Style.
2. Mistakes you have done.
3. Things you have that you really proud of.
4. Inclination towards Fab and why do you want to join.

I was offered the job that evening

Many congratulations to the author. If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Fab.com
Interview Experience

Fab.com Pune Interview Experience

1) Started with telephonic interview –

- a) Find the occurrence of first 1 in an array and the array contains only 0s and 1s in sorted manner.
- b) Design a datastructure to get minimum path between computers and printers in a network. Printers are getting dynamically added to our model.

2) Onsite 2st round of interview

- a) Given numbers from 1 to n , find a and b such that a

3) Onsite 3rd round HR
Prepare thoroughly on why do you want to join Fab ? Who are the founders and what is the problem that fab.com is solving and how is it different from ebay etc Also, the acquisition of truesparrow by fab.

4) Onsite 4th round HR

- a) Discussed on design of NLQ Parser because that was my project and then design of callbacks in design of a generic tree data structure

b) Given an algorithm print numbers divisible by 3,5 and 3&5. If I keep adding more prime numbers, how will you make your code maintainable ? Please write the complete code

c) Given a circle with radius (r). Find all the points that lie in a circle and which are integers(Hint: $x^2 + y^2 = r^2$ and also use the property of x-symmetry, y-symmetry and mirror)

5) Final round by the co-founder(Nishith Shah)

a) Model an elevator – Very interesting and subjective question. Will give you 1 hour and will make u write the complete pseudo code.

I really liked their interview process because it was very much different from other big companies like Amazon, Adobe or Microsoft who actually tests your mugging skills. If you go without any preparation, still your logic will make you clear their interview. I did get an offer from fab.com.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Fab.com
Interview Experience

HCL Interview | Set 1

I recently had interview at HCL Bangalore.

They said it was scheduled interview and called at 10:00 AM. When I reached there were around 100 candidates waiting. They asked to wait in a room. I had to wait for 5 hours before my turn came. In between they asked we can have lunch at the cafeteria. Food at the cafeteria was very bad. I was sleeping after having that food ;):

Then met interviewer. He was taking interview of 6 candidates at the same time. He gave 4 set of programs to every candidate and asked to solve that.

- 1) Find the Merge point of two linked lists.
- 2) Swap two bits of integer.
- 3) Reverse individual words of the sentence.
- 4) Reverse sting without using temp string.

He didn't ask about the project exp. Over all it was a bad experience at HCL Bangalore. Sitting idle for 5 hr was horrible.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
HCL
Interview Experience

GS Labs Interview | Set 1

I had GS Labs Pune interview on 6th Apr 2013. They called me in the morning 9am. It was good Saturday morning. Reached on time.

1st Round: 1. About Project

2. Some c/c++ program

2nd Round:

1. C++ concepts
2. Diff between makefile and bash script
3. Design program

3rd round:

Design and OS concepts

4th round: Manager Round. More about resume

5th round: HR, more about joining date and policies.

It was almost a whole day process.

Good experience.

This article is compiled by Shantibhushan Sale. Many congratulations to Shantibhushan for his selection. If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
GSLabs
Interview Experience

Symantec Interview Experience | Set 4 (On-Campus)

Symantec Interview Experience Procedure

Round 1 – Online Test

The Online round was hosted by HackerRank. There was a total of 22 questions. The time given was 1 ½ hours. Every correct answer carried 1 mark and every wrong answer carried -1 mark.

Out of the 22 questions, 20 questions were MCQ which covered topics like C/C++, Data Structures, Algorithms, OS, aptitude, etc.

The other 2 questions were coding. The instructions specified that solving 1 would be enough. But the questions were very easy, so I did both since there was a lot of time left. One thing to note here is to take care of the time complexity of the solution. If it has bad time complexity, all of the 15 test cases might not pass.

Around 150 people took up the test in my college and around 60 people cleared the round. They were asked to come to the Symantec office in Chennai for the face to face

interviews.

Round 2 – Face to face interviews:

The interviews started at 10.30 am and went on till 6.00 pm. There was a break in between for 1 hour for lunch. Around 100-120 people had come for the interviews from various colleges.

- Initially, before they started, they gave a sheet of paper in which we had to rate ourselves on different subjects like C/C++, Java, DBMS, System Operations, etc. on a scale of 10.

There was a total of 3 face to face technical interviews. All of them were elimination rounds. Each of the rounds lasted for about 30-45 mins.

- In the 1st round of the technical interview, he asked a lot of theoretical concepts, aptitude, and a little bit of coding. This round mainly concentrates on your fundamentals and basics of computer science. For aptitude, they asked questions from trigonometry and age problems.

Around 40 people cleared the 1st round and made it to the 2nd round of interviews.

- The 2nd round concentrated more on my coding skills. It was also face to face, and I was asked to write the code on a sheet of paper and explain the algorithm used to solve it. I was asked questions based on implementation of stack, linked list, queue, etc. One question which stood out was – given a string, find all possible combinations of letters of that string.

Solution for that problem is:

<http://www.geeksforgeeks.org/print-all-combinations-of-given-length/>

But the difference in the question he asked was – I have to print for all k values from 1 to n (n – length of the given string).

For eg. Given string – “abc”. Solution – {a, b, c, ab, ba, ac, ca, bc, cb, abc, acb, bac, bca, cab, cba}.

I answered all the questions except the one mentioned above.

Round 3

The 3rd round of the technical interview was not held for everyone. It was more like a 2nd chance for those people who did not do the 2nd round very well. I didn't attend the 3rd round. They directly pushed me to the 4th round.

The 4th round was called Managerial round. It was like a HR round where they also asked puzzles other than the regular HR questions like “Why Symantec?”, “Are you placed already?”, etc.

In the end around 20 people were shortlisted for the internship. The results came out a few days later.

They provided lunch and snacks for all the candidates who attended the process. They showed around the entire office during the process of the interviews since each round took place in a different floor in the building.

Overall, it was a nice experience and the interviews were carried out smoothly by the Symantec team without any delays.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Symantec

Symantec Interview Experience | Set 3 (On-Campus)

Interview Type: Campus Placement

Procedure: 1 written test followed by 3 interview round.(2 Tech + 1(tech+hr))

Written test: It was online, consist 20 questions of C/C++, Data structure , Algorithms , Operating system, Unix network programming, Networking and aptitude. + 2 programing questions (both programing question were easy but you have to take care of the complexity)

1st Interview

This interview was tricky; he asked me to rate myself on certain subject out of 10.

(ex. c/c++, java, data structure, algorithm, networking, DBMS, system operations, summer project etc.)

Take care at this time because interviewer will ask according to your marks that you given to subject

For me he asked questions from c++

1. Overriding vs overloading

2. System operations.

3. Output for some programs

4. Virtual function, abstract class, vtable etc.

Just be confidence in c++ basics.

2st Interview

1. Tell me about yourself.

2. Tell me about your project.

3. Write function to implement pow(int a,int n), sqrt(int n) in least complexity.

4. Questions from project.

5. Some programing basics.

3st Interview

Starts with tell me about yourself.

Then explain projects.

After that basic HR questions

1. Goal in life

2. Why Symantec etc..

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Symantec

Symantec Interview | Set 2

Hi, Recently I was interviewed by Symantec.

Round 1, Telephonic, 1 Hour

- 1) Project related stuff from current company and from internship, all the questions were from Resume itself.
- 2) OOPS using C++, was asked almost everything from definition of class to pure virtual functions.
- 3) Basic Linux commands
- 4) General bootup process when computer is turned ON.

Round 2, Online(Screen shared), 1.5 Hours

- 1) Function to reverse a string.
- 2) How to implement fopen, fseek and other file handling functions in Linux, went to discuss various techniques and various constraints like handling a large file.(Almost discussed it for 50 mins)
- 3) Converting a number from one base to another, like decimal to hex, binary to hex etc etc

Round 3, Online(Screen shared), 1.5 Hours

- 1) How to handle the case when we have a if statement in the macro.
<http://stackoverflow.com/questions/154136/do-while-and-if-else-statements-in-c-c-macros>
- 2) <http://www.geeksforgeeks.org/reverse-a-list-in-groups-of-given-size/>
- 3) calX(n) = calX(n-1)*calX(n-2)+calX(n-3), for n > 3
calX(n) = n, for n<=3
Upto what value of n we can find the correct value of calX(n) in C++
- 4) Hex representation of -17
- 5) Xor of 0xFE and 0xEF
- 6) <http://www.geeksforgeeks.org/find-the-missing-number/>
- 7) Basic questions on networking like:-
 - a) IP address, Static IP, Dynamic IP
 - b) DHCP, TCP, UDP
 - c) HTTP, Subnet Mask
- 8) Number of nodes having NULL children in binary tree with N nodes and reason for this value.

Round 4, Online(Screen shared), 1 Hour 40 Mins

- 1) Design a class Elevator, should be scalable.
- 2) Lot of concepts of C++ and comparison with C
- 3) Same question from Round 3, about the if statement in Macros
- 4) One line codes, which can cause runtime exceptions
- 5) Design Patterns(Strategy, Observer and Singleton)
- 6) <http://math.stackexchange.com/questions/183282/puzzle-there-are-two-lengths-of-rope>

Round 5, Telephonic, 35 mins, Director of Engineering

- 1) Brief intro about projects.
- 2) Discussion about my future interests.
- 3) Where do I see myself, 5 years from now.
- 4) Cloud computing
- 5) What was the hardest challenge I faced in my current project
- 6) Which all software practices that I follow in my current project

After this I got a mail from HR, that I was not selected.

It was a sad but nice experience.

I thank geeksforgeeks which helped a lot in my preparation.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Symantec

Symantec Interview | Set 1

Interview Type: Campus Placement

Procedure: 1 written test followed by 2-3 interview round.

Written test: It was online, consist 20 questions of C/C++, Data structure , Algorithms , Operating system, Unix network programming, Networking and aptitude.

1st Interview

This interview was tricky; he asked my following questions.

1. Tell me about yourself.
2. Tell me about your project.

3. Design classes for File and folder structure and write procedures.

4. Do you know java?

5. What is interface? How will you design it, advantages and disadvantages and all

6. Real life example of Circular Linked List, Linked List, Circular Queue and Binary Tree.

Some aptitude questions like

(i) how much water have you drink from birth.

(ii) How far Hardwar from Roorkee, how much time it will take if I go by bus and by walk.

(iii) Why Chapatti are round, why moon is spherical, why shape of bread is rectangular etc.

They were testing my bluffing knowledge and sharpness of my mind and how you bluff accurately.

This article is compiled by **Nitin Gupta**. If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Interview Experience
Symantec

Groupon Interview Experience | Set 4 (SDE2 for Experienced)

First Round Online Coding Round on Hackerrank:- Time 1 hr Screen is shared 2 question

You need to run both programs with all test case passed

1. Given a String STRA contain no of words and other string STRB you need to find occurrence of each word from STRA in STRB .

Complexity must be O(n)

Sol :-Break STRA into words and put into trie and then pick one by one word from STRB and compare .

2. Given T test case T < 10 and number N < 300000 for each test case and contain N no whose range is 300000.Find product of distinct prime factor of all numbers .

Ex- 1

3

10

12

7

prime factor of 10 = 2*5

prime factor of 12 = 2*2*3

prime factor of 7 = 7

SO distinct prime factor is 2*5*3*7 = 210

output -210

Second technical round shared screen Time 1.5 hour 4 ques

Running code

1.source and destination of matrix is given no of way to reach destination .

2.Stream of number you need to find minimum no till this point .we can increase or decrease any number.

Sol:-Heap and Map

3. Given a stream of numbers, generate a random number from the stream with equal probability. You are allowed to use only O(1) space and the input is in the form of stream, so can't store the previously seen numbers.

Sol:- Use Index and swap only when rand()==current_index

4. Given a set of time intervals in any order, merge all overlapping intervals into one and output the result which should have only mutually exclusive intervals

O(n Log n) complexity

3 Technical onsite round on bangluru office

Third round :- 1hr 15 min

Initial discussion about system architecture ,some design pattern discussion like factory vs dependency injection .

Mongo vs mysql

Event vs thread vs process vs actor based model there advantage and disadvantage

Synchronize ,deadlock basic OS concept

Two programming ques :-

a-> Longest Increasing subsequence in log(n) complexity and print Actual LIS .

Code they will focus more on code line by line .

b-> A word is given it is possible from anagram of word to palindrome .

Sol:-just count occurrence of character

Fourth Round :- Two interviewers 1.5 hr

System Design round :- It is like a discussion

N number of file on server you just need to upload file on server one by one and during uploading if it match with any file you need to return that file otherwise any random file and removed that file from server and add dthis file.

File is quite large Sol:- Treat one chunk as a character and make trie and compare it. Handle multithread case.

Memory issue as you can't load whole trie in memory .which database you choose do you need index on any column and why. you can use redis.

Discussion about solr .Sync vs Asyn tradeoff .Serialization approach .Load balancer approach.

How hibernate work and if you need to design hibernate what are the thing you need to consider.

Fifth round :- 50 minute

This is tough where your culture fitness & presentation skills and your knowlegde will judged in a single round

India tech head and Hr person will sit in a room and give me marker to explain on whiteborad about system architecture to build a e-commerce and they are listening and asking question.Which tools is used for what and why it is best ,Why redis is put on frontend. why we need solr and They will ask about my previous project. What are the thing which I left due to time constraint.

They give me a case if your system crash how will you inform it to concerned person. Discussion about notification system .About Playframework vs Spring and its advantage. ORM mapper.

Sixth round on SKYPE:-1 hr

Hiring manager Round

Class Design round

parking system design .Edge case

One probability question I don't recalled it.

Seventh HR round :-

About expectation ,Work culture ,Behaviour question ,Salary negotiation.

Thanks to GeeksForGeeks. Whole process take more than 1 month .

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GATE CS Corner Company Wise Coding Practice

Experienced
Interview Experiences
Groupon

Nearbuy(Groupon) Interview Experience | Set 3 (For Android Developer')

- Hacker Rank round
 - 13 MCQ on java and android
 - Find count of given words in the list of sentences
- Skype round (interview started late)
 - 2 puzzles
 - 3 jars containing 100 red, 100 yellow and 100 green balls. Maximum probability of choosing a green ball.
 - 1 poisoned bottle and 1000 prisoners
 - Count distinct palindromes in a string. Shared an editor to write code and run on online ide
- Skype round (interview started late)
 - Intro about me and my current work.
 - Work experience in android.
 - Asked me to tell about the app I am working on and asked me about my role in that and then asked me to explain a specific feature which I implemented.
 - Difference between hash set and hash map. I told the difference and also said that internal implementation of hash set uses hash map to back its implementation which itself uses hash table.
 - Iterator on hash map.
 - Working of iterator in case of multiple threads (fail fast).
 - There are three threads and we want them to run one after the other. How can we do that?
 - Android related stuff like which library I am using for showing images.
 - What other libraries I am using in app.
 - What is the difference between list view and recycler view (<http://www.truiton.com/2015/03/android-recyclerview-vs-listview-comparison/>). How do u implement click listener on recycler view items. How do u handle different types of views in recycler view (I said using view holder pattern and View type).
 - Difference between single top and single task.
 - He asked me if I am using any custom view in app or not.
 - Last question was a coding question. He shared a link to an editor. One question only. Binary tree is given print level order traversal but starting from bottom. I wrote the code. Then he asked me to print this order from right to left instead of left to right. I did that too.
 - Why I want to leave my current job.
 - Finally he asked me if I had any question. It is always good to ask a question in the end.
- I was able to answer questions but because of lack of confidence I did not get any call after that. But I would say to clear these interviews you should have deep knowledge of basics of you field of interest.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Groupon
nearbuy

Nearbuy(Groupon India) Interview Experience | Set 2 (For SDE-1)

Round 1 : Online Test :-

Given link of mettl to take the test online

Test was based on core java and collections

1.

```
void start() {  
    A a = new A();  
    B b = new B();  
    a.s(b);  
    b = null; /* Line 5 */  
    a = null; /* Line 6 */  
    System.out.println("start completed"); /* Line 7 */  
}
```

When is the B object, created in line 3, eligible for garbage collection?

- A. after line 5
- B. after line 6
- C. after line 7
- D. There is no way to be absolutely certain.

2.

```
class HappyGarbage01 {  
    public static void main(String args[]) {  
        HappyGarbage01 h = new HappyGarbage01();  
        h.methodA(); /* Line 6 */  
    }  
  
    Object methodA() {  
        Object obj1 = new Object();  
        Object [] obj2 = new Object[1];  
        obj2[0] = obj1;  
        obj1 = null;  
        return obj2[0];  
    }  
}
```

Where will be the most chance of the garbage collector being invoked?

- A. After line 9
- B. After line 10
- C. After line 11
- D. Garbage collector never invoked in methodA()

3. Suppose that you would like to create an instance of a new Map that has an iteration order that is the same as the iteration order of an existing instance of a Map. Which concrete implementation of the Map interface should be used for the new instance?

- A. TreeMap
- B. HashMap
- C. LinkedHashMap
- D. The answer depends on the implementation of the existing instance.

4. Which class does not override the equals() and hashCode() methods, inheriting them directly from class Object?

- A. java.lang.String
- B. java.lang.Double
- C. java.lang.StringBuffer
- D. java.lang.Character

5. Which collection class allows you to grow or shrink its size and provides indexed access to its elements, but whose methods are not synchronized?

- A. java.util.HashSet
- B. java.util.LinkedHashSet
- C. java.util.List
- D. java.util.ArrayList

6. You need to store elements in a collection that guarantees that no duplicates are stored and all elements can be accessed in natural order. Which interface provides that capability?

- A. java.util.Map
- B. java.util.Set
- C. java.util.List

D. java.util.Collection

Interview Round 1 (Technical):-

1. Tell me something about yourself
2. Given a link list how will you find out Kth to the Nth node in link list.
3. Given two Strings find out if they are anagram to each other
4. Some basic questions on collections which to use when.
5. String libraries like StringUtils, what are the benefits what is the difference between isBlank and isEmpty

Interview Round 2 (Technical):-

1. Print following Triangle

```
1
121
12321
1234321
```

2. How to remove duplicate elements from array List.
3. Given a array list with numbers 1.100 find the 1 number which is missing in O(n) time.
4. Design class for a Restaurant Menu given Food Type, and price list
5. What do you know design patterns? which one you have seen so far (As I was having only 1 year experience interview does not emphasise too much on this question. I just gave simple definitions of strategy, decorator and MVC pattern)
6. Suppose there are many threads accessing a critical value and few are updating it , take the example of Airplane seat reservation.
7. How will you handle inconsistency. (He was looking for locks as answer and then discussed different lock types)

Interview Round 3:(Technical-Managerial) –

1. What kind of work have you done so far ? (I told her the name of the website) she opened the website and asked some questions on work done on that website.
2. Given 9 balls, find defective one in minimum steps using weight scale.
3. Classic 25 horse problem, 25 Horses, Have a 5 horse track, No stopwatch, How many races are required to determine the 3 fastest horses.

Interview Round 4 : HR-executive

1. Tell me something about yourself
2. Any challenge or initiative that you taken during school, college or office.
3. Why do you want to change ?
4. Why nearbuy ?
5. Expected CTC ?

Interview Round 5: CTO

1. Tell me the work that you have done in your 1 year of your experience
2. What Technology stack you have used ?
3. Why looking for a change ?
4. By what date you can join us ?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Groupon
nearbuy

Groupon Interview | Set 1 (SDE Profile – Fresher)

Hey Guys, I am sharing my experience with Groupon.

First Round (Skype Interview)(one to one)(55 Mins)

They gave me a simple problem just to check my coding skills and my approach. You have a robot in a grid, it can move in forward direction and can change its facing towards north, south, east n west and you are given a command sequence. So what will be the final position of the robot

Example

Grid(100*500)

Robot Position – (5,3)

Sequence — {N,S,M,M,E,W,E,S,M,S,M} North, East, West, South, Move forward

Problem is easy, but they want it on shared editor which will give them chance to ask so many questions whatever you are writing or if you are doing undo operation. They asked me for the perfect code for all boundary cases. I did it well.

So that's all in first round then they ask me some HR question.

Second Round (Again Skype Interview) (Two to one)(48 Mins)

Again they asked a single problem which is very popular level order traversal, but again the major part is shared editor,

I quickly told them my approach, they said ok. Now they make changes in the question. You will have to print it level by level with line break. So I gave them one another method which works in O(n) but they told me to make changes to the first approach. I made changes to the solution, they were satisfied with it, then told me to code it. Again they asked me questions in the code. At last they were very satisfied with the code, I was able to make quick changes according to them or if I have missed something

Face to Face interview

Third Round(45 Mins)

He started with general discussion then HR, Then he gave me a problem.

1) You have a binary tree on client machine, how will u send this info to server and how will you again maintain the tree over the server. I thought few mins, tell him my approach, he was asking for easier way. Then finally I told him my approach. He was satisfied and told me to write the code how and what info will u send and how will u again maintain it on the server, I write both the codes and He was very satisfied with my code.

Fourth Round (40 Mins)

1) Find the min and max in an array in minimum no of operations with complexity. I told him approach, he told me to code it and he was satisfied with it

2) You are given a graph and an algorithm that can find the shortest path b/w any two nodes

Now you have to find the second shortest path between same two nodes. I thought few mins and tell him my approach, he was satisfied and told me to code it.

Now I was not expecting any tech round but....

Fifth Round (1.15 Hour)

She asked me lots of question from OS, DS, OOPS

1) Project description and what was my role

2) Threading, semaphore, Process, Locking Unlocking

3) OOPs basic questions- Polymorphism(runtime, compile time) virtual, vtable, some more questions.

DS questions:

4) Connect nodes at same level, then code for that, then test cases

5) Some questions based on complexity and which will be the better

6) Which sort will u prefer for linked list and why?

7) In a grid, you are given a position, and every location has some value. find the shortest length so that you can touch to any boundary of the grid. I code it then she asked me to optimize it, I did that also.

8) Some other questions but I don't remember now.

Finally hired by Groupon. Special thanks to GeeksForGeeks team, really amazing site for DS questions. That's all for the Groupon. Overall it's not difficult if you are good in DS. Most of the questions are very popular and you had already prepared. They are focusing on your approach and your coding skills.

ALL THE VERY BEST.....:)

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Groupon
Interview Experience

Mynta Interview Experience | Set 8 (On-Campus For Software Engineer)

1. Write a C program to detect a loop in a linked list and remove it.
2. Find the kth largest element in an array.
3. Determine if a given number is a palindrome or not.
4. Determine the maximal sum of contiguous subsequences in an array. Also find the maximal sum of non-contiguous subsequences in the array
5. C program to implement heapsort algorithm.
6. Provide a solution to the sum of subsets problem
7. Given a binary tree, display only the elements in the odd levels of the tree
8. Find the nth node from the end of a linked list
9. Reverse a linked list.
10. Given a HTML tag remove the substrings present within <>.
11. Write a program to find 100!. How will you store such a big number in a variable and what is its type?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Mynta

Mynta Interview Experience | Set 7 (Internship)

First round (online round)

Few mcq questions -mostly technical (C, CPP, DS, OS, DBMS, etc..) and math aptitude; which also had programming question (the question was one page long, i don't even remember the question...Most of us couldn't solve this question, except a few)

I was lucky to get called for next round, without solving the program at all.....

Next Round

For the selected students, there was an in-person interview, this was the question asked for me:

1) Given a string with HTML tag somewhere in it, remove the substrings present within <>. Make sure your algorithm works for all corner cases. What data structure should be used for it? Will it make a difference if you traverse the given string from right to left? I was first asked to explain the logic, later was asked to write code for the same. I was nervous, scared, and what not, after all it was my first interview....tried something but mostly my mind was blank and did this round very badly and was rejected straight away in this first technical in-person interview round conducted by Myntre.

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GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
Myntre

Myntre Interview Experience | Set 6 (On-Campus For Software Engineer)

Online Round

This round had 5 mcq's and 2 coding questions.

The mcq's were mostly on quantitative aptitude like profit and loss, age, train, ratio and proportions.

The coding questions were as follows:

1. Given an array of integers, find the maximum difference between any two elements such that the larger element is always at higher index than the smaller one.

<http://www.geeksforgeeks.org/maximum-difference-between-two-elements/>

2. Given a set of length of N sticks, a cut operation is performed such that each rod is cut by the minimum in that set in every step. Repeat the same till no rods are left and output the number of rods cut in each step.

<https://www.hackerrank.com/challenges/cut-the-sticks>

This round was for 1.5 hours and overall 25 were short listed for interviews.

Personal Interview: Round 1

1. Given the pre-order and post-order traversals of binary tree, write a code to construct the tree.

2. Code to reverse a linked list in all approaches you can think of(recursion, iterative, stack etc)

3. Code of reverse a linked list in groups of given size 'k', say if k=3 reverse every 3 nodes.

4. Few questions on OS about CPU scheduling, explain different scheduling algorithms.

Personal Interview : Round 2

1. Find the second largest element in an array, I said heap sort (maintain a min heap) so I was asked to write a code for heap sort.

2. In an $n \times n$ 2d matrix, starting from the very first element i.e array[0][0] , the only possible ways to move is directly to the element below it or diagonally right of the element. Also as we move, keep adding the elements in the path. Give an approach to reach the last level in the matrix with minimum sum.

Ex : 1 2 3 4

23 45 1000 10

12 8 990 78

Always start at 1, can go either to 23 or 45. If 23, then sum till then would be 24 else 46 and so on.

3. Given a binary tree, find the maximum sum between any two leaf nodes (of course leaf nodes not given) i.e the maximum sum of the nodes in path between the two leaf nodes (including the leaf nodes).

Note : The leaf nodes can be such that they may belong to the same subtree, or different.

4. Given an array of elements which is unsorted and a sum 'k', find if a subsequence exists such that the sum of the elements in the subsequence add to the sum 'k'. O(n) solution was expected.

Few questions related to my Internship projects were asked.

Personal Interview : Round 3

1. Design any category under the 'Book My Show' application. So I chose movies, was asked to draw a data model to represent all entities and relationships between them, also to bring it to a normalized form. Few more specifications and requirements were added, so had to design to handle those.

2. Questions like Why Myntre, my strengths, weaknesses, area of interest, what made me take Computer Science and Engineering.

Few questions related to my Internship projects were asked – difference between C and C# mainly in terms of executable files etc.

HR Round

This was a casual friendly talk with same set of questions like Why Engineering, How do you see yourself in the next 5 years and so on.

Finally they hired 3 students :-p

I would like to give credits of my success to GeeksForGeeks for its wonderful collection of questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Mynta

Mynta Interview Experience | Set 5

Attended coding interview for myntra. Question was based on the movement of Robot.

G-GO one unit

L-Turn left

R-Turn right

Given an input of string have to find whether there exists a circle which the robot would traverse. Input of string is the set of G,L,R have to return yes or no.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Mynta

Mynta Interview Experience | Set 4 (For Senior Software Engineer)

I was recently interview for Senior Software Engineer @Mynta. This is my interview experience.

Round 1 : Online Test (90 mins)

Online test was held at their office on HackerEarth.

Need an efficient solution for the problem.

Given an array a[], find three indices (triplets) i,j,k such that:

1. i
- 2: Technical Round (1-1.5 hours)
1. Deletion in a binary search tree
2. Construct a BST with preorder and inorder traversals given
3. Couple of more questions on trees.

Round 3: Technical Round (1 hour)

1. Discussion about certain implementations in my project.
2. Implementation of O(1) insertion, deletion and finMin through stack.
3. Couple of questions on trees.

Round 4: Problem Solving round (1 hour)

1. Find the intersection point of two merging linked lists.
 2. Identify Trending Topics with many constraints like demographic regions/gender/religion etc. Discussion on the best methods.
 3. An iron rod is given that has to be cut in a manner such that the cost is maximized. Different rod sizes have different costs and there is a cutting cost involved.
- Last round was a telephonic round with VP after few days.

Round 5 : VP/Designing Round (Telephonic – 50mins)

1. Discussion on projects.
2. Behavioral questions. Interests, why willing to change etc.
3. Design a bus reservation system defining classes and member functions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Mynta

Mynta Interview Experience | Set 3 (On-Campus)

Recently Mynta visited our campus for hiring full timers as well as interns . I would like to share my experience as a full time applicant.

Online Round

This was a 2 hour round consisting of 5 mcqs and 2 codes

The mcqs were pretty much simple based on DS, DBMS, OS, OOP, C

The codes were as follows

1> Given N leaves numbered from 0 to N . A caterpillar at leaf 0, jumps from leaf to leaf in multiples of $j(j,2j,3j \dots)$ like this . j is specific to the caterpillar,until it reaches the end . On whichever leaf it jumps it eats a little bit . You have to find out how many leaves ,from 1 to N, are left uneaten after k caterpillars have reached the end,each with their own jump factor (j).All the caterpillars begin at leaf 0.

example :

N=10

k(number of caterpillars)=3

jump factors are 2 ,3,4

then all the leaves eaten by the first caterpillar are (2,4,6,8,10)

those eaten by the second one are (3,6,9)

those by the 3rd one (4,8)

so the uneaten leaves are 1,5,7

output=3

2> Given a number $n > 0$, you have to find the number formed by just inverting the bits of the number .

for example: binary of 5 is 101 ,inverting the bits we get 010 =2

so input=5 output=2

PS : merely $\sim n$ wouldn't work ☺

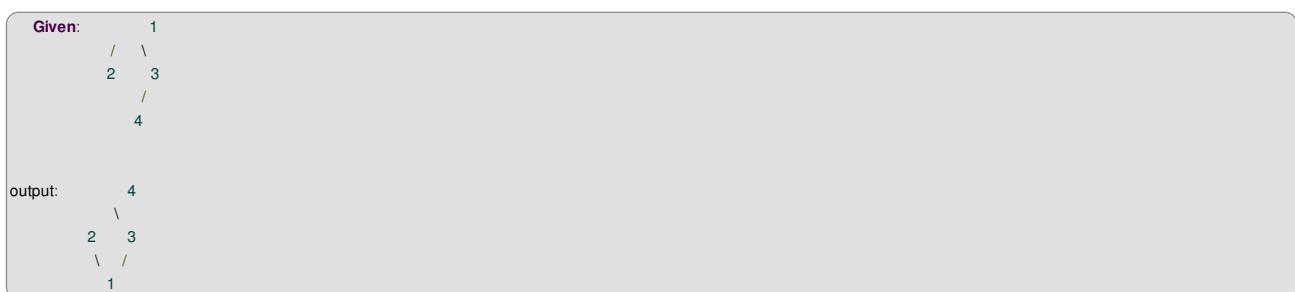
PI round 1

A brief discussion on my projects and internships.A thorough discussion on whichever languages,frameworks,i had used in my projects.

Code 1

Given a binary tree ,you have to invert the tree ,i.e. the parents would become children and the children would become parents

for example



Code 2

Given a set of numbers ,you have to find the max and the second max in minimum number of comparisons.

Apart from the codes there were some questions on OS,process stack, heap memory in Java, Garbage collection,OOP principles and comparison based sorting

PI round 2

Code 1

Given a very large number (10^7 - 10^9) and a small number (5000-10000).

I have to calculate the product. It was up to me how i would represent the large number.

Code 2

Given a set of integers ,you have to find the largest number possible by rearranging the contents in the array

for example :

input: {78,99,101}

the largest number possible by rearranging the contents of the array is 9978101 .

Discussion on DBMS , what is indexing? ,on which attribute should we have an index for efficient retrieval... what data structures are used for indexing ..advantages of B+tree

When should we not use indexing? some basic questions on SQL

PUZZLE

Two boys A and B enter a tunnel . At 2/3rd of the tunnel,they see a train coming towards the tunnel ,the train is still at a distance from the tunnel . A runs back to that end of the tunnel from which they entered the tunnel,B runs towards the other end of the tunnel. Both of them just make it without being run over by the train . The train is travelling at a speed of 60kmph.

Find the length of the tunnel

Hint: We need one more variable to solve this question.But that wont be told at the beginning,. We have to find out which variable that is.

PI round 3 (Managerial)

Puzzle 1

Given a biased coin,how would you take an unbiased decision .You don't know whether it is biased towards heads or tails.

Puzzle 2

Given a cylindrical glass of water,how would you conclude whether it is more than half filled ,or less than half filled. The glass is not transparent and you do not have any measuring instrument. And you cannot spill out or add anything.

Puzzle 3

A man lives on the 12 th floor . Everyday he uses the lift ,comes to the ground floor and goes to office.On his return ,three cases are seen
1> whenever he is with someone in the elevator he takes the lift directly to the 12th floor
2>whenever its raining he takes the elevator to the 12th floor.
3> on any non-rainy day when he is alone ,he takes the elevator to the 10th floor and walks up the stairs 2 floors.

Explain the situation.

Puzzle 4

A and B are twin brothers. A is older than B by 5 minutes . A celebrates his birthday each year on 16th march whereas B celebrates his birthday on 15th march . Explain the situation.

Apart from this ,he asked questions like ,what are my career goals,what do you look forward to in a boss ,how do you see yourself in 5 years ,etc etc (you all know it :P)

HR Round

If you have made it this far,it means you are doing pretty great . The HR round was kind of a normal chitchat session,..

Thank You Geeksforgeeks! \m/

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Myntre

Myntre Interview | Set 2 (For SDE-II)

1st round(coding)

- 1) Given a tree, in which leaf nodes form a doubly linked cycle Print cycle.
- 2) Tell me if binary tree is BST?

2nd round(problem solving)

- 1) Given a sorted array , being rotated; Find an element in it.
- 2) Given a sorted array , being rotated; Give me sorted array.
- 3) Given a stream of integers, give me median at any time.
- 4) From me:

You look younger, what's your designation & experience?

Where did you work before?

Why you moved to myntre from amazon?

3rd round (problem solving)

Given an array of numbers, give me a wave.

Input: a0 a1 a2 .. an-1

Mathematical expression for wave: ai>=aj=al4th round (general discussion)

- 1) His info, team info & company
- 2) My info & work
- 3) What are my favorite tasks & contribution?
- 4) What are technical challenges that you solved?
- 5) Where do you want to work & what interests you?
- 6) From me:

What's your role?

Where did you work before?

What are +ve & -ve's of myntre, you think?

Why you left your previous job?

How is work life at myntre?

- 7) Why myntre?

5th round (VP)

- 1) His info, teams info & company
- 2) My info
- 3) Give me a flow of your work & company
- 4) What's your contribution?
- 5) Tell me something, you haven't highlighted in the previous interviews
- 6) How you keep yourself information-aware?
- 7) What you do in free time & what's your initiatives in technology?
- 8) Discussion of mobile technology
- 9) Why myntre?
- 10) What's your choice of work?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences

Mynta Interview | Set 1

First round

1) Given set of coins of different denominations like 1\$(100), 5\$(50) ..etc, and given an amount, I was asked to come up with optimal solution using least number of coins to get that amount.

I told greedy approach of starting with maximum denomination coin, use up as much as possible, then moving on to next, I was asked to tell dynamic programming approach.

I told I will split the amount in half and keep doing it until I reach 1 1 combination..start calculating optimal combination..and keep going up like..

2) Next question was to try and implement google autosuggest. I told I will use tries, pseudo code and some optimizations on top of it.

Second round

1) If every leaf node in binary tree forms a double linked list, that is all the leaf nodes for a DLL.

ex:



print all the leaf nodes....

This involves first identifying leaf node. We can do that by checking at every node, if its child points right back at the parent, then parent is leaf node.

2) After this it is simple traversal of DLL and printing nodes.

3) Level order traversal.

4) Mirror image of tree

5) Ancestors in binary tree.

Third round

System Design questions :

1) A Bunch of devices....you can share files etc., ..each device might support only some limited format of files. Design a common server hosting all the files repository.

2) Design a website where after user request...a bunch of processes need to be executed and then a mail is sent to user with the result. ..Take care of scalability etc.,

Fourth round:

System design: The whole supply chain, a central head, bunch of divisions under it... under each division ..bunch of manufacturing units and then under them..vendors. SOA approach seems to be best in this case.

in mobile phones how autosuggest and autocorrect work.... google ranking algorithm...and little on analytics.

Fifth round

1) Database:design with one-one mapping, one-many mapping...some basic qns.

2) Binary tree insert, delete (all the cases in delete and when they happen)

3) Zig zag level traversal of binary tree

4) There was one dynamic programming question..I dont remember what it was...

5) c++ oops....polymorphism...

6) and also if following is possible...virtual parent, child1, child2

virtual parent* = new child1

child1* = new parent

child2= child1 ???

7) Given a bunch of floors....an egg will break only if it is thrown from a floor and any floor above that....what least number of eggs u would need if total floors are say 32..

I went with binary search..where I start from middle..throw the egg, if it doesn't break...

go to middle of upper half and if it does break..I know I should go to middle of lower half.

...so 5 eggs

Sixth round

1) This was CTO round, if you make this round...you are doing pretty good.

2) He asked a lot on what I worked on ...and asked questions relevant to that.. process threads...stacks heaps. a minor system design on component in their system. how they are shared between...tradeoffs...

we discussed about scalability and challenge....

a bunch of behavioral questions .

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GATE CS Corner Company Wise Coding Practice

Cadence Interview Experience | Set 2

I applied through cadence home -> careers ->. I uploaded my linkedin link as resume. I got a call within a week and was asked to give a telephonic round.

Round 1 – Telephonic

1. Tell me about yourself
2. What is the difference between C and C++
3. Is a C program faster than a C++ compiled program.
4. What is UNION in C?
5. What all type of sorting algorithms do you know?
6. What does the term "object oriented programming mean?"
7. What is the difference between overloading and overriding?
8. About my present work.

I was then called for face to face interviews; I did not delay and fixed it the day after today.

Round 2 – F2F

1. What does your current company's software do? About the current company?
2. Compilation of a C/C++ code. He gave me a dummy program. He then asked me to use #ifdef #endif in the header files, then asked its uses.
3. Different segments of memory. Where all can a variable be allocated?
4. There is a stack where push and pop operation are happening. At any point of time user will query secondMin(). This API should return second minimum present in the stack.
5. Given a number, tell number of bits set in the number in its binary representation. Ex. N = 5, Ans – 2 (101 has 2 1's in it)
6. Reversing a string recursively, iteratively. He then asked me to rewind the whole stack or trace the recursive version for examples – “hello” and “ABCD”.
7. Cell padding concept in struct/class.
8. Traversal in a tree. Made me code iterative and recursive version of in-order traversal.

Round 3 – F2F

1. Difference between static and dynamic bindings.
2. Concept of virtual function in C++. How is a vtable maintained? What are its entries? Example code where virtual function is used.
3. What is auto, volatile variables? Scopes of variables.
4. References in C++.
5. What is a static function in a C++ class? Why is it used? How to call a static function of class from any part of the code.
6. Given an array of numbers (+ve and -ve), tell the subarray with the highest sum.
7. Height of a tree, diameter of a tree.

Round 4 – F2F (Manager/Director round)

1. Allocate a 2-D array using C/C++.
2. Why does a program crash? Valgrind issues etc.
3. Puzzle: 100 floor building and 2 eggs given, find the minimum/maximum number of tries required to find the floor where the egg will break. The answer I gave was 19. He asked me to normalize the solution; we then came up with answer 13.
4. Puzzle: Jumbled N pens and N caps, all caps separated from their pens, all pens have some thickness properties. How would you cap all the pens?
5. Given a dictionary, how can you represent it in memory? What will be the worst case complexity of a search done on the DS designed?
6. About my current work

Round 5 – HR

1. Why do you want to leave your current company?
2. What do you know about us?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Cadence India

Cadence India Interview | Set 1

I recently gave interview for Cadence, for Member Technical Staff position. Total Work Experience – 2.5 year.

Telephonic :

- 1) How to limit the scope of a variable -> I explained about static
- 2) what is linked list, implement using array and linked list (which is better single or doubly?) and space and runtime complexities of push() and pop().
- 3) In a directed graph how can you find a cycle? is it possible to find using BFS, why BFS is preferred over DFS.

Face to Face

Round 1 :

- 1) Automata basic questions (I didn't remember automata.. the guy helped me in this one)
make a State diagram for a^*b^*c expression.
- 2) convert it into deterministic diagram
- 3) state diagram for $a[POW(n)]b[POW(n)]c$ (use of counter is required)
- 4) n jobs are given, their dependency list is given how will you schedule them ? (I explained using modified BFS)
- 5) If a graph DS is given, how will you dump that into memory and retrieve it again ?

Round 2 :

- 1) Write code for string reversal.
- 2) Write code for linked list implementation. push and pop
- 3) Puzzle – 23 coins are given and two players are there. anyone can pick 1 to 4 coins at a time.
One who picks the last coin wins.. Find algo for it.

Round 3 :

- 1) In a project, I have an API which takes some parameters and returns a string.
How will you handle the memory allocation done inside this API ? – Ans is you make it static.
- 2) Puzzle – two ropes are given. each burn in 60 mins. how to count 45 mins from it.

Round 4:

- 1) General questions about my current work and projects done with the senior manager.

Round 5:

HR round..

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Cadence India
Interview Experience

IgniteWorld (Bharti SoftBank Portal) Interview Experience | Set 2 (On-Campus)

Hi, I was recently Ignite world visited our college for MTS

Round -1

Aptitude test which consisted of around 50 MCQs ,out of which 30 are aptitude and 20 programming questions which included OOP concepts and C questions.
Time duration 1 hour
around 150 students appeared for the test all the branches were allowed but basically require students who are technically sound. They shortlisted 15 students I was one amongst the shortlisted students.

Round -2

What is virtualisation and paging?
Difference between a thread and a process.
Asked to explain various scheduling algorithms.
Threads in detail
what are the problems arising in multithreaded applications how can we solve them ?
Difference between semaphore and mutex.
I was given a quite tricky example and asked if there is any deadlock and was to modify the code if required.
Define a doubly linked list WAP to reverse it in place.
To check if the parenthesis are balanced .
And finally few questions on my project.

Round -3

Print all the corner nodes of a binary tree clockwise starting from parent node, was asked to code on paper
Dynamic programming question find best strategy for winning the game(two players collect maximum sum of coin value picking coin alternatively either top one or the bottom most one).
meanwhile I was writing the code the interviewer went through my resume and asked on all topics of my areas of interest and questions on my project, challenges faced etc.

Round -4

This was totally HR round asked why I would like to join their company , how long would I stay with the company what positives and negatives did you find in the company etc. Tried to demotivate me and misguide me but I didn't fall in the trap, he was very much impressed by my answers .

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bharti SoftBank (HIKE)
Ignite World

Bharti SoftBank (Hike) Interview Experience | Set 7 (For SDE)

First Round Written Test(75 minutes)

1. 20 MCQ questions based on DBMS, OS, Outputs, Data Structure.
2. Two coding questions :
 - a. <http://www.geeksforgeeks.org/minimum-number-platforms-required-railwaybus-station/>
 - b. <http://www.geeksforgeeks.org/maximum-difference-between-two-elements/>

F2F Interviews

Round 1 45-50 minutes)

1. Asked my approach of written coding questions and asked to optimize if possible.
2. Given K lists of different sizes having some integers, find the minimum range [l, r] such that atleast one integer from each list should come in that range.

Round 2(Pen & Paper) : (30 minutes)

1. Write an algorithm for converting bst to sorted doubly link list.

Round 3 : (1 hour)

1. About my Summer Intern project and semester projects.
2. About distributed storage and parallel processing and basics of hadoop.
3. Some questions on Data base querying like caching and in disk querying and asked me to design a query solving system for the use case when millions of queries are coming per second.
4. One puzzle of red and blue balls , I told him that I know the solution.
5. One simple dp question to find the number of ways to reach n if 1 or 2 steps are allowed, I said I have already solved a good version of this question if 1 to m steps are allowed using simple dp. He smiled and said I am not going to ask any questions you are going to the next round. And admired me about my honesty.

Round 4 : (1:30 hour)

1. Implement a queue using stacks with O(1) enqueue as well as O(1) dequeue.
2. Implement URL shortener.
3. Nut bolt problem , I said I have already solved this earlier. But he still asked me the approach and I had given O(nlogn) approach.
4. Multiple Threads are updating a stack concurrently then what is the problem and how to deal with it.
5. Semaphore and its uses in real life scenarios.
6. Egg floor puzzle. I told him that I know the solution.
7. About distributed processing and hadoop
8. Hashing and B tree and which is better and why and asked for the use cases also when the particular is better.

Telephonic :

Round 5: (CTO round) (15 minutes)

1. Why do you want to work at hike ?
2. About my Summer Intern project.
3. One data base design question and asked me about the data structures that I would use for the particular use case and why and then optimize.

Round 6: (CEO round) : (10 minutes) Proper HR questions.

Round 7 (HR) : (6 minutes)

1. About my Summer Intern project (general overview).
2. Discussion about the full time + intern offer and about the new office and work culture stuff.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bharti SoftBank (HIKE)

Bharti SoftBank (Hike) Interview Experience | Set 7 (For Automation Testing/Manual Testing)

Profile: Automation Testing/Manual Testing

Process: Written Test (90 Minutes) + 2 Technical Interviews.

Round 1 (Written Test)

It consists of 50 questions (including 2 programming questions, mandatory for Automation Testing). For Manual Testing, test case were to be written for an Instant Messaging app like hike/whatsapp.

Section 1- General Aptitude/Logical

Section 2- Software Knowledge (Questions like latest version of iOS, Windows, Android. Operating Systems etc)

Section 3- Database and Linux

Section 4- Computer Programming (Output questions of java/c/c++, generic questions related to programming)

Coding Question 1:

Given a string of parentheses, write a program to find whether its valid or not.

Examples-

Input: {{}}

output: Valid

input: }{}{}

output: Invalid

Coding Question 2:

Given 'm' number of small bricks (each x inches long) and 'n' big bricks (each y inches long), we want to create row which is z inches long using combination of small and big bricks. Write a program to verify whether it is possible to create such row of bricks or not.

Note: Solution $Mx + Ny = z$ is not recommended.

Examples-

input: We have 4(m) small bricks each 3 inches(x) long and 3(n) big bricks each 4 inches(y) long. We need to create row which is 14(z) inches long.
output: Yes

input: We have 2(m) small bricks each 2 inches(x) long and 2(n) big bricks each 5 inches(y) long. We need to create row which is 6(z) inches long.
output: No (no combination of bricks will make wall which is 6 inches long).

Interview:

For automation testing- Programming question like

Convert a binary tree into its mirror.

Reversing a linked list.

Database Queries etc. were asked.

Solution Q1:

```
#include <stdio.h>
#include <stdlib.h>
int main()
{
    char str[20];
    int i=0;

    printf("Enter String: ");
    gets(str);
    int count=0;
    while (str[i]!='\0')
    {
        if (str[i]=='}')
            count--;
        if (str[i]=='{')
            count++;
        if (count<0)
        {
            break;
        }
        i++;
    }
    if (count==0)
        printf("\nValid");
    else
        printf("\nInvalid");

    return 0;
}
```

Solution Q2:

```
#include <iostream>
using namespace std;
int main()
{
    int m,x,n,y,z;
    int small=0, large=0, sum=0;
    cout << "Enter values : ";
    cin >> m >> x >> n >> y >> z;
    int i=0,j=0,flag=0;
    for (i=0; i<m; i++)
    {
        small=small+x;
        for (j=0; j<=n; j++)
        {
            sum=small+large;
            if (sum>z)
                break;
            if (sum==z)
            {
                cout << "\nYes. Combination Possible";
                flag=1;
            }
            large=large+y;
        }
        large=0;
    }
    if (flag==0)
        cout << "\nNo. Not possible";
    return 0;
}
```

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bharti SoftBank (HIKE)

IgniteWorld (Bharti SoftBank Portal) Interview Experience | Set 1

I was interviewed for windows developer.

Round 1 – telephonic

- About yourself
- Work done on windows platform
- What is mvvm
- What is data binding
- Difference between Observable collection and List
- INotifyPropertyChanged
- ICollectionChanged
- Why and where do we use "using" statement
- Do you know socket programming? (I said no)
- ListBox vs LongListSelector

Round 2 – f2f DS

- About yourself
- About projects n questions from projects.
- What are priority queues?
- How to implement priority queues data structure wise?
- Dynamic allocation of 1D and 2D arrays
- Find middle element of linked list
- Find nth element from last in a linked list
- Reversing a linked list
- Finding n/m element of a linked list
- 100 people in a circle with gun puzzle where 1st kills second and passes the gun.

Round 3 – simulation round

Building an app in 3 hours using Flickr api where the user can search for a tag and it returns photos with that tag. The feed needed to have infinite scrolling where more photos are loaded on reaching the end of the current set of photos.

Things that mattered-

- Virtualization
- Background creation of images
- MVVM implementation
- Virtualization
- Json parsing

Round 4 – f2f with Director of Engineering(DOE)

I was just asked a single question here, a puzzle, asked in form of a programming problem. I was asked to suggest solutions considering both, DS and the logical solution of the puzzle.

There's a circular hotel lobby with doors that leads to different rooms. There light inside the room can be on/off. You need to check and turn off light in every room. Number of rooms is not known, you can travel in both directions.

Identifying the starting point holds the crux here as the lobby is circular and number of rooms is not known.

Round 5 – HR

- About yourself
- Why windows
- Why engineering
- How you got into app development
- And mostly behavioral questions and compensation discussion.

I would like to thanks geeksforgeeks that helped me immensely in my preparations for this interview.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bharti SoftBank (HIKE)
Ignite World

Bharti SoftBank (Hike) Interview Experience | Set 6

Hi, Recently I was interviewed by Hike. I have 4 years of experience.

Round 1

Machine Coding round to create an android application to take pictures from and upload to a server.

Designing , thread safety and performance was evaluated

Round 2

1.Given a sorted array of m size with m elements

and another sorted array of m+n size with n elements starting from the 0th index .

Merge these two arrays in linear time without using extra space

Round 3

questions on hashmap working ,concurrent hashmap and Collections.synchronize

Round 4

How to analyze usage history of a application

Reverse alternate levels of a binary tree

Round 5

Designing a LRU Cache which is thread safe and can be scaled

Designing a file sharing mechanism between two users .

Concepts of distributed systems were asked.

I thank geeksforgeeks which helped a lot in my preparation.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bharti SoftBank (HIKE)

Bharti SoftBank (Hike) Interview Experience | Set 5 (Off-Campus for Portal Team)

I was interviewed for Android Developer.

Round 1 :

Discussion about Android basics and Java.

Optimized technique to fetch ListViews from database v(assuming you have no temp buffer)

ListView Recycling

Image caching

Questions on cache in Android

Inheritance in Java, Interfaces

Comparison of C++ and Java interms of Inheritance

Memory allocation for 2D array using pointers in C++

Alternative for pointers in Java

SoftReference and Weakreferences in Android

Activity lifecycle in android

Fragments, Fragment lifecycle in android

Find if two linked list merge, get the merging point

Calculate the velocity of a swipe done by user on mobile screen.

Round 2 : (Simulation Round)

They give you a problem to implement in 3 hours. We can use any language, any library or any framework.

I was given to develop a Broken Link Detector :

1. A URL good be given as seed URL
2. Fetch all the pages on this webpage
3. Check all broken links (those link are broken which give HTTP code other than 2xx OR 3xx)
4. If the link is not broken and is of the same domain, repeat steps 2-4 for this.
5. The final output should be txt file which stores all broken links corresponding to which webpage they occurred.

After the implementation, the interviewer saw the whole code, discussed the whole logic. Asked about optimizations which can be added.

I was even asked to implement the optimization (adding Thread Workers and concurrency) after going back and send him the code.

Round 3 : (with CTO)

Behavioral questions – Tell me about yourself, your projects, why do you join BSB, etc.

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GATE CS Corner Company Wise Coding Practice

Bharti SoftBank (Hike) Interview Experience | Set 4 (Off-Campus for SDE1)

Written round :

We all were required to write a code for LRU implementation with proper Locks and synchronization so as it is thread safe.

Round1:-

1. Interviewer had a look at my CV for about 10 minutes and asked lot of questions of my work in current job.
2. Then a coding question that “Given a cartesian x-y plane and lot of points in that plane with x and y coordinates and 1 more point(say x,y) is given, so we have to find all the points in that plane which are lying in a radius of length r from point (x,y)”
3. Questions on Java :- Why synchronised block needed? and some more questions on Multithreading in Java.

Round2:-

1. Some DB queries to write for the tables provided by interviewer
2. Implement Inorder Traversal with and without using recursion.
3. How does Stack work internally and what data it holds?

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GATE CS Corner Company Wise Coding Practice

Bharti SoftBank (Hike) Interview Experience | Set 3 (For SDE 1)

Written round :

We all were required to write a code for LRU implementation with proper Locks and synchronization so as it is thread safe.

Round-1

1. A sorted array is rotated K times. Sort it in o(n) traversal without extra space.
2. Median of a stream of array.

Round-2

1. Pirates and gold puzzle.
 2. Why manhole is round ?
 3. two pair with a given sum in a bst with o(log n) space.
 4. K random numbers from infinite stream of array with equal probability.
- question from projects were also asked.

Round-3

Lots of question from projects and technology used there.

How you choose tgoose technology over the others ??

Given a file with student name and marks .. Print all student whose marks lies within a given range of marks.

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GATE CS Corner Company Wise Coding Practice

Bharti SoftBank (Hike) Interview Experience | Set 2

Round 1 (Written Test)

Duration – 90 mins

Section 1 (Technical objective questions)

– 25 mcq's mainly focusing on c , c++ , os , data structures , algorithms

Section 2 (2 Coding questions)

– Code was supposed to be written on paper

Question 1: Given a string of words return all words which have their reverse present in the string as ((word1 , reverseword1) , (word2 ,reverseword2))

eg .

Input -

Sachin tendulkar is the best tseb eth nihcaS

Output -

{ (best, tseb) ,(the , eth) ,(Sachin , nihcaS) }

Question 2: Finding the just smaller number formed using same number of digits.

Print -1 if not possible .

eg

```
input - 371  
output - 317
```

```
input - 456  
output - -1
```

Round 2 (Interview)

First round of interview was based on basic data structures

1. Interviewer asked me to write code for the 2nd maximum element of an array . Then the 3rd and kth largest element in array was discussed .
2. Concepts related to binary search tree , uses and comparing complexity .
3. Asked about Hashing , Collisions , Implementation for hashing .

Round 3(Interview)

Question 1: Asked to write code for level order traversal in binary tree. Question was further modified to do a spiral order traversal. Both were supposed to be done in $O(n)$ time complexity .

Then he asked me a puzzle

<http://www.programmerinterview.com/index.php/puzzles/3-ants-on-a-triangle-riddle/>

There was a small discussion about my projects then .

Then he started asking questions about operating system

- Mutual exclusion and semaphores .
- Write code for producer consumer problem using semaphores .

After I wrote some pseudo code problem was made more complex by adding further constraints .

The interviewer wanted to test my understanding about semaphores and asked some tricky and confusing questions .

Round 4(Interview)

Question 1: Write code to get maximum and second maximum element of a stack. The given function should be in $O(1)$ complexity .

I gave a solution using 2 additional stacks

Then he made it more interesting by extending the question to Find kth largest number from stack at any instance in $O(1)$ time. Stack supports push ,pop , peek , and kthmaximum function .

He was very particular about the $O(1)$ constraint .

I gave plenty of solutions but he wanted me to reach a $O(1)$ solution.

Finally i gave him a solution which used an additional heap and a binary search tree and was able to get $O(1)$ time complexity .

Question 2: Given a biotonic array (first numbers increase and then decrease) write code to search a given number. Time complexity $O(\log n)$

The question was further modified to write code for 4 cases to search –

- 1 Array could be sorted ascending
- 2 Array could be sorted descending
- 3 Array could be first increasing and then decreasing
- 4 Array could be first decreasing and then increasing

The idea was to first detect which case it was and then search accordingly

Time complexity $O(\log n)$

Question was further modified to handle duplicates. In case of duplicates my algorithm became $O(n)$

Round 5 (Telephonic Interview)

This round was a telephonic interview with the CTO of the company .

First he asked me about database indexing. What ? Why to use indexing ? how is it implemented ?

I gave him a complete explanation

This is a very good explanation

<http://www.programmerinterview.com/index.php/database-sql/what-is-an-index/>

The he started with a small discussion about my projects and research paper .

He then moved on to data structures and asked me how to choose a relevant data structure for a given problem .

- I gave him advantages of every data structure and certain problems where specific data structures could be useful .

Then he gave a question and asked me for what data structure should be used keeping time complexity in mind

Question: Given a list of students and their marks write a function that would print all students with marks in a given range l , r

eg .

```
Akshay 30  
Atul 25  
Angay 20  
Sahil 10
```

Then if input is l = 12 and r = 26

Output - Angay, Atul

I gave a solution by indexing marks with a link list of students creating an array of link lists

He then modified the questions by adding marks in floating points were also allowed .

I gave him a solution using map (c++) based on a key value pair of marks and list of students

But he asked to optimize the time complexity

I then gave a modification of my first solution and adding concept of buckets and binary search .

He asked me a few hr questions in the end .

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bharti SoftBank (HIKE)
Hike

Bharti SoftBank (Hike) Interview Experience | Set 1

First Round Written Test

1. The test consisted of 10 MCQ's on Aptitude and 10 MCQ's on C programming.
2. It also consisted of 2 programming questions which were easy
 - a. In an array find two numbers whose sum equals zero in O(n) complexity.
 - b. Given Preorder and Postorder traversals of a BST . Construct the tree.

First Technical Interview

The interviewer was quite cool and composed. He started from initial questions about me and then went on with asking some questions on processes, semaphores and networks(as i had a networking project in my resume).

Then he started with some questions as

1. Given two strings check whether one string can be mapped to other string. For eg. abcd can be mapped to ghjk but accd can not be mapped to ghij since 'h' and 'j' both can not be mapped to 'c'.
2. Given a string find the number of meaningful words(which add to original length of the string) which could be formed from the string (A function called isWord() was provided which had tell you if the word was a dictionary word.

for eg. programmerit forms:

pro+gram+merit
program+merit
programmer+it
pro+grammer+it

Then he discussed the iterative and recursive approaches and asked me to calculate the complexity of my code.

3. He discussed the longest common subsequence problem with me and discussed the top-down and bottom-up approaches.

Second Technical Interview:

He started with questions on Object Oriented programming like inheritance, virtual classes, operator overloading etc.

1. Given a number find the next higher number from the combination of given numbers.

for eg. 3256 ----- 3265
3265 ----- 5236
432 ----- error

2. Discussed hashing and some other questions on OS related algorithms.

Good Experience !!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bharti SoftBank (HIKE)
Interview Experience

Belzabar Software Interview Experience | Set 5 (Off-Campus for Software Developer)

I applied in Belzabar off-campus, and got a chance to be interviewed by them. There were total of 5 rounds.

Online Coding Round: 1 hr

It consists of a single coding question and you have to write the code on notepad type editor and no compiler was given. It is not required that your code will compile fine, but the logic must be optimized.

Ques: Belzabar completed 14 years of service, so to denote it on the number system, there are some Belzabar numbers in the form of $n(n-14)$ or $n(n+14)$, where n is prime. So you have given the input X, find the count of all the Belzabar numbers less than or equal to X.

Bonus Ques: Print all the Belzabar numbers less than/equal to X.

The question was easy but try to solve optimally and put all the comments necessary to understand the solution/logic you are using, and attempt the bonus question for sure.

Round 2 : Face-to-Face Technical Interview

An experienced tech guy took this interview, he started with the basic introduction and then move to the data structures.

Q1: Sort an array of 0's and 1's.

Q2: You have the ages of India's population, sort all the ages in an optimized way.

Q3: Find the minimum path between 2 given nodes of a binary tree.

Round 3 : Face-to-Face (Tech Interview with VP)

He started with the basic intro, then moved to my projects in detail, with a discussion on different technologies and then he moved to the mathematical and logical questions and then ended with one question of DS.

Q1: Find the intersection area of the 2 different circles.

Q2: What is the formula for finding if the 2 different circles intersect, 2 different rectangles intersect, 2 different hexagons intersect. What is the pattern you observe in them? Which one is easier to calculate and Why?

Q3: Find the sum of 2 given integers. Integers are represented as an array and you have to put the sum of integers in the array of integers itself.

Round 4: Face-to-Face HR

General Discussion with introduction, my basic profile apart from technical, every sort of things you have done in your college.

Q1: Why do you want to join Belzabar?

Q2: Why we hire you, any quality which will be helpful for the company?

Q3: Some basic counter questions from your profile interests like if you are a foodie as in my case, she wanted to know what is the best dish you tasted and from where?

Round 5: Face-to-Face (Tech Round with Director)

This round again started with some intro from resume, and asked me how did you find the interviews so far. Then he moved to some technical questions.

Q1: A process which takes 'T' time to execute in a single processor system and takes the same time to execute in multiprocessor machine, how is it possible?

Q2: What do you mean by normalization?

Q3: Write an SQL query to modify the type of a column from string to an integer.

Q4: In a knockout tournament, if there are N players, how many rounds do you need to play to find out the winner? How did you observe-specify the methods of observation.

In the end, I would like to suggest prepare from Geeksforgeeks and do regular coding, it helped me a lot and I got the offer. Thank you geeksforgeeks for providing all the stuff required for learning.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Belzabar

Belzabar Software Interview Experience | Set 4

I recently had interview at Belzabar.

After aptitude round only 69 students were shortlisted out of 256.

First Round(F2F):

He started asking questions about data structure. Questions were easy. Graph and heap sort were mainly focused topic.

Second Round(F2F):

In second round, he asked one puzzle(Haretown and Tortoiseville are 45 miles apart. A hare travels at 7 miles per hour from Haretown to Tortoiseville, while a tortoise travels at 2 miles per hour from Tortoiseville to Haretown).

If both set out at the same time, how many miles will the hare have to travel before meeting the tortoise en route?).

Then he focused on java basic questions.

Third Round(F2F):

In this round he asked me 2 code reverse a string without using temp variable.

then asked one query(DBMS query to print the nth largest salary in baghel table). Two 2 linked ques and 3 tree questions he asked like(mirror of tree).

HR:

1.tell me about yourself.

2.why do you want to join Belzabar.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Belzabar

Belzabar Software Interview Experience

Belzabar recently visited our campus to hire full time employees. About 120 students gave the first round, 50 made it to the next round and finally 11 people had interviews. One was selected for the post of computer scientist and I was lucky to be that one person.

Here's my interview experience.

Round 1:(online MCQs)

About 70 questions, very easy level.

Round 2:(Coding test on paper)

One question. It was to rearrange positive and negative numbers in a 1-D array such that their relative order remains same. No extra space is allowed.

Round 3:(Technical interview)

1. Find if a number is palindrome or not.
2. Find if a string is palindrome or not.
3. Detect and remove loop in a circular linked list.
4. Check if a tree is height balanced.
5. Implement a Red Black tree.
6. Basic OOPs concept- run time polymorphism, encapsulation etc.
7. DBMS query to remove all duplicates from a given table.
8. DBMS query to print the nth largest salary.
9. Next greater element in array.

Round 4:

HR round. Not much of an effort. Be yourself.

Round 5:

Director's round. He asked me to find greater of two numbers without using if, else, conditional operator, >,

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Belzabar

Belzabar interview experience for Computer Scientist

First round was a written round.

Second round was a written coding round.

Third was a technical personal interview round.

Fourth and fifth were HR and director round respectively.

First round

It was a online test which includes 90-100 questions based on aptitude, c++, java, sql queries, computer networks, linux. Questions were not too tough. They were basics based on what we have covered in our academic subjects.

Second round

They shortlisted 60 – 70 students for this round . It was a coding round . Only one question was given and we have to solve it on a notepad without using any compiler. The question was

Rotate a matrix by 90 degree and explain the algorithm.

It is not necessary that code must compile. If it has some compilation errors they will consider it until and unless algorithm or approach is correct. We were required to explain used algorithm on each and every step so that it can be easily understood. (mention time and space complexity).

Third round

In this round they shortlisted 20 students . It was approx 1 hour round . They were asking questions on data structure , arrays , os , dbms , sql queries, OOPS .Questions were mainly covered from geeksforgeeks .

It is not necessary that all of these topics will be asked from you .They will also see your resume and ask according to your interest . Like they asked me Question on my interest area(coding, DBMS) .

Questions were as follows

- * What is BST, how will you delete nodes in bst ?
- * Given a boolean 2D array, where each row is sorted. Find the row with the maximum number of 1s.
- * Why sizeof operator is a operator and not a function ?
- *Find median in a stream of integers.
- * Sort an array of 0s, 1s and 2s .
- * Then he asked me basic OOP concepts and implement it in ATM machine . Basically create a class diagram for ATM machine .
- *Then there were 2 simple sql queries which include joining of tables .
- *At last he gave me a scenario and asked me to create its database showing normalization at each step .

It is not necessary that you have to answer all questions correctly . For each of the question they will see your approach and how you reached to optimized solution .

Fourth round –

For this total 6 students were shortlisted.

It was a casual HR round conducted on skype . They asked simple questions like tell me something about you, what was the most challenging phase during your college life, how you have contributed to your college, your weakness and strength, why you want to join this company, your preferable location and which type of projects you have done. It was approx 20 minutes session. You just have to convince them that you are really interested to join the company.

Fifth round

This was a telephonic director round in which he asked basic puzzles, explanation of your projects and again basic HR questions.

Now if this round doesn't goes well dont panic . If your HR round went well , they will consider you .

And finally out of 6 they hired 4 of them.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Belzabar

Belzabar Interview Computer Scientist Internship

Belzabar Software Design & Development recently visited our Campus, as a regular offering Computer Scientist Internships to 2-3 students of the college from CS/IT Engineering Branches. They had a very strict policy that if one applies to Internship cannot sit for Placement Drive when the company visits the campus again. To put in a nutshell, You get only one chance!

The Selection consists of 3 rounds of rigorous test,

1. First Round (Online Test)-

The first round was an Aptitude cum Technical Test of 95 questions to be solved in 50 min.

Questions were primarily from OS, Linux, Java, Databases Queries, Computer Networks, Data Structures and were targeting the basics of these core subjects.

I got through the first round with one of the highest scores.

2. Coding Round –

45 min to write a program in C,C++ or Java.

Efficient Program has extra credits.

Algorithm is to explained at the Beginning or the end, Extra credits for that.

Compilation of Code is not allowed.

Previous Questions which have come so far are –

Q) Given a digit string, return all possible letter combinations that the number could represent.

2=abc,3=def,4=ghi,5=kl,6=mno,7=pqsr,8=tuv,9=wxyz

A mapping of digit to letters (just like on the telephone buttons) is given below.

Sample Input:

23

Sample Output:

ad, ae, af, bd, be, bf, cd, ce, cf

<http://tbi.bridgenit.com/belzabar-interview-review-intern/>

The question for me –

Q) Remove Duplicates from Linked List, which has already featured on GeeksForGeeks,

<http://www.geeksforgeeks.org/remove-duplicates-from-an-unsorted-linked-list/>

I solved it using the naive approach and two of my batch mates solved it using Hashing, they got selected for interview. I didn't make to Personal Interview Round.

Belzabar is a Superb company offering 6.70 LPA PPO to Students, so must apply and All the Best for your Belzabar Internship/Placement Rounds.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Belzabar
Interview Experience

Expedia Interview Experience | Set 8 (On Campus for SDE)

Round 1(percentage based shortlisting)

Expedia shortlisted around 90 students who had an aggregate percentage above 70%.

Round 2 (20 MCQs & 2 Coding questions)

Hosted on hackerrank. MCQ were on Data Structures, C, JAVA and aptitude. Coding questions were-

1. Given preorder traversal of a Binary Tree in the form of an array, check if it is a BST or not.
2. Delete Nodes with odd value in a linked list

21 students were shortlisted after this round

Round 3 (Technical Interview F2F)

- Questions regarding my project.
- Questions on data structures, from linked lists to tries, their complexities etc.
- Implementation details of HashMaps and collision handling.
- One coding question: Given an array of n integers representing stock prices on nconsecutive days find a pair (buyDay, sellDay), with buyDay ? sellDay, such that if we bought the stock on buyDay and sold it on sellDay, we would maximize our profit.

Round 4 (Technical Interview-2 F2F)

- Tell me about yourself.
- Coding question: Write an optimal program that would determine the total number of stops an elevator would take to serve N number of people.
- There is an elevator in a building with M floors. This elevator can take a max of X people at a time or max of total weight Y. Input is in the form of twoarrays:1. weights of persons, 2. the floor they need to stop at.
- Questions based on real world problems, how to handle them and one design based question. It was mostly focused on OOPS.

Round 5 (HR Interview F2F)

- He asked me to tell something about myself.
- The difficulties I faced while working on my project and how did I overcome those.
- One practical word based problem (on graphs) and a long discussion on it
- Why do you want to join expedia? Why should we hire you and other related stuff.

I was given an offer for internship for SDE profile.

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
Expedia

Expedia Interview Experience | Set 7 (4.5 Years Experienced for SDE1)

There were 6 rounds in total after which I was shortlisted for the position. General questions like 'why Expedia?', describe yourself & your experience? reason for switch? Questions for me?' were asked by almost everyone in all the rounds.

Following were the technical questions asked:

Round-1 (1 hr)

1. Current project & responsibilities? Challenges?
2. Difference between wait() & sleep()
3. Describe certain OOPS principles
4. Best Code Review practices
5. TDD? steps?
6. Why is String class immutable?
7. difference between array & arrayList
8. difference bw iterator & listIterator
9. Types of exception? what happens to the exception object once the exception is caught & handled? when is it garbage collected?
10. what is AWS?
11. Design a vending machine – test cases & design pattern.

Round – 2 (1 hr)

1. why do you want to switch?
2. Decorator pattern (design & code)
3. how will you implement a batch-job without a framework? how are they scheduled? Timer object?
4. diff bw EJB2 & 3
5. diff bw SOAP & REST web services
6. write code to Implement a singleton in multi-threaded env. explain.

Round -3 (1 hr)

1. OOPS best practices?
2. JVM memory management, heap, stack & garbage collection.
3. TDD? steps? types of test cases?
4. Test cases for the design of vending machine?
5. why do I hire you?

Round -4 (40 mins)

1. write a code for printing numbers from 0-10 & change the sysout to print 10-0
2. write a code for finding if two rectangles are intersecting, given set of their two opposite vertices
3. write some test cases for a method that finds area of a triangle
4. what is singleton? application of Singleton in your project

Round -5 (1hr 45mins)

1. Current role & responsibilities? Technologies used? front-end or backend?
2. Singleton? write the code, ensure that it works in multi-threaded env n safe from reflection as well
3. how will you make a class final?
4. what is immutability? give an example of immutable class in java? why is String immutable?
5. What is a web-service? SOAP vs REST? benefits of REST?
6. Diff bw 'String str = new String("abc")' & 'String str = "abc"
7. in what ways can the state of a user be saved? pros & cons of all methods. what are cookies? how are they implemented?
8. where will u close/release the resources? what if u get an exception in finally block?
9. Describe and implement any design pattern apart from singleton
10. how will u identify a deadlock? implement ways to prevent & resolve.
11. write SQL queries (using foreign keys, having, group by clauses, nested queries)
12. have u done code reviews? what do u look for in the code while doing so?
13. challenges faced while using Hibernate? performance?
14. how will you implement advanced search using Hibernate?use of Criteria & Pagination APIs?

Round -6 (30 mins)

1. what is a var in javascript? types & scope?
2. what is angular js?
3. difference between 'var x=3;' & 'x=3;'?
4. what is AB testing?
5. given: a baseURL & a map containing queryStrings – write a code to return a complete URL string. how will u handle special characters in it.
6. how will you make sure that the code remains maintainable.
7. what is an enum? diff between enum & constant? uses of enum?
8. TDD? which mocking framework have u used?

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GATE CS Corner Company Wise Coding Practice

Experienced Interview Experiences
Expedia

Expedia Interview Experience | Set 6 (For SDE)

First f2f (45 mins)

1. General introduction about academics and work experience.
2. Given an array of 0 and 1, sort in most optimal way.
3. Extended the array to contain 0,1 & 2.
4. Find Least common ancestor of two nodes in a binary tree.

You cannot assume that both keys exist in tree.

Second f2f (1 hr)

1. Puzzle: Make 4 ltr, from jars of 3 & 5 ltrs.
2. Puzzle: Make 6 ltr from jars of 13 & 9 ltrs.
3. What is inner join and auto join in DB.
4. What are indexes, disadvantages.
5. What is XSLT, XSD.
6. Difference between Composition and Inheritance. Advantages of Composition over inheritance.
7. Puzzle: Probability of seeing a vehicle on a highway is 95% in 30min, what is the probability of seeing a vehicle in any 10mins. Probability of seeing a vehicle in an hour.
7. Puzzle: A rope burns in 1min, measure 30 sec with 1 rope.
8. Puzzle: now measure 45sec with 2 ropes.

Third f2f (Manager 1.5hr)

Asked me to draw the architecture diagram of the product I am working in my current organization.
Many questions around that, why this design, any improvement, memory requirement, where it fails etc.

1. Diamond problem in C++.
2. Difference between abstract class and interface.
3. Why is interface required.
4. What are method overloading and overriding conditions & return type covariant.
5. Checked and unchecked exceptions.
6. How to find an element in a collection.
7. Optimize the operations in each iteration.
8. What do you do to remain updated with latest technologies.

The person was constantly creating pressure and checking how I handle it.

Fourth f2f (Director) (45mins)

1. What do you do in case of any conflict.
2. Have you encountered any such condition.
3. An instance where you proposed some design and it got approved.
4. What do you do when you are blocked because some other person is not working.
5. What are your weaknesses and how you are working to improve them.
6. Why do you want to leave your current organization.
7. Why Expedia?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Expedia

Expedia Interview Experience | Set 5 (On-Campus)

Hello everyone! Expedia came to our campus for full time hiring of final year students. They had shortlisted candidates for the interviews by taking an online test comprised of four sections (Quantitative, C, Logical and English). Every section had a timer attached to it, so you need to think and answer quickly. Although, the questions were easy but cutoff was quite high.

This round was followed by a coding round, comprised of two questions:

1. Apply MFU (Most Frequently Used) pages technique and count number of leaks (Given frame size and order of frames).
2. Insertion in a sorted circular linked list.

We were given only 1 hr to code these questions. After that 35 students were shortlisted for face to face interviews

First Round (F/F)-50 minutes

The man who was taking my first round was my alumni. He started-off by asking my introduction and then asked me to code the following questions.

1. Detect loop in a linked list and return the node at which the looping is done. This was quite easy for me as I already knew the solution, but still consumed 15 minutes to answer him. You don't have to answer the stuffs quickly, rather you need to develop some test cases and have some discussion regarding the structure of the problem, and then answer. I started off with the augmented solution, then tried to break the problem into Y-node detection and later answered him the actual solution. He was happy that I knew the name of the algorithm which I was applying (Floyd's Cycle Detection).

2. You have an array of integers of size N. You have to find the sum closest to zero for any pair in that array. The array is unsorted.

He then navigated on to my Codechef profile and asked a question that I did in the June14 Long Contest. I explained him and he was satisfied (You should be prepared to answer each and everything mentioned or referenced in your resume).

Second Round (F/F)-1hr and 15 minutes

The interviewer asked me my introduction and about the problems that were asked in the previous rounds. He then asked me about my projects. The discussion lasted for 1 hr along with the paper and pen coding for different algorithms and data structures like Heap, B and B+ tree, red-black tree, map and hash-map and finally he wanted me to code the function for LCA in a binary tree.

HR Round (F/F)-1 hr

When I entered the room, there were two people sitting inside the room. One of which asked my introduction. The other then intervened and asked me to name any five Operating Systems. After that, they both started questioning about the different scenarios and in between they asked me many traditional questions like why should we hire you?, strengths and weaknesses ,why Expedia?, your priorities etc. This all continued for about 1hr and asked me to wait for the result.

Result came after 2 hrs, my name was not there.

Note: The whole process is quite lengthy and one needs to have a sound sleep before interview. Moreover, you need to be more than technical in order to crack Expedia.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Expedia

Expedia Interview | Set 4 (On-Campus)

My Expedia Experience:-

Online Test:-

MCQs on almost all topics (DS, Algo, C, C++, OS, DBMS, Quant, Verbal)

2 coding problems:-

1. Rat in a maze(Basic Recursion Problem).
2. Given a undirected graph check whether it is a tree or not(Easy BFS problem).

F2F Technical Interview Round 1(40 Mins):

-Very Long and depth discussion on Projects.

-Discussion about some google products implementation :(.

-Given Inorder and Preoder Traversal of a binary tree, Construct the Binary Tree.(Complete code with all boundary Conditions needed).

F2F Technical Interview Round 2(40 mins):

-Discussion on projects(Asked to dry run the algo used)

-Multithreading?

-Process and Threads ?

-Semaphores Implementation + Some Basic OS Questions(Critical Sections etc)

-Solve Reader Writer Problem with Semaphores(Code was needed :P)

-Given a tree, print rightmost nodes.(I said, it can be done using Level Order Traversal and printing the Last node at each Level, then he asked to write the code for it).

-Implement Queue With 2 stacks

-Some More Questions on another projects.

F2f HR(60 mins) :

-Introduction

-Many Questions on different practical situations, and asked for my reaction to them.

-Find top 3 records from an employee table.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Expedia

Expedia Interview | Set 3 (On Campus Full Term)

Lately, I had an on campus interview with Expedia. Here are the details of the company's written and interview process.

Round 1 (Written, Computer Center)

Part 1 : Very easy questions

1. 25 C/C++ Q. mainly (35 min)
2. 16 Aptitude Q. (16 min)
3. 14 Logical Reasoning Q. (14 min)
4. 18 English Language Q. incl. 2 comprehensions (16 min)

Part 2 : 2 coding questions (There were lots of different questions. Everyone was given 2 random questions out of them)

1. Count LRU cache misses where page nos. referenced are given in array
2. Insert an element in sorted circular linked list

Round 2 (Technical Interview)

1. Print right view of a binary tree
2. Given an integer array A[]. Find max(j i) such that A[i] > A[j] and i Round 3 (Technical Interview)

1. Given Rand5() which generates random numbers from 1 to 5. Implement Rand7() (a function that gives random numbers from 1 to 7) using Rand5()

2. A continuous stream of binary numbers is coming (0s and 1s). At any time print the max length of the window in which number of 0s and 1s are equal

3. Find lowest common ancestor of 2 given nodes in a binary tree

Round 4 (HR Interview)

1. Some basic HR questions based on resume
2. Why did you choose engineering?
3. Why C++ was named so and not C+++ or C+?
4. Some general awareness questions like India's population, conversion b/w crore, lakh, million, billion etc.
5. How would you feel like if I tell you that there's no growth for first 3 years at Expedia?
6. How would you feel when you will be given code maintenance work instead of code development?
7. Why did you do your project alone? Do you not trust your friends?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Expedia

Expedia Interview | Set 2

Written 50 questions all mcq:

1. questions on sql.
2. lot of threading and java exceptions
3. questions on sorting, complexity and comparison with other sorting techniques
4. Error output questions
5. DS questions
6. Increment and decrement operator questions

first face to face(SDE)

1. reverse a string, complexity, complete code.
2. complete structure of hashmap, very detail description, along with the basic coding of the hashmap internal implementation.
3. code for how to create deadlock
4. code for singleton class, with all boundary conditions like double check condition
5. detail discussion on synchronized keyword, both in the cases of class static functions and instance functions

second face to face(SDE)

1. introduction, ask about my interests and current projects
2. wrote me a basic code of two numbers performing some operation(modulus, or factor or comparison), cant remember exactly but was very basic operation, he then asked me to improve that code as such as possible with all possible boundary checks and then asked me to explain all the points.
3. Asked me to write a program , where i have a grid with many cells, how many paths are possible from one point to other desired points.
4. then we had a long discussion of how expedia works and what type of projects and opportunities are there.

Third face to face(senior dev)

1. Introduction
2. detail discussion on my projects
3. 2 Questions on arrays and strings, medium level difficulty
4. Difference between c++ and java and my preference
5. Very Detail discussions on JVM, memory management and garbage collector

Manager Round(Director and Manager)

1. Define work, work pressure
2. Situational questions, pretty difficult

3. Reason for leaving current company, and what will be my action if the same things repeats in Expedia
4. Keeps on increasing the stress by continuously pressurizing on reasons for which I am willing to leave the company
5. Being calm and remain open minded, is the key to handle the situation
6. They actually want to measure the reaction at panic scenarios.

Finally, got the good news from HR, got selected.

Many Many congratulations to the author. If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Expedia
Interview Experience

Expedia Interview for SDE-II

I attended Expedia interview for SDE-II role.

Here are the questions on each round.

Round 1: [Coding]

1. Given MxN matrix with sorted elements row wise and column wise, find the Kth largest element
2. Given MxN matrix with sorted elements row wise and column wise, find an element
3. Given MxN matrix which contains 1s and 0s, find the largest sub matrix which contains most number of 1s. condition is that each row in the sub matrix must contain at least one 1

Round 2: [No coding – Just Approach]

1. Given two Linked lists, find out whether they intersect or not and where do they intersect
2. Two linked lists are given, find out the sum of them without altering the linked list
3. Questions about Java, Spring and previous projects

Round 3: [Coding]

1. Given MxN matrix, which contains 1s and 0s only. Redraw the matrix so that, if any one position [i,j] contains 1, mark the entire row and column with 1. But make sure because of newly marked 1s, don't do the same

i/p	o/p
0 0 0 1 0	1 1 1 1 1
0 0 0 0 0	1 1 0 1 1
0 0 0 0 0	1 1 1 1 1
1 0 0 0 1	1 1 1 1 1
0 1 0 1 0	1 1 1 1 1

Round 4: [On different day]

Google Docs type Online Text Editor with similar functionality – Designing question. Asked to design the system with flows etc.

Rejected the offer as I have another better offer.

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Interview Experiences
Expedia
Interview Experience

Android Developer Interview at Headstrong and SnapDeal

Headstrong:

1st Round:

- 1) What is Heap Memory and Difference between stack and heap memory.
- 2) Why would you do the setContentView() in onCreate() of Activity class.
- 3) In an app where a component would get stacked up dynamically like experiences in LinkedIn. Would you declare a component in layout xml for this or you will create it dynamically and why.

2nd Round

- 1) How will you go about creating an in house GPS map system with Bluetooth.
- 2) How will you create a circle with color by using XML only.
- 3) How will you create an OCR application.

Snapdeal

1st Written Round

- 1) What is the difference between an interface and abstract class.
- 2) Find maximum number in an array with increasing and then decreasing numbers.
- 3) Add two numbers represented by linked lists and represent the sum in third linked list.
- 4) 20 odd questions about activity base class, fragments types, service's base class, Content Providers Functions, Loaders Functions and Out Of Bound Errors.

2nd Face to Face Round

- 1) What is lifecycle of Fragment
- 2) What is IPC and architecture of an app using .so file having its API exposed with IPC.
- 3) Binary Search.
- 4) Basic about Threads, Service and AsyncTask.
- 5) When will you use a messenger and a handler.

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GATE CS Corner Company Wise Coding Practice

[Interview Experiences](#)
[Headstrong](#)
[Interview Experience](#)
[SnapDeal](#)

SnapDeal Interview Experience | Set 17 (For SDET)

Below was my experience with Snapdeal SDET Bangalore Location.

Round-1: Telephonic Interview -Skype

Basic questions on Java (Since it was mentioned in my resume).

Like ArrayList vs LinkList

Exception Handling questions

MongoDB basic questions (How to create sequence, and Indexing)

Automation related questions as :

Selenium Grid. Basic syntax in automating search in google maps using selenium.

Given an array:

{ 2, 3, -7, 6, 8, 1, -10, 17 }

Find the smallest positive number missing.

After selection i was called to Snapdeal office for other rounds.

Round-2:

Sort a Array using Comparator Interface.

How to write a User defined Exception

Basic questions on Selenium and about the project, how selenium is used in our project.

Coding question

All combination of a string ABCD

A B C D AB AC AD BC BD BCD (Only forward combinations)

Round 3: Hiring Manager round.

Was asked to Design and write test cases for Google Maps and google Translator.

It took 30 mins to complete it.

Given a question and to execute it on online editor which had all test cases.

Arr1 = {10,20,30,40,50}

Arr2 = {5,10,15,20}

Output Sum of (Max of arr1 divisible by 10 & Max of arr2 divisible by 5)

You can use only one for loop.

Round 4:

Questions on Map Reduce in MongoDB(Since mongoDB was in my resume).

Questions related to selenium.

Given a string ABCDEF -> I need to tell , if this string has all characters from A-Z

Round 5

HR Questions

Normal HR Stuffs.

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GATE CS Corner Company Wise Coding Practice

[Interview Experiences](#)
[SnapDeal](#)

Snapdeal Interview Experience | Set 16 (Off-Campus for Software Development Engineer)

I had interview at Snapdeal Gurgaon for Software Development Engineer, before that I have also completed online test from home. I am 2016 passed out but having 2 years of working experience.

1st technical interview (One hour) :

Most of the question were related to the algorithms (Mainly Dynamic Programming).

- 1) Heap Tree.
- 2) Quick Sort with complexity in various cases.
- 3) Given n number, find the number that will be at 5th position after sorting, you are not allowed to use any sorting algorithms.
- 4) Core Java – Write code for HashMap.
- 5) Different Hashing algorithms
- 6) DP problems

They also told me to write code on paper for every questions.

They have asked me many coding problems, I wrote correct code for only 2-3 problems, but I explained every problem with solving strategy (DP, Backtracking and Greedy).

Some questions I dont remember but most of them were related to the algorithms.

2nd technical Interview (30 mins) :

This interview was really surprise for me. Interviewer was from testing team. They were asking me testing related question.

- 1) What is Selenium
- 2) Black box and white box testing
- 3) And other testing question.

Also asked me some Java question.

I didn't answered any questions because I dont have testing experience. I really got Frustrate. At this time I really felt like I will be rejected.

But I dont know How but Somehow They passed this interview.

3rd Technical Interview (45 mins) :

This was the interview I enjoyed lot. interviewer was very friendly. He asked me Java (JSE + JEE).

- 1) Write hello world Java program
- 2) Draw memory Architecture for it. (Heap and Stack memory.)
- 3) Java OPPS Questions
- 4) Util Package classes and Their code.
- 5) Some sql Questions Like : group by, order by.

I answered all the Java questions except for some SQL Join Questions.

4th technical and HR (1 hour) :

- * working experience
- * Projects
- * Core JAVA Questions.
- * Some Sql questions.
- * Some puzzle.
- * Some HR questions like : Why snapdeal?

5th HR :

- * Tell me about yourself
- * Working experience
- * Salary Discussion.

Feedback was positive.

Books :

Narasimha karumanchi : Coding interview Questions

Khalid Mughal Java

S K Srivastava

Head First Design Patterns

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GATE CS Corner Company Wise Coding Practice

Experienced
SnapDeal

Snapdeal Interview Experience | Set 15 (On-Campus for Software Engineer)

Snapdeal visited our campus for recruiting software engineers for Bangalore/Gurgaon location. Selection process consists of 4 rounds.

Round 1: Algorithmic coding test was conducted on hackerank platform. Around 60 students gave online test. There were 4-5 coding questions to be done in 90 mins duration.

After Round1, around 20 students were shortlisted for the next round of selection process.

Round 2: Technical Round(25-30 min):

First Interviewer asked me to introduce myself. Then he asked me questions on data structures & Algo. He asked me about tree data structures, why it is used, time complexities of various operations on tree, balancing of tree, AVL Tree. He asked me write AVL Tree insertion, deletion, update code. Then he jumps to BTREE, B+Tree and asks me write code on paper for various operations. Questions were asked on indexing, various types of indexing, how it is used in databases, etc. Then he briefly asked about the project I done in my internship.

After round1, 8 students were shortlisted for the next round.

Round 3: Technical Round(30-40 min)

Interviewer asked me how was my 1st round, I said it was great. He first asked me introduce myself. Then he asked about my projects mentioned in my resume. I done a project in machine learning on spam webpage detection. He was interested in that. He asked me what language, libraries I used to implement that project. Then he gave me real time scenario to predict whether an item is explosive or not. Then I approached this problem and asked information related to problem. He was impressed by the approach I target the problem. He asked me what machine learning model will be best and what are their pros and cons. Then he asked me question that given 100 sorted linked lists, you have to merge them and return single sorted linked list. I gave 3-4 solutions with their time & space complexities.

After Round2, 5 were selected for the HR round.

Round 4: HR Round(10 min)

Interviewer asked me common HR questions like tell me about yourself, my family background, why do you want to join the company, what impact you can make in Snapdeal, why should we hire you. After that he congratulated me for the role of SDE at Snapdeal. I was very happy at that moment.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal Interview Experience | Set 14 (For Software Engineer)

Snapdeal interview experience for Software Engineer position:

Round 1: Simulation round

Ques: Develop REST API for adding, fetching, updating and deleting a bookmark. Developed API using Spring boot.

Round 2: Telephonic tech round:

Ques 1: [Modify BST such that all greater keys are added to every key](#).

Ques 2: Question on work experience.

Ques 3: [Implement LRU cache](#)

Ques 4: Difference between REST and SOAP.

Ques 5: What is Apache CXF?

Round 3: F2F

Ques 1: Given an integer array representing size of candles which reduce 1 unit in a day. Room is illuminated using given x candles. Question is to find maximum number of days room is without darkness.

Ques 2: Given a path of x length and some pickup/ drop points of some passengers, find amount payable by a passenger. Basically it is car pool system and cost payable by a passenger will be his contribution in car pool. For eg. if A travels with B for 10 km and then next 20 km with C and D then A's cost will proportional to (cost of 10 km) / 2 plus (cost of 20 km)/3

Round 4: F2F with manager

Ques 1: OOPS principles. What is polymorphism?

Ques 2: Difference between Abstract classes and Interface?

Ques 3: What is Overriding and Overloading?

Ques 3: In what business scenario [Link list](#) or [Array](#) list will be used?

Ques 4: [Copy linked list with arbitrary pointer](#) without using hashtable.

It was very tedious process. All rounds went well but I could not figure out what went wrong. Plus there is very difference between hikes given in Delhi and Bangalore. HR don't have clear thought about whom they want to hire and don't even share the feedback. Wasted a lot of time in Snapdeal process.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal Interview Experience | Set 14 (On-Campus for Software Engineer 1)

Hi, Recently i was interviewed for Snapdeal Software engineer 1 Position in my college campus.

Round 1: Online

1) Check whether two given lines intersect or not, coordinates of end points were given

2) Find the number of paintings visible ,their positions as one dimensional co-ordinates of end points were given

Round 2: (1st face to face)

1) Inorder traversal of tree, time complexity and space complexity

2) Recursion ,iteration approach time and space complexity for preord and inord

3) Height of a tree

4) Diameter of tree

5) 2 stacks in an array,3 stacks in an array

6) Race condition, semaphores, timestamp protocols

7) What happens when we type www.snapdeal.com

8) Without domain name how will you open a website

Round 3: (2nd face to face)

- 1) Check whether a given binary tree is BST or not
- 2) Reverse linked list iterative ,recursive code
- 3) Time and space complexity
- 4) Questions on Trie data structure
- 5) Searching an element in a b+ tree time and space complexity

Round 4: (3rd face to face)

- 1) Why B+ tree
- 2) Cache implementations
- 3) Explain a process in memory
- 4) An array of elements were given,you have to find a point from where sum of left side of array and right side of array are equal.optimize the code
- 5) Memory hierarchy
- 6) What are registers
- 7) Comparison of AVL trees ,red black trees and binary search trees
- 8) Implement a phone book ,search by name and search by number
- 9) How to give all possible names
- 10) If memory is less how to give all possible names

Round 5:

HR round

Basic questions about snapdeal

Why Snapdeal?

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Interview Experiences
SnapDeal

Snapdeal Interview Experience | Set 13 (On-Campus for SDET)

Snapdeal visited our college to hire for the profile of SDET (Fresher). The interview consisted of 5 rounds. (Almost same process as for Software Engineer profile).

#Round 1: a) Aptitude MCQ (50 questions in 12 minutes), b) Quant + 2 Coding questions (Hackerrank) (45 minutes), c) C/Java MCQ

* Aptitude MCQ consists of very easy questions, speed is all what matters here. Attempt all questions (No negative marking).

* Quant questions were a bit difficult and took time to solve. For some questions, we had to deduce the answer by checking all the options. Hackerrank coding questions were average.

Line intersection problem and overlapping paintings problem.

" It is important to solve atleast 1 coding problem (3 test cases atleast), to get into the next round. "

Get familiar with Hackerrank before your interview.

*C/Java MCQ questions were average. You had to choose either C or Java. Basic output questions.

#Round 2 (Technical Interview I): Majority of the students were eliminated after the first round. This round consisted of questions from DS, Algo, OS and Networks. linked list, stack, queue and tree questions were their favorites. Refer geeksforgeeks for questions on these topics (LL reversal, identical trees etc). Also, the interviewer would ask you to write the code for questions on LL, trees etc., so be prepared for it. I was also asked about deadlock, process synchronization, TCP/IP.

If you are unable to solve a problem, that is perfectly all right. Don't give up. Tell the interviewer what you are thinking. The interviewer would help you to reach the final solution.

#Round 3 (Technical Interview II) : Same DS, Algo questions and resume based interview. Your previous projects, interests. Please don't write non-sense in your resume. If you have something in your resume, be prepared to back it up. Asked some advanced Java questions since I had done a project in J2EE. Make sure you know everything about your previous projects.

#Round 4 (Managerial Interview) : Questions about resume, why Snapdeal, puzzles and SQL query questions. SQL questions were difficult. Study nested queries, joins etc. Again, don't quit. Try to reach out a solution, interact with the interviewer. They want to know your thought process. I wasn't able to give the correct/optimal solution of queries and the puzzle, but i was able to dig deep and give a non-optimal solution. Practice popular puzzles.

Round 2,3,4 may take upto 1.5 hrs each depending upon the interviewers and candidates. They would know almost everything about you after these 3 rounds.

#Round 5 (HR Interview): Again resume based, introduction, hobbies etc. Might give puzzles to solve (gave to my friend). Asked questions about Snapdeal. Lasted 15 minutes.

All the best!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal Interview Experience | Set 12 (For Senior Software Developer)

I gave this interview for Senior Software Developer Role.

Round 1:

Lots of puzzles and algo's. The interviewer didn't let me write code for anything, the moment I say efficient algorithm he moved next question.

Q1. A tree is represented in the form of array. Where index(i) of the array represent value of a node and the value inside(A[i]) represent the parent index of the tree.

Value corresponding to root is -1. Construct the tree.

For Eg: 1,-1,1,2,3,1 index 1 is root, with three children at indexes (0, 2 and 5) and index 3 is a child of 2, index 4 is a child of index 3

Initially I did it O(n*n) and later with the help of extra space O(n), I did it in O(n)

Q2. We played a game, there are n coins where each player has to pick up coins min 1 and max 6 one by one and the person who picks the last coin is the looser something like <http://www.quora.com/Given-n-coins-for-two-players-playing-a-game-Each-player-can-pick-at-least-1-and-at-most-5-coins-in-one-turn-The-player-who-picks-the-last-coin-loses-the-game-If-they-play-optimally-which-player-will-win-the-game>

We played two such sets and both times the interviewer won and he asked me to find the logic behind it, luckily I could crack it using the two sample games I played.

Q3. <http://www.brainangle.in/brainteasers/teaser.php?op=2&id=9653&comm=0>

After long discussion I could answer this as well, with some hints.

Round 2:

This round was a mix of core java and Designing

Q1. Categories of different books in a library is stored in database as

Category => String Name ,String Id, String ParentCategory_Id

Null ->Physics->Electronics->Current

Categories are infinite and sub categories are infinite

All Categories with the parentCategory_Id null are the first level categories, and under each such category we will have multiple sub categories.

He will give me an array_list with these tuples and I have to generate entire tree.

I wrote a class Node{ String Id, String name, List children } and I return a node with null name and null Id as the root.

Q2. A user logged in a page and the load balancer is sending each request of a user to different servers(instances). I want session_data in all servers, how to do this?

Q3. He asked me, if I know this. Collections.SynchronizedList(ArrayList lis)

I said no and then explained what it is and asked me to implement.

Round 3:

This round went pretty good

Q1. How java files are loaded into tom cat server

Q2. How different versions of the dependency package resolve

Q3. Two classes with same name in diff package, do they overload

Q4. Two classes under same package(I told him compiler will throw error) and then asked which class will throw error first and few more generic java questions.

Q5. Asked me to design a app like ola cab.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal Interview Experience | Set 11 (On Campus)

SnapDeal visited to my campus recently. Below is my interview experience.

Round 1(online)

20-23 MCQ Questions: Questions were mixture of Quantitative aptitude and Computer Science.

Three Coding Question.

1) Given a string of parenthesis only, check if it's valid or not. <http://www.geeksforgeeks.org/check-for-balanced-parentheses-in-an-expression/>

2) Find next greater number with same set of digits. <http://www.geeksforgeeks.org/find-next-greater-number-set-digits/>

3) Given an array where each element is the money a person have and there is only Rs. 3 note. We need to check whether it is possible to divide the money equally among all the persons or not. If it is possible then find Minimum number of transactions needed.

Selection for the next round was depends on the number of programing question you solved and number of test cases passed.

Round 2(F2F) 30-min

Only 1 or 2 Questions were asked to each of us and all of them were from DATA STRUCTURES.

1>Check weather a given Binary tree is Binary Search Tree or not. <http://www.geeksforgeeks.org/a-program-to-check-if-a-binary-tree-is-bst-or-not/>

2>In an array of integers, find out maximum value of (j-i) such that A[j]>a[i] in O(N) time.

<http://www.geeksforgeeks.org/given-an-array-arr-find-the-maximum-j-i-such-that-arrj-ari/>

For both the question they were looking for full optimization and proper code starting from scratch.

They asked lots of Questions on Dynamic Programming and Advance Data Structure to my friends.

Round 3(Coding round) 1-hour

Three Question were given to all of us to solve within 60 mins.

1> Print Maximum Contiguous Sum in an array.

Sample: 5, -1, 3, 7

ANS= 12 (3, 7, 5)

<http://www.geeksforgeeks.org/largest-sum-contiguous-subarray/>

2> Find Longest Increasing A.P in a Sequence of numbers.

<http://www.geeksforgeeks.org/length-of-the-longest-arithmetic-progression-in-a-sorted-array/>

3> Check whether a denomination of given money is possible or not from the given denomination. (Note: only one instance of each note), if possible then print yes and

number of notes require else print No.

Sample 1:

I/P: 10, 100, 50, 200, 150

50

Output: yes, 1

Sample 2:

I/P: 10, 60, 50, 100

121

Output: NO

Hint: Last two Questions are DP.

Round 4(F2F) 30 min

Two Puzzle Questions.

1> 5 pirate problem.

2> A bias coin of which probability of Head is 0.6 and tails is 0.4. This coin is going to be used in Cricket Match, so task was to suggest a method to unbiased the coin.

For some of my friends, they asked programming questions and 90% of them were on Dynamic programming.

Round 5(HR) 10 min

Standard HR Question.

Suggestions: Prepare Data Structure and Algorithm properly, they were looking for people having good coding skill, so CODE each question while preparing.

Most of the questions were from Dynamic Programming, prepare DP. First tell them recursive solution and then how you are going to solve the question using DP, after that start coding.

Don't panic, if you are not getting optimal solution, try to optimize as much you can (DON'T GIVE UP). Then try to code your solution (most important part).

Thanks to GeeksforGeeks for providing such awesome platform for preparation. This is the best site for interview preparation for any company. Friends try to utilize this platform as much you can.

To GeeksforGeeks team please add puzzle problems. We need a section for puzzles.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal Interview Experience | Set 10 (On Campus)

Round 1 : Online Test

Duration : 1 hr

Content : 22 MCQs , 2 codes

Platform : HackerRank

22 MCQs : (Non trivial)

Quantitative Analysis : Time Speed Distance , Races , Percentage , Ratio Proportion , Probability , Number System

Code Snippets :

Some very good questions which require an in depth understanding of pointer concepts, increment decrement operators, printf function, union etc

Examples :

```
->for(printf("1" ; !printf("0");printf("2"))
```

```
    printf("Snapdeal");
```

```
->int a=-6
```

```
    cout>2);
```

```
->printf("%s","snap" "deal");
```

```
->union u{
```

```
    int a:2;
```

```
    int b:3;
```

```
    int c:4;
```

```
}var;
```

```
int main()
```

```
    var.a=2;
```

```
    var.b=-6;
```

```
    var.c=4;
```

```
    cout E.g. 5 1 4 2 6 3 4 8 10 7 10 XXXX XXXXXX XX XXX
```

2) Given points of two line segments A(x1,y1 x2,y2) & B(x3,y3 x4,y4) find whether the 2 segments intersect or not.

<http://www.geeksforgeeks.org/check-if-two-given-line-segments-intersect/>

I solved 2nd code (all test cases), all mcqs, 1st code (2/6 test cases) [ranked 3rd in online test]

Its very important to solve atleast one code.

My advice :

->Before the test : check geeksforgeeks snapdeal interview archives and solve all the online coding questions ->During the test : (If you think you cannot do both the codes) Find the easier one and 'complete' it within 20 mins,solve as many mcqs in 30 mins , in last 5-10 mins try to pass the sample test case of the 2nd code (something is better than nothing)

Day of interview:

Round 2 : Group Fly : Major Elimination Round (Paper-pen)

3 coding questions (any language)

duration : 1 hour

Only function to be written (no main())

1) Check for balanced parentheses in an expression (STL allowed)

<http://www.geeksforgeeks.org/check-for-balanced-parentheses-in-an-expression/>

2) Given an array of positive and negative numbers , find the maximum sum of any subsequence.

Return both the sum and the subsequence.

Ambiguous Question:

Maximum sum of any subsequence (note: it's not increasing subsequence) will be sum of all the positive numbers in the array [Trivial]

Therefore, I interpreted subsequence as subarray <http://www.geeksforgeeks.org/largest-sum-contiguous-subarray/>

3) Check if Btree is a BST

<http://www.geeksforgeeks.org/a-program-to-check-if-a-binary-tree-is-bst-or-not/>

Round 3 :1st F2F Technical

1) Detailed Discussion on projects -> Note : He didn't ask anything related to the content of my project but the actual use of the project in the real time world , the pros and cons of it , the scope in future , where is the technology applied presently etc

2) code : There are two sorted arrays. First one is of size m+n containing only 'first' m elements. Another one is of size n and contains n elements. Merge these two arrays into the first array of size m+n such that the output is sorted.

This question was a modified form of <http://www.geeksforgeeks.org/merge-one-array-of-size-n-into-another-one-of-size-mn/>

But this solution is of $O(m + n)$ for merging + $O(m)$ for shifting : he asked me to optimize without shifting

Don't give the optimized solution first : My plan of action : $O(n^2)$, $O(n\log n)$, $O(m) + O(m+n)$, $O(m+n)$

He was very happy with the way i approached the problem.

3) DBMS concepts : Indexing : why is it required , how is it achieved , why B+ tree , difference between B tree and B+ trees , types of indexing , difference between them , advantages and situations where they can be used , can we make an index for a group of tuples (ans : yes) , why do we need such an index , multilevel indexing.

4) DNS – Domain name servers : what are they , how do they operate , what is iterative dns search , recursive dns search , TLD servers , Authoritative servers , why do we need them , how are they maintained , what are proxy servers , why do we need them , what are mail servers , under which server are they maintained (ans : under authoritative servers)

Round 4 : 2nd F2F Technical

1) Design a placement software

Requirements

a) Choose a group of panelists for a particular college.

b) panelists have different expertise

c) colleges may have engineering , arts , science sections as well

d) A panelist can be out for recruitment max 3 days in a fortnight (I asked him to give access to the personal calendars of all panelists)

He asked me to draw the ER diagrams first

Then asked me to show the normalized tables

Then he asked me to code the whole thing especially the 4th requirement : time constraint (i did it using boolean vectors and kmp algorithm)

He was happy with my design.

Advice for design question : Ask for requirements first and keep writing them on a paper , and keep cross questioning on the available data.

2) code : Find square root of a number

I gave an iterative $O(n)$ solution ,

He told me to optimize : I did it in $O(\log n)$ with binary search

Further optimize to $O(1)$: I got stuck , after a lot of discussion on different techniques he gave me a hint that he would be using my function a lot of times then I immediately told him to use hash maps and save the previous results.

He started smiling and asked me if i had any questions for him 😊

3) OOPS concepts : Aggregation , composition , encapsulation , abstraction , inheritance , polymorphism. Went further deep into the concepts of encapsulation and abstraction, difference between them , a real world example (i used mobile phone : mobile phone blue print is abstract class , blueprints for different versions of the same mobile i5,i6 etc are derived classes , actual mobile phones are objects encapsulated.) , what is data hiding , relation between data hiding , encapsulation , abstraction.

Round 5 : HR round

If you have made till here that means you are selected. The HR guy in snapdeal is the coolest HR I have met .He asked me name of the companies that have hired me till now,i gave him both their names and he was like 'tab toh tum rejected ho bhai '.(non)Typical HR questions followed :D.

I would like to thank geeksforgeeks for its exhaustive set of questions with optimal solutions and explanation, for the company archives, and the various interview experiences and success stories. Keep updating.

If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal Interview Experience | Set 9 (On Campus)

Snapdeal visited our campus recently and here's my interview experience.

Round 1 (Online) :

Test was on hackerrank. We had to do 22 MCQs and 3 coding problems which are as follows:

- 1) Given a string of parenthesis only, check if it's valid or not. <http://www.geeksforgeeks.org/check-for-balanced-parentheses-in-an-expression/>
- 2) Find next greater number with same set of digits.
<http://www.geeksforgeeks.org/find-next-greater-number-set-digits/>
- 3) Given an array where each element is the money a person have and there is only Rs. 3 note. We need to check whether it is possible to divide the money equally among all the persons or not. If it is possible then find Minimum number of transactions needed.

Round 2 (Technical F2F-1) :

- 1> The interviewer introduced himself and then told me tell about myself.
- 2> Discussion on the languages I am familiar with [C,C++ and C# in my case], then whether or not I'm strongly familiar with Java or any other Web Development Languages.
- 3> Little discussion on Final Year Project and the summer training.
- 4> Basics of DBMS, difference between RDBMS and DBMS, Keys and its types, indices, joins and its types with example, normalization and denormalization. [Some of my friends were asked about OOP Concepts as well]
- 5> A simple program to check whether a number is palindrome or not.
- 6> Different types of traversals of a tree, with example.
- 7> Codes for Post-Order, In-Order and Level-Order Traversal of a binary tree.

P.S : These questions were asked to my friends

- 1> Intersection of 2 linked lists.
- 2> Check whether or not a linked list has a loop.
- 3> Left [or Right] view of a tree.
- 4> Kth element from the end, of a linked list.
- 5> Check if a linked list is palindrome or not.
- 6> Boundary of a tree

Round 3 (Technical F2F-2)

- 1> Why e-commerce and not others.
- 2> Find the number of connected components [islands] in a matrix formed with only 0's and 1's. [With Code]
<http://www.geeksforgeeks.org/find-number-of-islands/>
- 3> In a matrix of only 0's and 1's, where in each row, there are only 0's first and then 1's, find the row with maximum number of 1's. [Start with right top corner O(m+n)] [With Code]
- 4> About a language apart from C and C++, so I said C#, and then discussion about Collections and Exception Handling in C#.

Round 4 (HR F2F)

All students who got selected for Technical Round 2, were selected for HR Round.

This round was a really good one, because the HR interviewer asked different questions to different people

A few puzzles like 25 horse puzzle were asked and a few maths problems like number of rectangles in a chess board.

He asked me to tell something about myself, which isn't there in the resume.

And mind well each and every word you speak, each and every conscious or sub-conscious gesture of yours is taken into account. [The HR round was one of the bests I've ever had, gave some feeling of the Roadies Interview XD]

The most important thing for SnapDeal is that, don't give up on the questions at all, because even if you don't hit the solution, the interviewer provides lots of hints, and in the end, even though you give him an inefficient solution, but provide the proper code, you will be through :).

I'd like to thank GeeksForGeeks community for sharing their knowledge which helped me secure this interview.

If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal Interview Experience | Set 8 (On Campus)

Snapdeal conducted placement drive at my campus in January last week for Software Developer. Eligibility- All CSE (no pointer criteria)

Online Test-

21 (MCQ) +2 (Coding) in 1 hr. Test conducted on hackerrank

21 MCQ had almost 10 aptitude and 11 C output based questions.

Give preference to coding questions. Try to solve both questions (Pass all test cases for one of the questions and do attempt the other question (even brute force would pass many test cases)

Aptitude can't be solved just within a minute. Solve C o/p based questions first.

Questions-

1. Overlapping paintings, find no. of paintings that can be seen distinctly, extreme co-ordinates of paintings are given. Ordering of paintings matter. (Assume heights of all paintings are same, start and end coordinates are given)

E.g.
5
1 4
2 6
3 4
8 10

7 10

XXXX
XXXXXX
XX
XXX

Simple O(N^2) solution. Starting from rightmost painting, check if it completely hides any painting or not based on start and end coordinates. (modification of interval selection problem)

2- Given points of two line segments A(x1,y1 x2,y2) & B(x3,y3 x4,y4) find whether the 2 segments intersect or not.

Simpler approach (short code)-

http://community.topcoder.com/tc?module=Static&d1=tutorials&d2=geometry2#line_line_intersection

Length / complicated soln-

<http://www.geeksforgeeks.org/check-if-two-given-line-segments-intersect/>

Expected cut-off -

I solved 2nd question and passed 1 test case for first question (misunderstood the question during online round !! :p) and solved 4 MCQ's only (all fluke)

So my advice, do solve both coding questions for sure and solve C o/p questions in last 15 min

Round 1 – F2F Technical

Avg 20-30 mins. 22 shortlisted

My went on for 1 hr to 1hr 15 mins

Internship based dicussion (20-30 mins). Based on Cloud, Virtualization, Networking

Q1- Given N, find LCM from of all numbers from 2 to N. Give the complexity expressed in the form of Number of prime numbers Round 2- Coding Round (2 Hrs)

10 shortlisted

Q1- <http://www.geeksforgeeks.org/turn-an-image-by-90-degree/>

Q2- <http://www.geeksforgeeks.org/given-a-sequence-of-words-print-all-anagrams-together/>

Q3- <http://www.geeksforgeeks.org/find-a-triplet-that-sum-to-a-given-value/>

I was the first one to solve all 3 in 45 mins roughly and went for next interview. Shortlisting criteria- 2 questions in 1 hr – 1hr 15 mins even though they said that we had 2 hrs to solve all 3

Round 3- F2F Technical

4 shortlisted. This round went for almost 1hr 45 min - 2 hrs for me since I solved the Round 2 question earliest. Other 3 had almost 45 mins interview.

Q1- Variation of

<http://www.geeksforgeeks.org/find-possible-words-phone-digits/>

Given a dictionary of words and a number n. Find count of all words in dictionary that can be formed by given number n.

I started by exponential solution and reduced it to polynomial. We discussed various approaches and tried a variety of methods and after 1-1.5 hrs of discussion finally ended up with an

Usage of Trie / TST. Internal Implementation of Hashing structure and replacing the hashing mechanism using Trie / TST.

Q2- Given an array of elements. We can perform following operation only- Increase an array element. Cost of operation is the amount of increment made per array element. Now for a given array

E.g.

N=6, H=4

2 3 5 6 4 4

changes to -> 4 4 5 6 4 4

Cost is (4-2 + 4-3 = 3)

N=6, H=3

2 3 5 6 4 4

changes to -> 2 4 5 6 4 4

Cost is (4-3 = 1)

Optimal complexity- O(N)

Round 4 -F2F (HR)

3 shortlisted

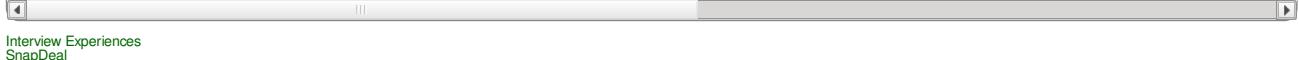
Typical HR round.

I would like to thank geeksforgeeks for a exhaustive set of interview questions and study material on data structures-algorithms.

If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks website.

GATE CS Corner

Company Wise Coding Practice



Snapdeal Interview Experience | Set 7 (On Campus)

Snapdeal visited our campus recently and here's my interview experience.

Round 1 (Online):

Same questions were asked in every NIT and test was on hackerrank. We had to do 22 MCQs and 3 coding problems which are as follows:

- 1) Given a string of parenthesis only, check if it's valid or not. <http://www.geeksforgeeks.org/check-for-balanced-parentheses-in-an-expression/>
- 2) Find next greater number with same set of digits. <http://www.geeksforgeeks.org/find-next-greater-number-set-digits/>
- 3) Given an array where each element is the money a person have and there is only Rs. 3 note. We need to check whether it is possible to divide the money equally among all the persons or not. If it is possible then find Minimum number of transactions needed.

Round 2 (Pen paper test):

Around 32 students were selected for a written coding round. 2 ques were asked in this round:

- 1) Print the power set of a given set. <http://www.geeksforgeeks.org/power-set/>
- 2) Output the no of binary strings of length n having no consecutive 0's <http://www.geeksforgeeks.org/count-number-binary-strings-without-consecutive-1s/>

Round 3(F2F) :

16 students were selected for PI.

This round was basically focused on the technical part.

- 1) Tell me about yourself.
- 2) Little discussion on the project.
- 3) Find the LCA of a binary tree in place.
- 4) About virtual constructors and destructors.
- 5) Design a recommendation system as you see on e-commerce sites recommending the items for you to buy. You just have to tell the ideas and design the classes accordingly.
- 6) Design a product review system with posts being categorized as a review, question or an answer. Also consider the case of upvotes, downvotes, like, share, comment. He was done after this and then I asked some questions.

ASK QUESTIONS. It shows that you are really interested in the company.

P.S- These ques were asked to my friends-

- 1) Given a dictionary you have to list the anagrams.
- 2) In array find sum closest to zero.
- 3) Knapsack and coin change problem.
- 4) In array find max product of three numbers.
- 5) DBMS queries on SELF JOIN and Cartesian Product.

and standard geeksforgeeks questions were asked. Focus will be on time complexity.

Round 4:

I was called for 2nd PI within 5 minutes.

- 1) Which e-commerce site you normally purchase from and why?
- 2) If a shipment is changed in between i.e. product is replaced by say, a soap how will you tackle this problem?

Nothing technical was asked to me although be prepared with concepts of Threading.

This was actually more of a conversation than an interview. The interviewer was very friendly. We discussed the elements in and about Snapdeal.

Round 5(HR):

- 1) Tell me about yourself.
- 2) What is your real goal in life.
- 3) Your manager is being bossy. How will you tackle this situation.
- 4) Toughest challenge you faced in your college.
- 5) You are the favourite of your manager but others are being jealous. What will you do?

I would like to thank GeeksForGeeks which helped me to improve my knowledge and understanding of Data structures and Algorithms.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal Interview Experience | Set 6 (On Campus)

Hi, Snapdeal visited our campus recently, and here's my interview experience!

Written Round:

20 Aptitude Questions.

2 Coding Questions – 1. Given points of two lines A(x1,y1 x2,y2) & B(x3,y3 x4,y4) find whether the points intersect or not!

2. Overlapping paintings, find no. of paintings that can be seen distinctly, extreme co-ordinates of paintings are given!

First Round Interview :

Formal Intro!

Coding :

1. Given a binary search tree, and a number k, find two nodes in the tree such that their sum adds upto k!

2. Print a binary tree in zig-zag order!

I was asked to code both using Java!

Some simple puzzles.

Second Round Interview :

1. Tell me the logic of the program written in the first round! Improve it, try for O(n) complexity!

2. Write a recursive function for nth fibonacci number!

Now make some changes in the same code in order to get O(1) complexity in most cases.(Use Dynamic Programming!)

3. Given a 2-d array with sorted rows and columns, write efficient code for searching a number!

Puzzle : a glass, a tap given! fill the glass half without the use of any measuring instruments!

Third Round Interview :

Write a program to print "Hello" and "World" infinitely using two threads, such that one thread prints the String "Hello" and the other prints "World"!

- Why sleep() cannot be used?
- Why have you used synchronized keyword?
- How will a deadlock occur in this program?
- What will be the solution for breaking the deadlock?

Write a program in Java to find whether a given tree is a subtree of another one or not! both iterative as well as recursive!

Fourth Round Interview : HR Round

Tell me something about yourself!

How were the interviews?

How were the interview questions?

What are the demerits in SnapDeal?

Rank SnapDeal?

Suggestions?

Questions?

I would like to thank geeksforgeeks for a exhaustive set of interview questions and study material, which indeed has helped me a lot!

If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

Snapdeal Interview Experience | Set 5 (On Campus)

Hi, Recently Snapdeal visited my campus (Jamia Millia Islamia) and I got an offer from Snapdeal, here is my interview experience:

Round 1:

First round was online written round. It consists of 25 Questions.

22 MCQ's and 3 Coding questions

1) Check for balanced parentheses in an expression. <http://www.geeksforgeeks.org/check-for-balanced-parentheses-in-an-expression/>

2) Given an array where each element is the money a person have and there is only Rs. 3 note. We need to check whether it is possible to divide the money equally among all the persons or not. If it is possible then find Minimum number of transactions needed.

3) Find next greater number with same set of digits. <http://www.geeksforgeeks.org/find-next-greater-number-set-digits/>

They shortlisted 18 people for the Personal interviews.

Round 2:(30 min.)

F2F Technical Interview 1:

1. Diameter of binary tree. <http://www.geeksforgeeks.org/diameter-of-a-binary-tree/>.

2. C++ concept like polymorphism, inheritance, function overloading, virtual function, virtual destructor etc.

3. Next greater Element (full code) <http://www.geeksforgeeks.org/next-greater-element/>

4. A sorted Array has been rotated r times to the left. find the minimum in least possible time(O(logn) expected). <http://www.geeksforgeeks.org/find-minimum-element-in-a-sorted-and-rotated-array/>.

5. You have an sorted array, you have to make a balanced binary search tree from it (only approach) and basic insertion and deletion in BST.

6. Detect and remove loop from linked list (only approach). <http://www.geeksforgeeks.org/detect-and-remove-loop-in-a-linked-list/>.

Round 3: (35 min.)

F2F Technical Interview 2:

1. Tell me about yourself.

2. Check if anagram of a string is palindrome or not.

3. N stair problem. (Dp approach) <http://www.geeksforgeeks.org/count-ways-reach-nth-stair/>.

4. Search in a row wise and column wise sorted matrix. <http://www.geeksforgeeks.org/search-in-row-wise-and-column-wise-sorted-matrix/>.

5. Difference between Process and Thread.

6. find the number occurring odd number of time (xor solution). <http://www.geeksforgeeks.org/find-the-number-occurring-odd-number-of-times/>.

7. 25 horse puzzle. <http://classic-puzzles.blogspot.in/2011/11/25-horses-puzzle.html>

Round 4: HR round(10 min.)

F2F HR Interview:

Basic behavioral questions. why snapdeal etc.

I liked the way interviewers were interacting, they were very supportive and friendly as well.

TIPS:

1. Don't jump into solutions, ask about the type of input that is given and output that is expected.

2. The interviewer always tries to take you to the most optimal solution so listen to what all he says. Many a times they are big hints !!!

3. Be honest.

4. Keep believing that you will get the job.

I would like to thank GeeksForGeeks which helped me to improve my knowledge and understanding of Data structures and Algorithms.

If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

Snapdeal Interview Experience | Set 4 (On Campus)

Hi, Recently Snapdeal visited my campus and I got an offer from Snapdeal, here is my interview experience:

Round 1:

First round was online written round. It consists of 25 Questions.

22 MCQ's and 3 Coding questions

1) Check for balanced parentheses in an expression.

2) Find next greater number with same set of digits.

3) Given an array where each element is the money a person have and there is only Rs. 3 note.

We need to check whether it is possible to divide the money equally among all the persons or not.

If it is possible then find Minimum number of transactions needed.

Round 2:(45 min.)

F2F Technical Interview 1:

1) Largest contiguous subarray sum in an array containing both positive and negative numbers.

2) Merge two sorted arrays of integers.

3) Merge Sort for integer array.

4) Counting Sort.

5) Given 100 weights having weights 1,2,3,4—100 and also given a number K.

You have to choose the minimum number of weights such that you can measure each quantity from 1 to K.

6) 3 couples crossing the river puzzle with many more constraints.

7) Dbms queries SELECT,CREATE TABLE,JOIN,VIEWS etc.

Round 2: (1 hr 45 min.)

F2F Technical Interview 2:

1) Tell me about yourself.

2) Difference between Process and Thread.

3) Find 3 elements in an array having sum K.(different approaches)

4) Implement stack using Queue. I gave him 2 queues solution. He said do it using 1 queue only. Lot of discussion on it ,Different approaches

5) Given an array having 0,1,2 only sort it.Different approaches.

6) What is cascading effect.

7) How many permutations are there for a string.

8) Mathematical proof for the above question.

9) Print all the permutations of string. Also dry run on given test case.

10) Binary tree to DLL.

Round 3: (20-25 min.)

F2F HR Interview:

Basic behavioral questions and Some situational questions.

I would like to thank GeeksForGeeks which helped me to improve my knowledge and understanding of Data structures and Algorithms

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal interview experience | Set 3

Hello guys, I recently appeared in Snapdeal interview for Java profile in Bangalore office. Here is my experience.

The interview had 5 rounds out of which 3 technical and one manager and one HR round. Last two rounds are just for normal discussion.

Round 1: Technical round: 1:30 to 2 hour

The interview start from some normal behavioral questions followed by DS algo and Java.

1. Tell me about yourself.

2. How much you rate yourself out of 10 in DS & Algo. Followed by Java.

3. You are given a Binary Tree and you are asked to convert Binary tree such that it reverse its subtree. She meant to Mirror image of it.

4. She asked me now you have a linked list (singly) and you are asked to reverse every 3 node in linked list. For example 1 2 3 4 5 6 7 8 9 => 3 2 1 6 5 4 9 8 7. She asked that code should be at production level.

5. From now onward she asked me lots of java questions as follows (she also asked me follow up question based on my answers)

1. What is thread and how you can create a new thread.

2. What are the different way to create a thread.

3. Hashcode and equals method. How it affect. How you manage this method.

4. HashMap related question based on above question and new question.

Rest I forgot.

Round 2: Technical round: 1:30 to 2 hour

This round mainly focused on only java and how in depth I've knowledge in java. He asked me various questions as follows

1. About my project

2. Multithreading questions in very deep. (Every think in multithreading in java) How java handle threads, when thread alive, when dies, how dies, what happen when dies, what happen when alive, What JVM does etc.

3. Then he gave me different scenario to check my programming skills in Java in multithreading env.

4. How hashmap work and its implementation in java. How collision resolve by java in hashmap.

Followed by what happen when collision happens, how does get() and remove() methods behave. What will be the complexity of Hashmap for get(), remove() and put() method etc .

Lots of question on JAVA

5. What is BST, what is binary tree, Node structure what else can be done in node structure to make it more efficiently n all.

6. How will you check does a binary tree is BST or not. Write code for it.

-> I explain how one can think to check does a given Binary tree is BST or not. Then I gave him simplest solution using inordertraversal. Then he asked me to code it.

I wrote code in Java using inorder traversal and waiting for him meanwhile I thought he would may ask me to solve without inorder traversal justsimilar way how I explain the approach to check binary tree is BST or not. So meanwhile I also wrote code for it too 😊

I wrote code based on min/max value and check recursively.

7. Then he asked me Print matrix in Spiralform followed by code. Meanwhile he asked me what is2D arrays and how they behave and how memory assigned to them.

Round 3: Technical round: 1 to 1:30 hour

This round is the best round because this round lead me to push myself to next level. This round has all new questions that I've never heard or solve. It goes like this;

1. Ask me about myself, my project, what I'm working on... etc.

2. Various java questions.

3. You are given a two dimension array of character and a set of words (dictionary). Your task to return all the words which are valid and available in given array.

-> I explain him different approaches start from backtracking to solve the above question. Then he asked me about complexity which was exponential. Followed by asking to optimize it further level.

I optimize my algo in various way (with or without Dynamic programming) one by one and try to combine my optimization to result better approach. I keep telling him that in this case this is the complexity n all. He asked me to further optimize my algo and bravo I reach where he wants me to reach. That is Prefix tree based solution. After giving this solution I further optimize it to discard so many path that does not lead to the solution(that gave me a + point). Then he asked me code (I was become little nervous because that algo now become complex, I said the implementation could be little tricky, he told me to take your time). I told him that this is the way I approach for prefix tree based solution implementation and then he told me that assume following helper method are available in PrefixTrie implementation but he asked me that first explain him that how I can implement those method efficiently and I answered).

Then It took 25 minutes to write that code. He was happy but he again asked me to more optimize a particular section of code (I was using visited Boolean array to trace my path). I again optimize that portion with various ways from bad complexity to awesome complexity and he became very happy.

I would like to thank geeksforgeeks to provide such awesome platform to learn DS algo.

If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal Interview Experience | Set 2 (For Software Engineer 2)

Round 1: About 1:30 min

1. Introduction.
2. How will you decide what data structure should use?
3. Circular linkList meeting point and proof.
4. Reverse link list of given chunk k.
5. Print Left view of tree.
6. Explanation of Opps Concepts.

Round 2: More than 2 Hrs

1. Why HTTPS.
2. About Cookie.
3. You are receiving 0/1 in the left side of previous number dynamically and for each insert you have to print whether decimal of new generated number is divisible by 3. Print "YES" or "NO" accordingly.
4. Same above question if you are receiving number from right.
5. Binary Search in Rotated sorted array.
i.e. 567891234
6. Binary Search in Biotonic sorted array.
i.e. 1234567898765432
7. You have given two arrays, all the elements of first array is same as second array except 1, You have to find out distinct pair.
In this ques I told solution using hashing, He asked me to write complete code for proper hashing.
I have written code using bucketing then he asked other concepts also.

Round 3 : About 30 min only – In this round he asked what I have written in Resume.

1. Introduction.
2. Coin change problem of DP.
3. Write query for second max salary, then asked to optimise it.
4. Concept of group by and having in sql.
5. Asked about Git, what? why? and some git commands.
6. About selenium.
7. about access specifiers.
8. About previous projects.

Note : In each round :

1. They were asking runnable code and were checking each and every corner case by dry run.
2. They were asking multiple solutions for a single problem. i.e. they were asking for a better solution until you drop.
3. They were giving more than enough time to write the code.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Snapdeal (Software) Interview Experience | Set 1 (On-Campus)

Prelims: 1 hr online test (held in all IITs at the same time). 25 questions of which 22 MCQs (puzzles, P&C, coding..basically all those genres you expect from any standard Software Developer profile test) and 3 coding questions (typical geeksforgeeks questions). You might think time is less, but if you're very thorough with geeksforgeeks, the coding questions shouldn't take more than 15 mins.

Interview :

It was a three rounds affair. Two technical followed by an HR (good thing is they let you know who all are there for the next round, so that you don't waste your time much around there).

Round 1: It'll range from the very basics of programming to the toughest of DPs. In between questions were being popped up on your projects. If you've some worth-discussing development projects in your resume (like I've my BTP and an Android game), substantial amount of time goes in discussing that. The questions I was asked were :

- fibonacci series (both recursion and memoisation and why memoisation solution is better than recursion).
- Tree traversals and write the codes for inorder and postorder WITHOUT RECURSION (prepare very well for this without recursion solution as many companies ask).
- simple 0,1 – knapsack DP
- <http://www.geeksforgeeks.org/largest-rectangle-under-histogram/> (I managed a O(n²) solution there)
- Propose a datastructure which you'll use to implement the swipe feature in today's keyboards (came with a decent enough solution though the complexity was bad)

The last two questions were almost unanswerable from my side, but the key thing is DON'T GIVE UP. They're looking for people who don't give up a fight. And at the end, if interview went decent enough, ASK for the solutions of the unsolved questions.

Round 2: Director (search) had come along with the recruitment team this time. So, he was only taking the rounds for all the candidates in this round. Summary, two questions, one I managed somehow other one way beyond my comprehension.

- You've a universe of infinite points separated by finite measurable distances. Give me the most efficient solution to find a pair of points that have the minimum distance in the entire universe. (I proposed Floyd Warshall, but these are infinite points, not finite)
- I've to find a point in a 2D matrix which is sorted row-wise left to right and column-wise top-bottom. This has to be done in O(n + n) complexity. This is a standard question, but I just couldn't remember the procedure. And since he was sitting in front of me all the time, pressurized, I came up with some solution using Binary search.

After these two, he asked me if I'd any questions for him. I asked about the work culture and what kind of people he was looking for. It'll give you an idea whether you're selected or not. Be eager to hear the answer he gives and feel attracted to the prospects he puts forward about the company! **AGAIN IMPORTANT, DON'T GIVE UP ANY QUESTION. UNTIL HE DECIDES TO MOVE ON TO THE NEXT.** If you're not able to come up with a solution. Don't panic. Show your fighting spirit.

Round 3: HR. Be well prepared with your strengths and weaknesses. Be prepared with questions like:

- if your colleague is slow in catching up and deadline is fast approaching, what will you do?
- your manager from the beginning has set high expectations on you and you've proved your worth to him. But one time, he assigned you something which no matter how much you try you just can't understand and you've gone blank! What will you do in this case then?

MOST IMPORTANT here is DO NOT FAKE your personality here. They're HR guys, they're trained to catch the FAKE ones. So, be genuine and APNI DIL KI BAAT BOLNA!

BEST OF LUCK!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
SnapDeal

Android Developer Interview at Headstrong and SnapDeal

Headstrong:

1st Round:

- 1) What is Heap Memory and Difference between stack and heap memory.
- 2) Why would you do the setContentView() in onCreate() of Activity class.
- 3) In an app where a component would get stacked up dynamically like experiences in LinkedIn. Would you declare a component in layout xml for this or you will create it dynamically and why.

2nd Round

- 1) How will you go about creating an in house GPS map system with Bluetooth.
- 2) How will you create a circle with color by using XML only.
- 3) How will you create an OCR application.

Snapdeal

1st Written Round

- 1) What is the difference between an interface and abstract class.
- 2) Find maximum number in an array with increasing and then decreasing numbers.
- 3) Add two numbers represented by linked lists and represent the sum in third linked list.
- 4) 20 odd questions about activity base class, fragments types, service's base class, Content Providers Functions, Loaders Functions and Out Of Bound Errors.

2nd Face to Face Round

- 1) What is lifecycle of Fragment
- 2) What is IPC and architecture of an app using .so file having its API exposed with IPC.
- 3) Binary Search.
- 4) Basic about Threads, Service and AsyncTask.
- 5) When will you use a messenger and a handler.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Headstrong
Interview Experience
SnapDeal

Samsung Interview Experience | Set 21 (On-Campus)

Recently, Samsung has visited our campus for hiring FTEs and they have put a CGPA cut off of 7.0/10. The number of rounds varied from 2-4 depending on the performance in each interview round. I had 2 rounds, one being technical which lasted for almost 2 hrs and the other HR which lasted for around 45 min. A coding round was held initially which is then followed by on-campus interview rounds.

Round 1 : Online coding round

This round was held on Samsung's platform for evaluating coding performance. We have been asked to install their special software. There was only one question in this round which has 10 test cases. The question has absolute marking. Only if all the test cases are passed, we will be eligible for the next round. Last test case was really difficult in achieving. Many of them got 9/10. Question was related to backtracking.

All those who got 10/10 test cases passed are called for the first face to face technical round.

Round 2 : Face to face Interview(Technical)

This round lasted for a long time. As soon as I entered the room, the interviewer introduced himself and asked about me. He had a look at my resume and started asking questions about my projects. One of my projects was about Twitter Sentimental Analysis. He asked me to explain that project using only diagrams and no words and within 2 minutes. I drew some block diagrams and explained him. He felt satisfied. He then grilled more on that project. He has put forward various types of scenarios and asked me to solve them. Unless we have a sound understanding of what the project is about, it is difficult to answer his questions. He then asked me about other projects and had me do a deep down analysis on each and every project (especially Machine Learning). He then went for coding questions. He asked my preferred language initially. He had a stack of papers and he started pulling out a paper randomly. All those questions are from medium to high level difficulty. He is more interested in the approach rather than the complete solution.

Some of the questions he asked are :

- 1) Given random points in a 2-D plane, construct a convex polygon with minimum area of covering and which encompasses all the given points.

Initially I gave him an approach for a square which holds all the points. He then kept asking me to improve my solution. I was asked to write a pseudocode also.

- 2) Quicksort Algorithm : He asked me about the best case, worst case time complexity along with some examples where we see best case and worst case. He then asked me to code quicksort. He is very particular about indentation even though I am writing on a paper. He then asked me if I can say the time complexities of Heap sort and Merge sort. I answered all of them.

- 3) Array searching : Given an array which is already sorted. Search an element in it (complete code required): [search an element](#)

Find the minimum element in a sorted rotated array (complete code required) : [Minimum element](#)

- 4) Duplicates and missing number. He asked me the following questions :

[Missing Number](#) (complete code required)

[smallest positive number missing](#) (pseudocode)

[Repeating and Missing Number](#) (Full code)

- 5) Time complexity questions :

He gave me some code snippets and asked me to write their Time complexities. These were of easy to medium level of difficulty.

He then asked me some questions about my Internship and How would I contribute for Samsung.

Finally, he asked me if I have any questions. I did ask him some questions which he found very interesting. He explained them clearly.

That's all for the round. He offered me some snacks and asked me to wait outside 😊

Round 3 :

This was the HR round. HR asked me about my interests, family background, internships, some puzzles, detailed analysis about the current problems that we are facing in India and my solutions for them, inspirational personality, my position after 5 years.

This round was very casual. It was more like a chat. It lasted for like 45min.

I thought that there would be another round as almost everyone had at least 3 rounds.

A big thank you to GeeksforGeeks for providing such invaluable material for preparation.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 20 (R & D Bangalore)

Round 1: Online coding round

There is dedicated Samsung software for coding test the question is given below:

There is one spaceship. X and Y co-ordinate of source of spaceship and destination spaceship is given. There are N number of wormholes each wormhole has 5 values.

First 2 values are starting co-ordinate of wormhole and after that value no. 3 and 4 represents ending co-ordinate of wormhole and last 5th value is represents cost to pass through this wormhole. Now these wormholes are bi-direction.

Now the to go from (x_1, y_1) to (x_2, y_2) is $\text{abs}(x_1-x_2)+\text{abs}(y_1-y_2)$.

The main problem here is to find minimum distance to reach spaceship from source to destination co-ordinate using any number of worm-hole. It is ok if you wont use any wormhole.

Solution:

You can make graph which contain edge between all points and put cost of that edge. Now apply dijkstra algorithm to find minimum distance between source to destination co-ordinate of spaceship.

Here the main catch is that the cost to pass through wormhole can be zero so you have to take care while making graph matrix.

After this round 3 are shortlisted out of 60.

Round 2: Technical Round on Skype.

-Tell me about yourself.

-I have done project in Android so he asked me the difference between activity and fragment.

-what is the difference between process and thread and some detail question about thread.

-what process scheduler do, type of scheduler and its algorithm.

-find path in matrix with min. cost starting from left upper corner to right bottom corner.

<http://www.geeksforgeeks.org/dynamic-programming-set-6-min-cost-path/>

-topological sorting of graph

<http://www.geeksforgeeks.org/topological-sorting/>

-You have 1 TB of big file containing numbers and you have to find N smallest number.

Round 3: HR Round

-Tell me about yourself.

-Tell me about your final year project.

-why you want to join Samsung.

-strength and weakness.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 19 (On-Campus)

Recently Samsung Delhi visited our campus for Full-Time Campus Requirement. One month earlier they sent a ppt slide containing sample problems set on Graph, Backtracking, Dynamic Programming and Ad Hoc Problems from UVA and SPOJ. Cut-off was 7.0 CGPA and 60 % in 10th and 12th examination.

Day started with a presentation. Then it was followed by 1 Online Round, and 2 interviews (Although it was scheduled for next day, but a surprise call they took it on same day)

Round 1 (Online)-

Check if a graph is bi-colourable.

<http://www.geeksforgeeks.org/bipartite-graph>

If Yes, print numbers of vertices with any one of the colour, followed by such vertices in sorted order. If No just print -1

eg- 1# 3 1 2 5

2# -1

Notes:

No STL and Utilities are allowed. Even for sorting, Queue, Stack you have to implement yourself.

Only 1 MB of Stack memory and 248 MB of Heap memory was allowed

Round 2 (Tech Interview)

1. How much time you took to solve online questions.

- In my case, initially I wrote code with Backtracking which resulted in Time Out, then I did it by BFS that's why I took about 2:40 HRS.

2. Why Backtracking did not work? What should one do to optimise it?

3. Questions on DFS and BFS, which one is better and how for graph traversal?

4. Questions on Global Variable and Static Variable. Memory allocation of these variables.

Round 3 (HR Interview)

Standard HR questions like tell me about yourself. Why we should hire you. Qualities your friends like in you. Your Likes and Dislikes. Discussion on Board Normalization. And one question based on life hack, tell me 5 different uses of empty plastic bottles (5 uses of staplers). HR gave his feed.

Tips-

Average Interviews can be compensated with Quality questions from candidates, so don't hesitate to ask. Do research on the firm. And do take part in presentation, ask questions from there also.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 18 (On-Campus)

Coding round was difficult, recently Samsung has increased difficulty level of its coding round, so please be in touch with DFS, BFS, Graph, matrix and ticker questions of backtracking.

Technical Interviews were easy to crack as compared to coding round. I had 3 rounds of interview

Round 1

Interview went through my resume and asked about the project I did

1 He asked me about BFS and DFS

2 Asked how to find cycle in directed graph? DFS or BFS ? Why not BFS?

3 Topological sorting ?

4 Radius of a graph? in O(n) complexity

5 Asked question about linked list and array.

Round 2

1 Gone through my resume, I had mention internet security as area of interest. He asked my symmetric key and asymmetric key cryptology.

2 Asked pointer to a function and function to pointer.

3 Asked to flip a bit in number.

Round 3

1 Detailed discussion of the project I had mention in my resume, challenges and how I resolved them.

2 Asked about memory layout in c programs.

3 Asked about static, register, auto and other access modifier.

Strong suggestion for you guys, if they are hiring you for project lead position then please better you stay unemployed and reject this offer. Project lead sounds nice but reality is very heart-breaking. You work as educated clerk with data entry work. Now if feel trapped and sad for my last job. All the best guys hope you take my advice before you join Samsung Noida as a project lead. If you like to work on new technology then please don't join Samsung Noida as a project lead (PL).

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 17 (On-Campus)

Hello people, recently SAMSUNG BANGALORE visited our college for campus recruitment. The process took place in 2 days (one day for written and second day for interview)

Round 1 (Coding 3hrs)

A directed graph was given, in that we had to check whether a graph contain a cycle or not. This round was 3 hours of duration.

Round 2 (Technical around 50 mins)

For this round 26 people were selected. The ppt begun at around 9 am followed by interviews.

They called names randomly for interviews, I was waiting for my turn and approx 1.15pm I was called for interview.

1. He took a look on my resume and started asking about my current project.

I explained him my project in detail.(ie. why, what, how, scope, algorithms, tools, software used)

2. He asked me how will i relate this project to real life..etc

3. What are the subjects you've studied during your post graduation? He also asked some questions related to those subjects.

4. He gave me one problem that I have a box which contain some random numbers and I have to find median of the numbers but the condition is that we were continuously inserting numbers in the box.

I told him which sorting algorithm is best suited for such problem and how I find median.

5. What is static and dynamic memory?

6. Use of stack and heap.

7. While context switching takes place what is stored on stack and heap.

8. What is macro? He asked me the output of the following statement:

```
#define Mahesh "PUNE"  
printf("Mahesh");
```

I gave him answer. He asked me 3 times, are u sure? sure? 100% ?

This was his last question for me for this round. After some time the result were declared and I was selected for 2nd technical interview.

Round 3 (Technical around 30 mins)

For this round 4 people were selected. Around 4.15 pm my interview started.

The interviewer was friendly in nature.

1. He asked me about my graduate mini project which I wrote on resume and questions like which language you chose? Why not other language? How you fire SQL queries?

I told him the short description of my project and answers for above questions.

2. Then he moved on to my current project.

I told him in same way as I described in first round. He was quite impressed with me, as he compare my graduate project with this project.

3. He gave me one puzzle of 13 bottles containing liquid with same level and one bottle is poisoned. Now we have 4 rats

You have 13 wine bottles, one of which is poisoned. You want to determine which bottle is poisoned by feeding the wines to the rats.

The wine takes 24 hours to kill, now you have 4 rats to test. Determine the poisoned bottled within 24 hours.

I didn't give him a correct answer but I told him various approaches which were right.

After that I was called for HR round (Felt relaxed)

Round 4 (HR around 15 mins)

For this round 3 people were selected.

1. How was your day?

2. What have you learned from today's experience?

3. For how many companies you applied before this?

4. What are your hobbies?

5. What are your extracurricular activities other than related to studies?

6. What is your biggest achievement until now?

7. What will you do if we will give you a work other than your domain?

8. Do you have any question?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 16 (On-Campus)

Samsung visited our campus in the late of November, there were 3 rounds.

1. Coding Round

2. Technical Interview (taken by group of three panellists)

3. HR

Round 1:

This round consists of coding question related to BFS and DFS, time allotted was 3hrs, it was hosted on software that was provided by the company itself.

The question was sort of, given a 2D matrix where 1 represent the places where the frog can jump and 0 represent the empty spaces, the frog can move freely in horizontal direction (on 1's only) without incurring any cost (jump). A vertical jump from a given point of the matrix to other point on the matrix can be taken (on 1's only) with cost as the number of jumps taken. Given a source and destination, the frog has to reach the destination minimizing the cost (jump). After this round of coding shortlist came; all those who were able to do the code were shortlisted for the next round.

Round 2:

Round 2 began on the next morning 9 am, it was taken by a group of panellist from Samsung. Names were called one by one and the students appeared for the interview, the weird thing about was that the names were called randomly 😊

I was waiting from the morning, in fear of next name being mine and desperation of clearing the interview. My pulses were high and the wait ended in the evening.

I just entered the interview room and they made me to sit.

They just asked about myself and made me somewhat comfortable.

The main question that were asked to me:

1. Based on sorting, some of them were like

Difference between heap sort and merge sort, and which is better?

Which is better merge sort or the quick sort?

Basically interested in worst complexity and comparison of all sorting

2. C basic questions

Function pointers and asked me to write the code for it

Operator overloading

Virtual functions and asked to draw the virtual table also.

Function template and its code .

3. Dijisktra Algorithm and its code.

4. Given a linked list and a pointer to node, which is to be deleted? O (1) and some other linked list questions

5. Explain the asymptotic notation with exact diagram from the Cormen.

6. Asked me the SDLC .

7. Some other things which i am not able to recall.

Round 3:

The last barrier to our goal was the HR round.

HR round was a quite fabulous for me. I answered each question in nice and accurate manner for which he was quite impressed with me.

He asked me to introduce myself and I did it quite well.

Then he asked some question based on my resume, about my whereabouts, passion and some general HR questions.

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Interview Experiences
Samsung

Samsung Interview Experience | Set 15 (For Internship)

Recently samsung delhi visited our campus for internship only for M Tech students were allowed. There were total 4 rounds and no written test. Their criteria was 8.0 pointer. They shortlisted students by their pointers and resume.

ROUND 1(project and thesis around 20 mins):

In this round they asked me about my thesis topic and btech projects... they want every single information form me.

I told whatever i had done for my thesis work and implementation. my topic was something related to security so they shortlisted me for the second round.

ROUND 2(programming around 25 mins)

second round was telephonic. after 2 days they called me. he used to asked me programming questions. he asked me which language i am comfortable. i said c and c++ . then he started me to ask questions.

1. what is pointer.

2. what is virtual function.

3. he told me four line code and asked me what is output.

```
int b = 10;
int &a;
a = b;
cout
```

4. he asked me what is the total time complexity to visit every element of an array of size a[n][n].

and some general questions related to programming.

ROUND 3(Technical around 20 mins):

I got selected for 3rd round and this was technical round and a bit easy for me as i like technical subjects. he asked me which subject i like most. i told him algorithm, data structure and

1. what is Dijkstra's algorithm and MST(kruskal and prim's algorithm) and the difference between them.

2. tell me about bfs and dfs. what is difference between them.

3. some of sorting algorithm.

4. there is an array with 10,000 elements filled with only 1,2 and 3. they are randomly present in array. he asked me

can we short this array in O(n) time complexity.

5. some basic questions of linklist and stack.

and then last question he asked me

6. SDLC phases and the difference between spiral and waterfall model.

ROUND 4(HR):

HR round is like formality. she asked me

1. tell me about yourself.

2. why **is** your percentage low **in 10th and 12th class** is there any specific reason.

3. **my** thesis topic **in M Tech**.

and some general things.

next day result were declared **and** i am one of them. partyyyyy :)

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GATE CS Corner

Company Wise Coding Practice

Internship
Samsung

Samsung Interview Experience | Set 14 (On-Campus)

Coding Question for Shortlisting:

Given a graph, find out if it can be colored using 2 colors. Different colors for alternate nodes (3 hours) people who passed all 10 test cases were shortlisted.

Note- You can compile your code as many number of times as you want, but a maximum of 5 submissions were allowed to test on the given test cases.

Interviews (On campus-Day1)

Round 1 (Technical around 50 mins):

1. Introduce yourself.

2. Went through my CV, asked me questions about my Experiences, Projects, Courses (specifically Networks).

3. Which language are you comfortable with, I said C++.

4. Wrote a few codes on run-time polymorphism and asked me to write the outputs.

e.g. virtual destructor, inheritance with virtual keyword.

5. Asked me what pure virtual classes are?

6. A few codes on pointers, asked me the outputs.

e.g. const pointers and pointers to const.

7. Asked me how I solved the coding round question- I said BFS, didnt ask about it any further.

8. Asked if I knew Dijkstra's Algorithm, I said yes, asked if I could write the pseudo code- I wrote it fast, Asked to explain why Dijkstra's algo fails when -ve weights are there in the graph.

9. Asked to write my own typeid operator- I used function template to write a generic function.

10. OOPS-

Critical Section, Mutex , Semaphores, Paging, Techniques to swap out pages (Least recently used, least frequently used).

11. Do you have any questions- I asked about ongoing projects, and R&D work.

Round 2 (HR 20 mins):

1. You have been to korea, tell me what you observed about their culture and Samsung in korea.

2. Asked a few questions about what I did since beginning of college, when my CPI started dipping and so on.

3. He draw an abstract figure and asked me what I thought the object was, continued to ask me to think of more and more objects many times. Grilled me each time I answered any object.

4. Why Samsung?

5. Any questions? – I asked about work life balance.

6. Congratulations.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 13 (Off-Campus)

Round 1

1 coding question (3 hour): [m-coloring problem](#) with m=2. You have to run all 10 test cases to qualify.

Round 2: Face to face Interview (30 min) after 2 weeks of written test.

- Software Design patterns
- Factory pattern
- Singleton pattern
- Discussion on projects done in college
- Spring framework
- MVC model
- Hibernate

Basically this round was based on Resume.

All above things were mentioned in my resume so he asked.

Round 3: Face to face Interview (45 min)

1. Discussion on the coding round question. He asked me to code it again and time complexity.

2. Test if a number is power of 2 or not in one line code.

<http://www.geeksforgeeks.org/write-one-line-c-function-to-find-whether-a-no-is-power-of-two/>

3. egg dropping puzzle

<http://quiz.geeksforgeeks.org/puzzle-set-35-2-eggs-and-100-floors/>

4. Extended previous puzzle

<http://www.geeksforgeeks.org/dynamic-programming-set-11-egg-dropping-puzzle/>

5. Implement sizeof operator

<http://www.geeksforgeeks.org/implement-your-own-sizeof/>

Round 4: HR (20 min)

- Discussion on interviews.
- Why I want to leave current job.
- Why Samsung.

Overall It was easy.

You just have to be confident.

Thanks

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 12 (On-Campus for Bangalore Internship)

Samsung came in our campus to hire interns both for software and hardware. I am describing the process for software.

ROUND 1:

It was an MCQ round where we had to solve 60 questions in 60 mins. There was no negative marking. Questions were from Verbal reasoning, Data interpretation, Logical reasoning, Non verbal reasoning and arithmetic aptitude. You can refer <http://www.indiabix.com/> for this. Everybody had different set of questions.

Students having CGPA greater than 7.5 were allowed to sit in this round. Around 105 students from CSE, IT and ETCE appeared in this round.

ROUND 2:

It was a coding round. Around 90 students qualified for this round. We had to solve 3 questions. Everybody had different set of questions. My questions were :

1. Print sum of all prime numbers within a given range.
2. Given a string remove all same consecutive letters until there is none same consecutive letter. For eg if string is "dfaaafp" return "dp". You need to do it in place.
Explanation: dfaaafp -> dfp -> dp
3. Given a BST, find k-th largest element without using extra space.

Some of my friends were asked :

1. Make all even bits 0 in a number .
2. Find all triplets in an array whose product is a given number.

ROUND 3:

Around 60-65 students qualified for this round. It was a Group Discussion.

Some topics were :

1. Effect of smart phones in human interaction.
2. Will robots takeover humans in future ?

Finally 39 students were selected for software internship and 8 for hardware internship.

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GATE CS Corner Company Wise Coding Practice

Internship
Samsung

Samsung Interview Experience | Set 11 (On-Campus for Samsung R&D)

Written round: One programming question of 3 hours duration.

There were two rounds : tech PI and HR round.

A. Tech. PI : Firstly,interviewer went through my whole resume.He started asking questions from project done during summer internship.Questions were:

1. What is he project about?
2. Difference between 3G and 4G.
3. What is the aim of this research internship?
4. How much was i able to complete in two months?(I told that i am continuing as major project,since in two months time i could not get desired result).

Then, he went onto programming language i was comfortable. I answered C.

```
1.sizeof("shubham")
strlen("shubham")
```

I was asked to write output.Output would be 8 and 7. He asked why. Basic concepts should be clear.

- 2.Storage Classes in C-asked me concept and gave some questions to write output.
- 3.Constant pointers and pointers to constant. Asked to write output of snippets he gave.
- 4.malloc,caloc,realloc,free-syntax
- 5.Questions on pointers.

Basic concepts of let us C were asked mostly,that book is enough . Also see, GEEKSFORGEEKS, C section.

Operating System: Mutex and Semaphore,critical Section, Scheduling algorithms, Producer-Consumer Problem.
(Data Structures was not asked to me but others.)

Puzzles:

1. Maximum run a batsman can make in 50 overs.
2. There are 10 coins. 5 face head side and 5 as tail. You are blind folded.Make two piles of equal number of coins such that number of head in equal in both the piles.

Assumption:You can flip coin any number of times.

Question: Why do you want to join Samsung,though placed in OFSS?

Questions: Any plans of future studies. I answered 'NO' only job.

Last question: Any question I would like to ask them. I asked what work would be doing in R&D. He explained me a lot of things.

B. HR Round:

1. Introduce yourself.
2. How would your friends describe you?
3. Tell the recent experiences of which makes you initiative.(I told that i am initiative,then he asked that question. So be ready with the examples,when u say any of your qualities.)
4. What is your weakness?
5. Puzzles.He asked me to fill the numbers from 1 to 8 in these 8 boxes, one number exactly once, such that no two consecutive elements are adjacent(diagonally, horizontally or vertically) to each other.

<http://www.geeksforgeeks.org/samsung-rd-sri-noida-interview-experience-set-8-on-campus/>

6.Which places in India have you been and what is there to see in Raipur ?

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 10 (On-Campus for Samsung Research Institute, Noida)

I. Written test : Same question asked in Set 8.(lucky for us)3 hrs were given to solve the question.

Just keep in mind that dont submit the solution too early.They maintain record of all the submission time and they will ask that how you were able to solve the question so quickly.(They asked me)

They had installed their own software. Only visual studio, eclipse, notepad and calculator was allowed.
If you tried to open any other tab it was considered as cheating. So keep care. Interface not so friendly.
And only three submissions were allowed so if you are 100% sure that your code will pass all the test cases then only submit.

Students, who were able to pass all the test cases, shortlisted for next round.
A total of 41 students were selected.

Results were announced around 3PM. I got call from my TPC that I have to give my interview within 5 mins. I was like "really itni jaldi???"

Technical Round:

This was longest interview I have given. Lasted for 2.30 hrs.
The moment I entered the cabin he asked me "Did you eat your lunch"??
I was confused at that moment but later I realized that why did he asked..
Asked me to introduce myself...about my family...
Then asked which language you prefer C/C++ or JAVA
I said "C/C++ is like Hindi for me and JAVA is like English"
He smiled. Then he asked which papers I had studied and asked me to rate myself.
Then he started to ask question.

From C/C++:

1. Storage Classes in C-asked me almost every thing.(long discussion)
2. Memory layout of C programs.(he was looking for the details)
3. structure and union (every minute detail)
4. Complicated C declaration (asked to write prototype of functions)
5. Constant pointers and pointers to constant (he asked me to explain through diagram)
6. Structure padding and alignment.(why padding, how does it helps, how do we force compiler not to allow padding)
7. Dangling pointers, malloc, calloc, realloc, free
Quite long discussion. Other questions like how does free operator knows how much memory to freed. A lot more questions.
8. Questions on pointers(single pointer, double pointer and a lot)
9. About MACROS and preprocessor.
10. Preincrement and postincrement operator(was asked to write output and logic behind it)
11. Inline functions, dynamic arrays, enum,
and a lot
12. about OOPS
Plz go through C section on GeeksforGeeks... U will not miss any of these.

From OS:

1. Scheduling algorithms(long discussion)
2. Mutex and semaphores(in detail)
3. Multiprogramming, Multitasking, Multiprogramming etc.
4. Deadlock(asked to explain deadlock to layman, how will you create a deadlock and a lot)
5. Schedulers(their working)
6. states of programs-like ready state, waiting state... was asked to draw diagram
7. Producer-Consumer Problem

Coding:

1. Implement Stack using link list (only condition was that return type of push and pop should be void, solved by using pointer to pointer)
2. Implement your own strcat() function. Don't use string header.
3. Swap two numbers without using arithmetic operator.

Keep care when you write the code. He will go through the code. So take your time and don't be in a hurry.

After that I was called for **HR Round** immediately. I was the first one for HR.

1. Asked me to introduce myself. about my family.
2. About my hobbies, interest.
3. A small technical question.
4. Puzzle- I don't remember.. didn't solve it completely
5. Then asked why Samsung. He wanted specific reasons.
No praising answer like Samsung has a good brand value etc.
6. Asked me whether I am already placed or not.
7. Then in which companies I was rejected and asked why??
8. Why should we hire you??
9. Any thing you would like to ask??

I asked about typical work day and current Samsung project .. and then he explained me a lot of things..

He was very cool and interacted a lot.
HR round lasted for 35-40 minutes.

Thanks to GeeksForGeeks team for developing such a wonderful site. It helped me a lot in the preparation.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 9 (On-Campus for Samsung Research Institute, Noida)

First Round : Coding Round

Second Round : Tech + HR interview

First Round :

it was quite simple, the question was similar to , given a level K , you have to find out the sum of data of all the nodes at level K in a binary tree.

it was bit tricky the input is in the form

(P(C())(C()))

P is for Parent, C is for child.

if parent has one child : (P(C())())

if parent has no child : (P())

Second Round:

Technical:

1. write a program , given a matrix with 0's and 1's , you enter the matrix at (0,0) in left to right direction , whenever you encounter a 0 you retain in same direction , if you encounter a 1's you have to change direction to right of current direction and change that 1 value to 0, you have to find out from which index you will leave the matrix at the end.

2. given a coordinate (x,y) in a matrix of 0's , make all the diagonals element through (x,y) as 1 in that matrix.

3. Basics about run time and compile time polymorphism. (with examples)

4. what is the need of run time polymorphism if we already have compile time polymorphism? (with example)

5. write a program to allocate a 3D-array dynamically.

HR:

1. Introduction.

2. Project and my role.

3. why do you want join samsung if you are already placed ?

I Hope my experience will help you, and Best of Luck from my side.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 8 (On-Campus for Samsung Research Institute, Noida)

Samsung visited our campus.

I. Written test :

Online test consisting of a coding question, which was to be solved in 3 hours.

Given an integer 'K' and a tree in string format. We had to print the sum of all elements at Kth level from root.

For example:-



Tree was given in the form: (node value(left subtree)(right subtree))

For tree given above: (0(5(6())(4()(9())))7(1())(3()))))

Input format: K Tree

Output format: Sum

For example, for given tree:

Input: 2 (0(5(6())(4()(9())))7(1())(3()))))

Output: 14

Students, who were able to pass all the test cases, shortlisted for next round.

II. Technical Interview : (40 Min.)

1. Tell me about yourself.
2. A discussion on my project.
3. Interviewer asked me whether I know android programming or not.
4. What is polymorphism?
5. Difference between overloading and overriding.
6. Implement queue using linked list.
7. Few basic questions on sorting.
8. Interviewer asked me to tell four header files in C.
9. Full form of 'conio'(header file).
10. A simple puzzle:
https://en.wikibooks.org/wiki/Puzzles/Logic_puzzles/Pair_of_Socks
11. What is semaphore?
12. He asked about CPU scheduling algorithms.
13. Difference between preemptive and non-preemptive algorithms.
14. Round Robin algorithm.
15. He asked few SQL queries.
16. What is view in DBMS?
17. What is Indexing?
18. Do you have any question?

III. HR Interview : (30 Min.)

1. Tell me about yourself.
2. Discussion about college life.
3. He asked about the best phase of my life.
4. What is your biggest achievement?
5. Do you have offer from any other company at present?
6. Why Samsung?
7. A puzzle:

[]	[]		
[]	[]	[]	[]
[]	[]		

He asked me to fill the numbers from 1 to 8 in these 8 boxes, one number exactly once, such that no two consecutive elements are adjacent(diagonally, horizontally or vertically) to each other.

Solution:	3 5
	7 1 8 2
	4 6

8. Do you have any question?

Finally, 17 students were selected.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 7 (On-Campus for Samsung Research Institute)

There were total of three rounds:

1. Written Test One question (time: 3Hrs)

The questions were as follow:

A company sells its products with a unique serial number on it. Company has found that there are some products that don't sell well which are identified to have ominous numbers in the serial number of the product. So if a serial number of the product contains atmost 'k' ominous number then it won't sell.

Given a range from s to e, you need to find number of products that would sell, leaving out the products that contains atmost 'k' ominous numbers.

Input: First line contains the number of test cases, followed by the range s to e, 1

2. After clearing this round, I was called for the Technical Interview. The Interviewer asked me to brief myself and the projects I had taken up in my final year, along with questions from geeksforgeeks itself. He asked me to declare a two dimensional array using pointers in C++, he asked me to find the next greater element [link: <http://www.geeksforgeeks.org/next-greterelement/>], two DP questions.

1. Find longest increasing sub-sequence in 2d array. [link: <http://stackoverflow.com/questions/6558710/longest-increasingsequence-2d-matrix-recursion>],

2. Kandane's Algorithm. Here the focus was more on the attitude towards the problem solving and the approach. Also they insisted me to get the optimized solution. I was able to give the optimized solution and he was satisfied.

3. After this I was called for the HR round. One question that I remember was, 'given a pen and the technologies like artificial intelligence, hadoop, and what whatever you can thin of, what are the three new features that you would add to this pen?' Then he asked me about my interests in Computer Science, highschool-education, how i spend my time in college apart from the academics and few managerial HR questions. You have to remember here, you need to stand for whatever you say, he may create scenarios, in which you will want to change your answers and evaluations, but if you feel you were right then and now again stand for your point. I hope you have got some insight about the interview process. Good Luck and keep reading geeksforgeeks, because interviewers also pick up questions from the very same site.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 6 (For Internship at Samsung Research Institute)

There were total 2 rounds.

Round 1:

There were 60 MCQs(20 English + 20 Logical reasoning + 20 Data Interpretation) to be solved in 1 hour.

Round 2:

I got 3 coding questions.

1) Given two numbers. I have to find the number of bit which are required to change in binary conversion of 1st number so that It get converted into second number.
I have to simply compare the bits of both the numbers and whenever the bit is different increase count by 1 and return count at the end.

2) link for 2nd question is

<http://www.geeksforgeeks.org/find-excel-column-name-given-number/>

3) Given a string, I have to find the number of patterns of 1[0]1

where [0] represents any number of zero(minimum requirement is one 0)
there should not be any other character except 0 in the [0] sequence.

eg. 100001abc101

Ans- 2

eg. 1001ab010abc01001

Ans- 2

Both the rounds were hosted by cocubes.com

I solved all the three problems & got selected for the internship.

I thanks geeksforgeeks for this success.

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GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
Samsung

Samsung Interview Experience | Set 5 (On-Campus)

Recently Samsung visited my campus for full time recruitment.

Round 1:

60 MCQ – 20 each on verbal, logical reasoning and quantitative analysis
One hour was given and around 70 were shortlisted to next round

Round 2:

We then had next round the very same day and it was coding round. There were three questions and 1 hr was given

1. Given two polynomials as linked lists, return a linked list which represents the product of two polynomials
2. Given a string find the number of occurrences of the pattern 1[0]*1
3. Given a boolean 2D matrix, find whether there is path from (0,0) to (i,j) and if there is one path, return the minimum no of steps needed, else return -1

Technical Interview I:

It started with a formal introduction and the interviewer asked about me. Then he started asking me about my project on Distributed Systems and various questions based on that. Then questions on TCP/UDP, which is better, how, etc

Then he asked me questions from the linked list question asked in coding round. As I didn't complete that question and he asked me how will I do it. They had the code and asked me to correct it.

Given a number, how will you swap the nibbles.

Given two arrays of equal size 100, one array contains 100 consecutive unique numbers in random order. The other contains numbers with the same range as the first, but they need not be unique and there will be repetitions as well as some numbers missing. Now return the array which has unique elements

As I said I was interested in mobiles, he asked the differences between Android and iOS

He asked two small puzzles as well

Technical Interview II:

The next round interview again started with a formal introduction and he asked about my passion, etc. Then he started asking basic question on OOPS concepts. I was asked about many keywords in C and how they work. Memory map, variables storage, etc.

They require candidates with very good knowledge on basics.

Again in this round, my project on Distributed Systems was taken and there was a thorough review about it. How I implemented, why did I do that way, etc.

Next he had a discussion about my internship, what I did there, etc.

Finally the dynamic programming question asked in round 2 was reviewed and he asked for optimizations.

Technical Interview III:

Few were selected for HR from round 2, but I had another round of technical interview where again I was asked questions from networks and OS basics, scheduling, difference between mutex and semaphore and many more conceptual questions. There wasn't any coding related questions this time.

HR Round:

Then finally I was called for the HR Round. Following questions were asked:

1. Tell about your internship experience
2. Did they give you full time offer?
3. Why do you want to join Samsung, when you have an offer already? (I had an offer from the company I interned)
4. What were the companies you attended previously and why do you think you failed in them?
5. How did you take those failures and improve them?
6. Questions about how the previous rounds were and what department you'd like to work and few more I forgot.

Finally after a long wait, the results were said and I was lucky enough to get selected. Thanks a lot to GeeksforGeeks without which I couldn't have prepared well.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 4 (Samsung Research Institute, Delhi)

I am an **off-campus** hire. Please find my interview experience below:

1) Initially two written test were conducted:

- a. First is **aptitude** (25 Arithmetic Aptitude + 25 Data Interpretation). The questions were easy but time consuming. In this round, both speed and accuracy matters. We have to **solve around 35 questions to clear this test**. So, we have to be accurate in solving 35 questions. In this test there is no negative marking, so after solving 35 questions, you can mark all the remaining questions and you are through this round.
- b. Second is the **technical test** (20 Questions). They give an option to choose from C or C++. In this test, you have to **solve 14 – 15 questions** to get through. In this round, there are no options; we have to write the output on the space provided.

After this round, I get the phone call after **15 days** that I am selected for the interview.

2) Three round of Interviews were taken:

- a. First round was based on **Operating System** concepts. They asked about **semaphores, inter-process communication, scheduling algorithms etc.**
- b. Second round was based on **Algorithms** questions. The questions were:
 - i. Write down the program to tell whether the stack is growing in which direction in memory.
 - ii. Write down the program to find all permutations of the string and discuss the time complexity.
 - iii. Tower of Hanoi problem time complexity.
- c. Third is the **HR round** where negotiation about salary is there. It was just the formality.

After a **week**, I got the mail from HR of the final offer.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview Experience | Set 3 (Samsung Research Institute, Bangalore)

General Questions asked for SDE-1 in Samsung Research India Bangalore:

1. client server architecture
2. L value R value reference
3. OOPs concepts
4. MFC COM DCOM definition
5. big n small endian → how to know a m/c is small or big endian?
6. Templates → V v v interested in this
7. STL
8. Function pointers : how and y ?
9. Virtual n friend ffn n class : Why n how (behind d scene)
10. Singleton class : Why and how?
11. Abstract n pure virtual : DETAIL – y used, how used?

12. Constant n static fxn n var : difference, use n wats behind d scene?
13. Interfaces
14. Namespaces : do namespaces interact? if yes, how? if no, y not?
15. *p = NULL; – ok? –|__ Which to use and y?
- &p = NULL; – ok? –| any error? if yes, y n how(n behind d scene)
16. Scheduling – in detail, which DS to use in which and Y?
17. Class diagrams
18. ACID property usage
19. Which SDLC model to be used where and y? -> scenario based
20. Segments of memory – heap, stack, data, code
21. Which variable goes where in memory? (static, extern, register, auto, const, etc)
22. Size of class
23. Object of d class in the class declaration – when needed?
24. <http://www.geeksforgeeks.org/software-engineering-lab-samsung-interview-set-2/>
25. Virtual Destructor
26. Null, smart, wild, void/generic, dangling pointer
27. Diamond problem of inheritance and virtual class
28. Threads
29. Implement 3 stacks using 1 array
30. Deep Copy n shallow copy
31. Runtime error, segmentation fault, compiler error, stack overflow
32. <http://www.geeksforgeeks.org/memory-layout-of-c-program/>
33. deque

I apologize that I do not remember the questions as asked according to the interviews but this was pretty much it. I got through and I wanna thank Geeks for Geeks for it.

Many many congratulations to the author. If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Samsung

Samsung Interview | Set 2 (Software Engineering Lab)

First of all I would like to thanks GeeksforGeeks for such a good website.

Round 1 (Written Test)

1. GSAT(Global Samsung Aptitude Teset)
2. 30 Question 30 min. with -ve marking* (20 Q. from. C,C++ n D.S. and 5 from O.S. and 5 from database and Network,microprocessor)

Some question which i remember.....

1. what is the output of following

```
#include<stdio.h>
int main(void){
    int i=1, j;
    switch(i){
        case 1:
            printf("SAMSUNG");
            break;
        case j;
            printf("NOIDA");
    }
}
```

2. how hexadecimal no 1234 store in big endian form there are four option

3. how many queue required for implement stack.

4. what thread does not share.....

a. data

b. stack

c. code

d. message queue

5. what protocol required for e-mail transfer.....there are four option

6. what is the complexity of code

```
int f(int n){  
    if(n) return 1;  
    return n*f(n-1);  
}
```

7. A process call fork() system call n times than how many new process created($2^n - 1$).

8. which is not used for sorting link list..

- a.quick sort
- b.merge sort
- c.heap sort
- d.All of these can not be used

9. due to priority of process what type of problem occurs in priority scheduling..

10. what is output of the program.

```
char a[] = "hello";  
char b[] = "hello\0";  
if(strcmp(a,b))  
    printf("string is same");  
else  
    printf("not same");
```

11. which data structure is used to check for whether expression is balanced or not..

12. which data structure used for recursive function..

13. what is output of code

```
int fun(){  
    static int i;  
    return i++;  
}  
  
main()  
{  
    int i;  
    for(i=0;i<5;i++)  
        printf("%d ",fun());  
}
```

a.1 1 1 1 1

b.1 2 3 4 5

c.0 1 2 3 4

d.5 5 5 5 5

14. one question on the definition of object..

15. if time slice is greater than the execution time of largest execution time process than round robin acts as...

16. if derived class has same name function as base class than it is called..

17. suppose a process have to need some I/O event than CPU has to wait what is event to overcome this problem(multi programming)..

18. what is complexity of merge sort in worst case..

19. which has greatest space complexity ..

- a. quick sort b. selection c. merge sort d. radix sort

Technical Interview :-

1. how to find your system is big endian or not.

2. write the code of heap sort and complexity in different cases.

3. insertion and deletion in min heap and max heap..

4. write the code of quick sort and explain your code with an example

5. iterative implementation of inorder, preorder and postorder

6. deletion in BST

7. he wrote an example of multilevel inheritance and ask in what order destructor called and why?

8. what is virtual function.

9. what is encapsulation explain and how it is achieved and give real life example.....

10. he drew a stack elements are (top to bottom) 8 3 2 1 4

write a recursive function to print 4 1 2 3 8

11. Advantages of C over C++.

12. what is function pointer how to use it.....

13. what is structure padding why it is occurred.

14. how to do this A program's variable can not be used by another program

15.

```
char *p="SAMSUNG"  
char p[]="SAMSUNG"
```

- what is difference b/w them
16. implement stack using Link list and performe push() and pop() operation..
 17. deletion in link list
 18. detect loop in link list how to remove
 19. how to find middle in link list
 20. advantages of link llist over array.
 21. sorted merge in link list
 22. what is multi programming
 23. what is page fault and why it occur..
 24. what is virtual memory.
 25. about the page replacement Algorithm LRU
 26. what is Inter process communication ,types and which one is fast and why?
 27. what is fragmentationbrief decusion on external fragmentation..
 28. one simple question from network and 1 from DBMS

HR Interview :-

1. find the largest and second largest element in array give 4 different approch
2. tell me about yourself?
3. why do you want to join samsung?
4. what do you know about samsung?

and finally after 2 hour got placed in SRI NOIDA.....

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[TopTalent.in] Interview with Sujeet Gholap, placed in Microsoft, Google, Samsung, Goldman Sachs & Tower Research



It's not every day that you come across a person who has achieved so much in life at a very young age which others can only dream of achieving in their entire lifetime. His simplicity and positive attitude speak volumes for his recent success after facing some tough times. This is the story of Sujeet Gholap, a IIT Madras grad who received record breaking 6 offers from some of the best companies in the world namely Google, Microsoft, Samsung (US), Samsung (IN), Goldman Sachs and Tower Research. We at TopTalent.in had a chance to interact with Sujeet about his success, preparation, interviews and some hardships. This interview is an excellent example of how a small town boy can achieve greatness and how you can do it too.

Also, Sujeet has agreed to share his stellar resume with our users which can help you with your resume and preparation. So, don't forget to [download](#) his resume by logging in.

Team TopTalent: Can you tell us a bit about your background before joining IIT Madras?

Sujeet: Sure. I hail from a small town called Kallam from Osmanabad district of Maharashtra. I studied in a local school in Marathi medium till 10th standard. I always thought people from cities would do much better than me as I studied every subject in Marathi. My mom and dad teach at a local college there. I am currently pursuing my B.Tech in Computer Science and Engineering at IIT Madras. In IITJEE 2009, I secured an all India rank of 184

Team TopTalent: Can you give us a brief account of your interview experience for these companies?

Sujeet: All my interviews (except a couple) were technical interviews. Almost in each one, I had to tell what I did during my internships at Yahoo! and Facebook, what projects I have worked on. Many questions followed a similar monotone : arrays of integers, do something with them, biased coins and their tosses, trees and recursive algorithms, writing code on paper and explaining it to the interviewer, solving mathematical and logical puzzles etc. Interviews varied from very easy to very challenging. Some interviewers were impressed by JEE rank and CGPA while some did not give it even a second glance. Some interviewers were interested in the projects I did and asked detailed questions about it, while some were just interested in whether I can solve the problem they have given me.

Team TopTalent: So, how did it feel when you landed six massive offers on that day?

Sujeet: It felt nice and gave an ego boost when people referred to me as "the guy with six offers". People I barely knew, smiling at me and congratulating me! I was on an all-time-high. Jumping around and laughing all the time. It was such a kick that the next day, although it was a normal and fine day, as it was down compared to previous day's high, I was actually a bit gloomy!

Team TopTalent: What was going through your mind when you had to choose one out of those 6 offers?

Sujeet: I was supposed to finalize on a company by afternoon and I was in the state of utter confusion. Whether to take Google, which is the dream job of most of the programmers or to take Samsung, whose software division is nascent and where my contribution and impact would be much larger, visible and maybe even play a key part

in company's direction or to take Goldman Sachs, the challenging job which I always wanted to get a taste of or to go with Tower Research, the highest paying Indian job (twice as high as the second highest) which also involves inviting challenges and lots of programming. I was realizing that it wasn't really a good idea after all to go for so many options. I was wondering whether I would have been better off without a choice, as all these companies were such that I would have accepted the offer without giving it any thought at all had it been the only offer. I finally decided to go with Google.

(*Wasn't really a surprise for us. Google seems to be the first choice for most Indian programmers*)

Team TopTalent: How did you prepare for these interviews? What suggestions can you give to our users who might have similar interviews lined up?

Sujeet: I was lucky that I had discussed about similar questions before, and hence was able to make it through the interviews. I was quite attentive in class which really helped me a lot. Any questions which were not algorithm intensive questions and were more or less straight knowledge based, I could just recall the answer straight from the class when the professor taught that particular topic! Being friends with the right people and forming a peer group with a common interest is something which was critical to my success. I used to solve coding challenges with Arijit who had a very good Topcoder Rank. I would think about how I would solve those problem, if I get it, I would call him up and discuss the answer and ask for more.

In terms of suggestions, I would say be an active member of topcoder, keep solving programming problems in other places too if you want like spoj, usaco. I wish I had taken these things seriously and honed my algorithmic programming skills. Be thorough with Introduction to Algorithms by CLRS and do problems on one of the above mentioned sites.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Amazon
Goldman Sachs
Google
Interview Experience
Microsoft
Samsung
Tower Research

Samsung Interview | Set 1 (Software Engineering Lab)

We recently had SEL, Samsung for Campus Recruitment.

Round 1: GSAT(Global Samsung Aptitude Test):

The test had 2 sections.

The first section had 80-90% of the questions on Data Interpretation and rest on Quant.

The second had all the questions on Logical Reasoning.

Round 2: Technical Written Test

It had questions on C++, OS, Programming languages, some other computer science general questions.

Based upon the total from the above 2 rounds, students were shortlisted for the next round.

Round 3: Algorithm Written Round

Question 1: Construct 2 stacks using a single array. Extend the same code for 3 stacks.

Question 2: Given a string, say "GEEKS FOR GEEKS", print it in reverse manner eliminating the repeated characters. I know the question is easy. But, they wanted high amount of optimization both space and time wise.

Technical Round 1:

- i) The above two questions were discussed. I didn't look for some optimization, which interviewer pointed out.
- ii) He asked about the language I was not comfortable with, I replied with C. Then the next question, Write a function in C to reverse a string in-place. Luckily, I scraped through successfully.
- iii) There were questions on OS a C++ like what is deadlock, virtual functions, pure virtual functions, real time OS.

Technical + HR Round 2:

- i) He too discussed the Algorithm Written Round.
- ii) He asked me to design a class on "Staplers". Did it good.
- iii) Then there were some general HR questions. About my roles and responsibilities at the college, hobbies, etc.

After a long day wait, I was hired as a R&D Engineer.

First interviewer was friendly and and second interviewer always wanted me to trick out. It was a good experience.

I thank GeeksforGeeks for giving me a great platform for algorithm practice.

This article is compiled by **Chirag Gupta**. Many Many congratulations to Chirag for his selection. If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Interview Experience
Samsung

Paytm Interview Experience | Set 8 (Hiring Drive for Backend Engineer)

Paytm Hiring Drive for Backend Engineer. Selection process was completed on same day .

Round 1 (Written) :

It was a technical written round with 20 questions out of which 2 were coding questions.

Rest 18 were objective type mainly C ,SQL ,Algo.

a) Write code to create mirror image of tree.

b) Given an array of arrival and departure time of guests , find minimum no fo rooms required to accommodate guests at any point of time.

Round 2 :

1. WAP to search a number in a row wise – column wise sorted matrix.

2. Flatten a linked list.

3. Discussions around binary and ternary search.

4. Discussed objective questions of written round.

Round 3 :

1. How will you store a series of mobile nos in memory efficiently (less space).

e.g mobile nos like 999900001,999900003,999900005,999910006,999910007 ... are there.

DS should be designed such that retrieval is not inefficient.

2. Stream of Access logs are given to you with user id , page id and date.

Design Data structure to find n recent unique visitors and page they visited.

3. Current company projects discussions.

I thank GFG a lot for helping me in my preparation , finally I was selected

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
One97(Paytm)
Paytm

Paytm Interview Experience | Set 7 (Written Test Hyderabad)

Written Test:

Two Sections :

1. CS and Fundamentals

Easy fundamental questions and program output from Recursion / OS / Linux, Concurrency threading.

2. Programs

– Find islands from 2-D array.

– Remove duplicate elements recursively. Input : {1,2,2,2,6,8,6,6,8,10} output: {1,10}

– Find angle between clock's two Ends

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
One97(Paytm)

Paytm Interview Experience | Set 6 (Recruitment Drive)

I would like to share recent recruitment drive I attended from Paytm

CS + Programming + Coding – Screening round

■ 20 MCQ related to C, Recursion, program output, SQL tables

■ 3 coding questions

- <http://www.geeksforgeeks.org/find-number-of-islands/>
- <http://www.geeksforgeeks.org/recursively-remove-adjacent-duplicates-given-string/>
- <http://www.geeksforgeeks.org/calculate-angle-hour-hand-minute-hand/>

F2F first round (VP engineering)

■ General icebreaker questions on experience, work in present company etc

■ Reverse words in given string – either whole string only or words also <http://www.geeksforgeeks.org/reverse-words-in-a-given-string/>

■ Feedback you got in your last appraisal how you are working on your weak points and general discussion around that.

F2F second round

■ Discussion on HashMap internal implementation – <http://javahungry.blogspot.com/2013/08/hashing-how-hash-map-works-in-java-or.html>
<http://www.javamadesoeasy.com/2015/02/hashmap-custom-implementation.html>

■ How you will implement thread safety and concurrency in this and also how concurrent hash map works internally in java.

<http://javahungry.blogspot.com/2015/02/how-concurrenthashmap-works-in-java-internal-implementation.html>

- Frequency of words in array in range 0 to n-1 in O(n) time and O(1) space – <http://www.geeksforgeeks.org/count-frequencies-elements-array-o1-extra-space-time/>
-
- Variation of <http://www.mytechinterviews.com/one-box-of-defective-balls>
- We have 2 tables emp and dept with following data

EMPNO ENAME DEPTNO SALARY

1 A 10 10
2 b 20 20

and dept with following records

DEPTNO DEPTName
10 AAA
20 BBB

and Dept no is Primary key in DEPT and Foreign key in EMP Write SQL query to find the department name with maximum average salary.

F2F HR round

- General HR questions on prior experience, salary structure, hobbies, reason for change, why Paytm and other general probing questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
One97(Paytm)

Paytm Interview Experience | Set 5 (Recruitment Drive)

I attended a Paytm recruitment drive.

The requirement was for both Front-end and Backend Developers. I applied for Backend.

First there was a written round. The paper consists of 4 Sections.

- 1- C programming and Data structure objective questions.
- 2- Aptitude
- 3- Java / Node JS
- 4- Subjective programming Question

Subjective questions were

- 1- Print all interleavings of given two strings

Link – <http://www.geeksforgeeks.org/print-all-interleavings-of-given-two-strings/>

- 2- Largest subarray with equal number of 0s and 1s

Link – <http://www.geeksforgeeks.org/largest-subarray-with-equal-number-of-0s-and-1s/>

After the written round I went through 2 interviews.

First interviewer asked me 3 algorithm questions.

- 1- Segregate 0s and 1s in an array

Link – <http://www.geeksforgeeks.org/segregate-0s-and-1s-in-an-array-by-traversing-array-once/>

- 2- Extended the above question to Sort an array of 0s, 1s and 2s

Link – <http://www.geeksforgeeks.org/sort-an-array-of-0s-1s-and-2s/>

- 3- There are 3 operation available.

- a) Subtract 1
- b) Divide by 2(applicable only when number is divisible by 2)
- c) Divide by 3(applicable only when number is divisible by 3)

Give the minimum number of operation requires to reduce the number to 1.

Second Interviewer asked only 1 question.

- 1- Recursively remove all adjacent duplicates in an array containing numbers.

Link to remove adjacent duplicates from string is mentioned below.

Link – <http://www.geeksforgeeks.org/recursively-remove-adjacent-duplicates-given-string/>

Thats' it....!!!!!!

Thanks GeeksforGeeks.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
One97(Paytm)

Paytm Interview Experience | Set 4 (Walk-in Drive)

I got a chance to participate in walk-in drive at Paytm Head quarters. Went through following process.

1) Written test: It contained 20 objective questions having a mix of C, networking and Database questions and 2 subjective questions.

Subjective questions: Stock buy sell maximum profit and Find sub string in a string

2) Tech round conducted by SE:

Ques 1: Reverse a given linked list

Ques 2: Reverse linked list in group of size 3

Ques 3: Minimum distance between two given characters of a string

3) Tech round conducted by tech lead:

Ques 1: Tell me about yourself. Technology stack which you used while working.

Ques 2: Matrix multiplication (buy c++ book from Sumita Arora class XII level for answer :P)

Ques 3: Coin change problem (solved it using DP)

Interviewer was impressed with solution of coin change and later he discussed what were the most difficult data structure problems which I had solved. I told some like phone number keypad problem, sudoku solver etc.

I was only possible because of all the stuff I prepared regularly from geeksforgeeks which I could not have found anywhere else. Thanks to geeks for geeks.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
One97(Paytm)
Paytm

One97 Interview Experience | Set 3 (Backend/Node js Developer)

Round 1

Q1. Multiply two 2d matrices

Q2 You are given a stack in which element are filled at runtime. And normal push and pop operation. Now write a function min which you minimum element in stack at any particular instance.

Sol. <http://www.geeksforgeeks.org/design-and-implement-special-stack-data-structure/>

Round 2

Q1 Given an array of size n contains element from 1 to n in any order(unsorted). Now one element is duplicate. Find that element without using extra space.

<http://www.geeksforgeeks.org/find-duplicates-in-on-time-and-constant-extra-space/>

Q2 Given an array which contain repeated element in consecutive order. Now write a recursive function which remove consecutive elements from array.

Q3 Given an array find subarray which has zero sum.

<http://www.geeksforgeeks.org/find-if-there-is-a-subarray-with-0-sum/>

Q4 Some talk on node js. and its event driven model. Why we use nginx as proxy server.

Q5. Find number of unique visitors on a website having traffic upto 0.5 million daily(let's say). How will you number of unique visitors.

Q6 Given a histogram find maximum area of rectangle.

<http://www.geeksforgeeks.org/largest-rectangle-under-histogram/>

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
One97
One97(Paytm)

One97 Interview Experience | Set 2

My Interview Experience with One97

My Experience: 1.5+ year . I am from premium engineering college of India. Apart from my regular job I do freelancing and (sometimes) write articles for CodeProject, if I happen to find something really out of the box

How I Applied?

I saw on LinkedIn profile that One97 is hiring people, so I applied for the job and got the call just next day.

Expected number of rounds : 3, (The third interview is taken only if a candidate clears the first two interviews)

Round 1:

Began with the introduction. Why are you looking for another job blah blah.

Then he gave me a puzzle that there are two robots in the air and they have a parachute each with them. On each there is a big infinite assembly of cells units. The robots land on the assembly of chain. Now that cell remembers whether a robot landed and placed parachute on it or not. Now you have to program the robots in such a way that they meet after some time. There should be only one function which does that (for both the robots). A robot has option to either move left or right or stand still.

Then he asked me a question that there is large array. With 0's initially and 1's at the end. You need to find out the position of first one.

NOTE(Just in the interviewer is reading this): I read somewhere recently that person should always ask questions to the interviewer before start coding. So, I never did that when I was in my college, actually never had to because 99% of the questions are either from geeksforgeeks or careercup or the pdf – How to crack coding interview. Well, I had a genuine question that by large you mean infinite or finite array. The interviewer suddenly looked blanked when he heard infinite and binary search together. I am pretty sure he must be thinking what will the last index and how will I calculate mid in that case. But, binary search can be modified to look for an element even if you don't know 'n'.

Then some questions related to the freelancing work I do. Then another "coding" question to segregate even and odd numbers – again from geeksforgeeks.

One question on ArrayList and LinkList. And few small questions related to Java (like difference between xyz and abc) – which I have no clue, how does that helps the interviewers to judge a candidate's java knowledge. But the interviewer was happy and I was happy.

Round 2:

The weirdest interview I have ever had. First question – What is coupling and cohesion. I told him what I remembered from Sangeeta Sabharwal book I read back in college.

Then he asked me about my resume – that how can I work in two companies (one of which was freelancing) and being a girl how can I be into technology. The idea altogether seemed very confusing to him, plus I was appearing for Dev profile. Well, he asked me to name a few data structures from Java. I answered quite a few like "ArrayList", "Set", "Stacks", "Queues". Then he asked me to name a data structure in Java which is actual implementation of Queues – this was the only sane question till this point. Then he all of a sudden started shouting – that I don't know Java blah blah. If he ever gives me assignment to get data from database, populate POJOs with it and then convert it into JSON, then I won't be able to do that- because I don't know the difference between ArrayList and List (which he definitely assumed in his head).

Then he asked me to name the library which converts POJO to JSON object. I said there is some third party API, whose name I don't remember. He asked question on database queries and indices-which made sense. Then he asked me any questions- I felt like asking are you the only one insane and dumb here or everybody here is the same, but then I said no and he rushed to HR. The HR came with the feedback but before she could give me the feedback, I told her about the interviewer and asked her to keep the feedback with herself.

The point I want to make is that first of all, a programmer's work can never get limited by a language. Plus Java, C#, Python are something which just translate your thoughts/algorithms into something runnable. Secondly, in my 1.5 year of experience I have never crammed the API documentation of either Java or C# or Python. My idea is to just start writing "Hello World", the associated modules, data structures will automatically come to your head. Even then, I have never fared less than any other computer programmer because ultimately what makes a difference is whether you have the brains to visualize how data move in the memory, which operation will you mostly use-deletion, insertion, updation, sorting etc, the knowledge of ArrayList, List, LinkList will follow. All you need is to be clear about in your head how threads will access the static variables, how will they work simultaneously keep their own copy of variables, which variable I want to protect and which variable do I need to be updated by all threads. To understand the API and more important to tweak the API is not more than an hour's work.

Most importantly, don't aim to become a crammer, become a programmer.

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Interview Experiences
One97
One97(Paytm)

One97(Paytm) Interview Experience

Written 1 : Technical and Aptitude.

Written 2: Written Coding

Written 1 was Normal Written exam based on fundamentals of Aptitude and Computer Science.

Written 2:

Few Questions I remembered :

Q1 :

```
char a;
int i = 300;
a = &i;
a++;
*a=2;
printf("%d",i);
```

Q2 :

Imagine you have a special keyboard with the following keys:
A
Ctrl+A
Ctrl+C
Ctrl+V

where CTRL+A, CTRL+C, CTRL+V each acts as one function key for "Select All", "Copy", and "Paste" operations respectively.

If you can only press the keyboard for N times (with the above four keys), please write a program to produce maximum numbers of A. If possible, please also print out the sequence of keys.

That is to say, the input parameter is N (No. of keys that you can press), the output is M (No. of As that you can produce).

Q3 : Consider a Binary Tree not necessarily BST, Remove all nodes which don't lie in any path with sum>= k.

Q4: Given an array arrange it in the form ac<d>e<f>g.....

Q5 : Given an array of numbers arrange it in the form of a single number such that the concluded number is the maximum.

e.g. given : 99,8,76,45,66,9,7,33,5,42

O/P : 99987766654233

Sectional Cut-off for O/P and Coding Questions.

Marking was done against correct approach not the exact answers.

Round 1 (Technical):

Q1: How will you store 800 Million records in database.

Q2: Data storage of double and float differs in C/C++ and Java How is it ???

Q2: Transfer data between a program written in Java and C#.

Q3: I need to establish a network in which I will be sure of security ,How will you proceed

Q4: A and B are two sets Write a non nested query so that I can get the data in B but not in A.

Q5: 000.....? 111111111111111111.....? Write a Program which find the index of the start of series 11111111.....?.

Round 2 (Technical):

Q1: Give your introduction along with your technical skills.

Q2: Explain your project "Stock Prediction"

Q3: I want to retrieve records from a table from date 1 – 15.I don't want to use range Queries

Suggest the optimal solutions...

I suggest Indexing on date column.

He insisted on alternate ways.

"he said what you think you can do....."

Q4: What is Unique and NULL Constraint ?

Difference between Primary Key and Unique.

How many maximum records in Unique can be NULL.

Q5: Write Most optimized algorithm for finding a Word in sentence.

(I used Trie approach , he scolded me for not asking the sentence is sorted or not.. the used Binary search.)

Q6: Difference between thread and process.

What is PCB ?

What is synchronization ??

What is Semaphore ?

Explain and solve Producer Consumer Problem using Semaphore ? What is Drawback here

What is monitor ? Solve Producer Consumer Problem using Monitor and explain pros and cons.

Final 8 candidates from Delhi region selected.

Round 3(Final Round Managerial and Technical):

Q1 : What you want to do in your Life ?? Discussion life as a placement coordinator ?

What you did ? your duties ? differences you made ...

Q2 : Doing Post Market Analysis of a Stock Market of Previous Month .

Write a Program of Stock Buy Sell to Maximize Profit.

Q3 : Explain Cursor ? its types ? differences between them ? What to use When ?

Q4 : Explain Matrix ? Matrix Multiplication? Difference ways of Matrix Multiplication ?Explain Both.

Q5 : What are you doing right now ??? will you join us ?? Why ??

Students from 30 Colleges of India are evaluated and Top 25 are offered the JOB.

I was not one of them.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences

Interview Experience

One97

One97(Paytm)

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Paxcel Technologies Interview Experience | Set 2

Hello everyone, this is my experience of the selection procedure of Paxcel Technologies.

The first round was a MCQ test with 40 questions covering topics ranging from Data Structures, Operating Systems, Computer System Architecture, Networks, aptitude. Level of questions ranged from easy to moderate. Not very difficult to clear this round although 50% negative marking was tricky.

Coding Round:

There were 2 questions:

1. Given a 5 digit number and 2 operators (+ and –), find the minimum and maximum possible positive integers using digits from the number and the 2 operators. Example: 12345,+,-.

Possible combinations may be: 1+2-345, 1-2+345 (344 : Maximum). Absolute values of results of all operations was to be considered.

2. Given an input string (200 character limit, character set: a – z), find all possible square sub strings.

Square sub string: Strings formed by concatenation of any string. Example: abab(formed by concatenating ab with ab).

Technical Interview 1:

Questions related to arrays, link lists, trees were asked. Operating systems questions was the major focus point. Topics related to memory leak, segmentation, paging were also discussed. Discussions about technologies worked on, projects worked on and general interests were also a major part of the interview.

Technical Interview 2:

More operating systems related questions were asked. Topics included paging, thrashing, framing, schedulers, scheduling algorithms. General concepts like sockets and ports were also discussed. Again interviewer focussed on technologies used and discussions related to devops engineering, automation engineering and tools like ansible, docker, selenium were also discussed.

Later HR related questions were discussed.

Some students also had a HR + technical round with a panel of 5 members!

Overall level of interview was moderate and main focus point being operating systems and projects undertaken and technologies knowledge.

Geeksquiz and other geeksforgeeks questions were of great help. Galvin is the go-to book for operating systems.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Paxcel Technologies

Paxcel Technologies Interview Experience

I have successfully completed the recruitment process of paxcel technologies pvt ltd and wanted to share my experience with geeksforgeeks.

1st Round

Online Test with 40 MCQ questions related to computer science field subjects like DS, OS, CN, COA and Programming.

2nd Round (Programming)

1) Traverse a given 2D matrix from given source to destination in such way that every cell should be visited exactly one time (we have to cover all cells of matrix exactly once and have to reach at destination).

2) If m is a number then i right rotation of that number is mi. Ex m = 123 then m1 = 312, m2 = 231.

Now you have given 2 numbers as input say x and y. You have to count all m numbers between them such that x <= m < mi <= y.

Ex if x = 123 and y = 250 then for m = 123, m1= 312 and m2 = 231 so,

X <= m < m1 <= y is not valid

X <= m < m2 <=y is valid. And so on..

3rd Round (Telephonic Interview)

Discussion of logic of programs from previous round and questions on selection of programming language (why Python or why C).

Some basic questions from OS, COA and Networks.

4th Round (Face to Face)

Discussion of Project/Thesis.

Asked me to convert my C code of thesis into Object Oriented term.

Questions from Memory, paging, segmentation and unix.

Gave some simple programming questions to write (like to print all permutation of a string and pointers related).

5th Round (HR)

Discussed about myself, Relocation, and salary package.

I thanks to geeksforgeeks for huge contribution to this. I will keep learning from geeksforgeeks.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Paxcel Technologies

Citrix Interview Experience | Set 4 (On-Campus)

Round 1 (Written Test)

Online test conducted on HackerRank platform. Around 300 students appeared for this round. It consisted of 2 sections, each 1 hour long.

Section 1 consisted of 50 MCQs ranging from OOPS concepts, OS, Networking, Quant and Data Structures.

Section 2 consisted of 2 coding questions:

Q1. Given a number, you need to check whether any permutation of the number is divisible by 8 or not. Print Yes or No accordingly.

Eg.- I/P- 46. O/P- Yes. Since 64 is divisible by 8.

I/P- 345. O/P- No. Since neither of 345,354,435,453,534,543 is divisible by 8.

Q2. Given a matrix of 1s and 0s, rewrite the matrix such that it consists of distance matrix from the original positions of 1s.

Eg.- I/P: 0001
0100
1000
0001
O/P: 2110
1011
0121
1210

Round 2 (Technical Interview: 45 mins)-

45 students were shortlisted for this round.

The interviewer asked me to introduce myself and help him run through my resume. He then asked me if I liked coding which I answered in affirmative. He then asked me to code the following questions:

Q1. Given a n*n matrix, print the matrix in spiral form. <http://www.geeksforgeeks.org/print-a-given-matrix-in-spiral-form/>

Q2. Given a binary tree, print the tree in spiral form. <http://www.geeksforgeeks.org/level-order-traversal-in-spiral-form/>

Q3. Given a 2d array, print the maximum contiguous sum. <http://www.geeksforgeeks.org/largest-sum-contiguous-subarray/>

He asked me to dry run the codes and made sure that it all worked efficiently. Once he was satisfied with the codes, he shifted to Operating Systems.

What is a deadlock? How can you make sure that deadlock doesn't occur? What is Banker's algorithm? What is Reader-Writer problem?

He also asked me a couple of questions from Networking which I can't recall.

Round 3 (Technical Interview: 40-45 mins)-

26 students were shortlisted for this round.

The interview began very casually with the interviewer asking me to tell him some special attractions about my hometown. After which, he moved to more important parts of my resume.

He asked me about my internships and also asked some questions related to that. Following which he asked me to briefly explain the academic project I had undertaken in my course.

He then asked me to code the following question: Given 2 arrays of fixed size 8 and 4 consisting of 4 integers each in the sorted order, merge the 2 arrays without using any extra memory. Initially I solved this question by starting from the front and shifting the elements accordingly. The interviewer then asked me to improve the complexity and even suggested to start from the back. I managed to solve it almost immediately once I got the hint.

He then shifted his attention to OS and Networking. What is TCP Three-Way Handshake? What happens when you enter a website on your browser(DNS Server)? What do you mean by synchronization? How do you overcome a deadlock state?

Round 4 (HR Interview 20-25 mins)-

The interviewer quickly ran through my results until this round and gave me a nice smile and said I had been doing good so far.

He began with the usual question, "Tell me about yourself?"

He then asked me why there was a drop in my CGPA from the 5th to the 6th semester. I had been dreading this question but managed to get past it.

He then asked me where I saw myself in the next 5 years. He then asked me if I had any plans of any Masters degree.

Finally, 13 students were selected and were given Job offers. Overall it was a nice experience.

Tips/Advises- MCQs are equally important as the coding questions. There are students who managed to qualify without solving any coding question while people who had solved 1 question lost out. They don't always look for the correct answer but look for the approach and how does one think when given a challenge. Make sure to be thorough with your CV, especially projects and internship. Don't write anything that you are not confident about; it leaves a bad impression if you aren't able to answer questions related to it.

Interviewers are really friendly and make sure that you are comfortable.

Thank **you Geeks for Geeks**. This wouldn't have been possible without you.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Citrix

Citrix R&D Interview Experience | Set 3 (On-Campus)

Written Tests:-

There was a 1 hr aptitude test & 1 hour coding round. The aptitude test had simple questions on c/cpp, Networking, OS etc. and some general quantitative aptitude questions.

The coding round had 2 questions to be done in an hour.

Q1: A matrix of 1s & 0s are given, you have to find no of groups of adjacent 1s. Adjacency was based on 8-connectedness. (Finding no of components in an undirected graph) (Islanding problem :- <http://www.geeksforgeeks.org/find-number-of-islands/>)

Q2: A number is given and you had to translate it to string form (Indian system – lakhs, crores etc. not millions, billions etc.) The word "and" had to be added at the appropriate place (after 100s place if there was a digit in 10s or 1s place)

101 => one hundred and one
2311 => two thousand three hundred and eleven
900020 => nine lakh and twenty

35 => thirty five
3 => three

1Round 1(Technical)(45 mins):-

How are you today?
(While scrutinizing my resume) Tell me about yourself?

Why Software, Why not Electrical?
Which language do you prefer.? C or java(As majority of my work was in Android development, I told her java)
Which data structures do you like most? (I told her Linked Lists and trees)

Write any code of any data structure? (She wanted to check if I'm not bluffing them by writing data structures as my area of interest). I wrote the code in C.
She started to pick some projects of mine and also asking me to explain them

What is a web server?
How do you connect your android app to a web server?
Full form of http? (I dodged that by saying I'm not into networking)

Any Questions for us.?
-> I asked them as the company's name suggests what research work they do.?
-> How would I be contributing to research work, If I'm hired.?
-> Is there any chance of getting promoted to Citrix U.S ?
-> What kind of work environment is there in Citrix.?

She gave me a hint that she was impressed by my work and I'd be interviewed for the second round

Round 2(Technical)(1.5 hrs approx):-

He took a glance at my resume and said "I called you because I liked your resume very much".
I smiled and my confidence level skyrocketed to 200%.

He asked me to describe myself in 5 mins and started a timer of 5 mins.
Explain any project of yours in detail?

I started explaining it to him. He started going deeper and deeper into my project, asking every basic detail about it.
He wanted to check my basics of java and android.

For ex., he asked
How does an AsyncTask work?

What is encapsulation and polymorphism?
How does encapsulation and polymorphism works?

When I was stuck at one position, he started helping me by giving analogy related to my project. He helped me at every stage, whenever I was stuck.
How does multithreading works?

What is volatile and synchronous in java?
How many methods are there to create threads and how do they work.?
He asked me some simple logical reasoning questions.

For ex.
 $yx * 7 = zxx$. Find x,y,z?
a,c,f,h,k,m,? Find the missing alphabet.?
Last he asked me if I have any questions about the company.?

-> Sir, you're having a lot of experience in software industry, any advice for a fresher like me.?
-> What profiles are they offering and what is the work associated with each one of them.?

Round 3(HR)(45 mins approx):-

How are you?
Why Software, why not Electrical?
After seeing many of my projects were self-mentored. She asked how do you manage it?

Strengths and weaknesses.?
What profile you're targeting here in citrix.?

What do you do apart from coding and studies.?
How many apps have you published till date and why you didn't publish the rest.?
Any shortcomings in our interview process.? (I told them, I didn't like the HackerEarth platform on which they take tests.)

Tips/Advices:-

They were mainly looking for guys who had done lots of projects in software. In the whole interview process they only focused on my projects and fundamentals of java. They didn't ask me anything that's not in my resume. So, Don't write anything in your resume that you're not confident about. They just want you to have sound basic concepts.

Thanks GeeksforGeeks.! ☺

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Citrix

Citrix Interview | Set 2 (Written Test Experience)

Recently, we had Citrix written test in our campus. There was a 1 hr aptitude test & 1 hour coding round. The aptitude test had simple questions on c/cpp, Networking, OS

etc. and some general quant aptitude questions.

The coding round had 2 questions to be done in 1 hour.

Q1: A matrix of 1s & 0s are given, you have to find no of groups of adjacent 1s. Adjacency was based on 8-connectedness. (Finding no of components in an undirected graph)

Q2: A number is given and you had to translate it to string form (Indian system – lakhs, crores etc. not millions, billions etc .) The word “and” had to be added at the appropriate place (after 100s place if there was a digit in 10s or 1s place)

101 => one hundred and one

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1

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Citrix

Citrix Interview | Set 1

I had my citrix interview on campus. I would like to share my experience.

Written Round:

Section 1: 50 MCQs in 1 hour duration.

There were very basic questions of C, C++, OS, Networking, and Aptitude all mixed.

Section 2: 3 coding question on basic data structures and algorithms. Use of STL wasn't allowed.

1. Print a 'Y' shaped pattern from asterisks in n number of lines.

2. Level-order traversal of k-ary tree. Print all levels line by line.

3. Implement an LRU cache. (Prototypes were there to implement).

Interview Rounds:

First Round (Technical):

1. Questions on my project such as tables, UI, Platform used etc. Some questions on BigData.

2. How to implement Apache server? Write code for http server. What is difference between http and https? What is difference between GET and POST method?

3. How to implement STL map? I implemented with AVL tree (RB-Tree would be better). Then some questions on AVL tree and RB-Tree.

4. What is singleton design pattern? Its implementation. Race condition in this pattern and how to remove it.

5. What is multithreading? How is it implemented? User-level and Kernel-level threads. What their advantages and disadvantages?

6. What is race condition? Implement a C function with race condition.

7. Some questions on Inter Process communication.

8. Solution of Producer Consumer Problem.

Second Round (Technical):

1. Starting and ending co-ordinates of one-dimensional line segments are given. Find the co-ordinates of longest line segment that can be formed from these segments.

Write two functions addSegment() and findMaxSegment(). He asked me to write a perfect C code.

2. What is flow control in TCP?

3. What is virtual memory? What are the advantages of it? If we have infinite RAM then should we use virtual memory or not and why?

Third Round (Managerial):

It was taken by production manager.

1. Puzzle: 1 out of 12 identical balls is faulty. It may be heavier or lighter. Identify it with simple-balance in minimum no. of weightings.

2. Biggest technical problem solved. Area of Interest. Want to be a developer or tester.

3. Some regular HR questions like where do u see yourself after 10 years etc. .

Fourth Round (HR Round):

It was taken by Recruiting manager. Some regular HR questions were asked like strength, weaknesses, leadership skills etc.

After few hours I got an offer :). It was a great experience. Interviewers were very friendly and they just wanted the logics instead of actual syntax. To crack citrix interview conceptual knowledge of various computer science subjects like OS, Networking, Algorithms, OOPs is important. Thanks to geeksforgeeks for providing such a great platform to practice and learn various concepts.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Citrix
Interview Experience

Accolite Interview Experience | Set 15 (On-Campus)

1st round consisted of 20mcq questions to be answered in 30 minutes.

Around 120 students appeared for the test.

Top 5 were called directly for the interviews next 15 had to go for a subjective round consisting of 3 coding questions.

I was called directly for the interview.

First round of interview lasted for 2.5 hrs following questions were asked

1. Design a tic tac toe game algorithm with all corner cases
2. Find the maximum sum rectangle in a 2D array (I gave the brute force and dp solution)
3. Apply DFS on a graph using adjacency list
4. Coin Change Problem (Initially I gave recursive solution which had overlapping subproblems but then I gave him the DP solution and he accepted it.)
5. Print the largest sinusoidal sequence(ZIG ZAG sequence) in an array (He asked me to code the recursive solution and then write the working code of DP solution)

Second Round Consisted of 3-4 math puzzles and 1 DP problem (2hrs)

- Find the smallest substring which consists all the alphabets.

Third Round was HR (20mins)

It was easy. She asked questions like my weakness/strength and preference for working centre- delhi/bangalore.

Fourth round was Skype (45mins)

1. Insertion and deletion in a BST
2. Modify a Linked List such that every node has the address of the node having the max value at its right . That is – for any ith node, from all the nodes at its right find the node with max value and store its address in ith node's pointer – pmax.time limit- O(n) could be done using recursion.
3. Job Scheduling Algorithm .

After this round I was given the offer letter.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview Experience | Set 14 (On-Campus)

Accolite visited our campus for recruiting Full time employees as well as interns. The process started with pre-placement talks and then we had to undergo a 5-round process.

Round 1:

The first round was conducted online,which consisted of MCQ's covering C, C++, OS, DBMS. We had to answer 20 questions, and yes there was a negative marking (-0.25) for each wrong answer.

Round 2

1. Find the left view and right view of a tree.
2. Find pair of numbers in an array which are equal to a given sum.
3. Find triplets in an array equal to a given sum along with complexity.

I couldn't answer the first one, but answered the last two. So I guess I was rejected for that reason. If you want to clear Accolite interview my advice would be to read a lot of algorithms and problems in **GeeksforGeeks**.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview Experience | Set 13 (On-Campus for Internship and FTE)

Accolite visited our campus for recruiting Full time employees as well as interns. The process started with pre-placement talks and then we had to undergo a 5-round process.

Round 1: Online (30 min)

The first round was conducted online,which consisted of MCQ's covering C, C++, OS, DBMS. We had to answer 20 questions, and yes there was a negative marking (-0.25) for each wrong answer.

Around 650 people took the online test and 75 people were selected for the next round.

Round 2: Paper Coding (1 hr)

We were asked to code the following questions on paper:

1. <http://www.geeksforgeeks.org/print-shortest-path-print-string-screen/>
2. <http://www.geeksforgeeks.org/find-zeroes-to-be-flipped-so-that-number-of-consecutive-1s-is-maximized/>
3. <http://www.geeksforgeeks.org/serialize-deserialize-binary-tree/>

Out of the 75 people who took this test 20 were shortlisted.

We then had 3 technical interviews on the next day.

Round 3: F2F interview (2 hrs)

I was the first person to be shortlisted and so I was interviewed by the Senior Technical Director of the company. She asked me about my favorite data structure to which I

replied Trees. So she asked me to do a zig-zag level order traversal of a binary tree.

1. <http://www.geeksforgeeks.org/level-order-traversal-in-spiral-form/>

2. She then gave a string in the encoded form and asked me to find the k'th character in the string without decoding it.

For example:

Input: Encoded string is "a9b21c5" and k=27

Output: 'b'

3. She then gave me a real-time problem which she faced last week and asked me to provide a solution and code it.

Scenario: There is an API which receives data from a socket which is fetched using a buffer. There was no guarantee of how much data is read through the socket (i.e. the first time 5 characters may be read, the second time 20 characters may be read). The data to be read consisted of an HTTP header and a message to be displayed. The header was separated from the header by means of a delimiter(here it was "000|"). I had to write a code which discards the HTTP header and displays the message alone considering the fact that there was no way of finding out how many characters were read by the socket.

She concluded by asking about my projects.

Round 4: F2F interview(1.30 hrs)

The interview asked me to code the following questions:

1. <http://www.geeksforgeeks.org/trapping-rain-water/>

2. Given a linked list and an integer 'K', I had to rotate the linked list.(Note: Reversing a linked list is different)

Input : 1->2->3->4->5->6->7->8->9->10 and k=4

Output: 4->1->2->3-> 8->5->6->7->9->10

3. He gave me a string represented by a binary tree(each leaf node is a character) and a random function that might swap any number of internal nodes of the binary tree(just like mirror). I had to find out if the string (represented by the tree) returned after the randomized function call is a valid permutation of the original string.

Eg: **Input:** "golden" and "gloned" where gloned is the string returned after calling randomized function.

Output: True

Input: "golden" and "gnlode"

Output: False

Round 5: F2F interview(1.30 hrs)

The interviewer gave me two scenarios and asked me to write an algorithm for both.

Scenario 1:

I had to reach Paris from Chennai by flight. He wanted me to find the best possible way to reach Paris. I told him that I would use Djikstra's algorithm based on distance, one solution based on time and one solution based on both distance and time(using weighted averages). He then asked me to minimize the number of points to be considered at each intermediate vertex. I told him to use the latitude and longitude to find the direction of the destination and consider points accordingly. He then asked me to draw a line between the source and destination and asked me to consider only points which were inside an inclination of 30 degrees of the line drawn. I gave him a solution and he was satisfied.

Scenario 2:

He asked me to assume there were 100 airports in my city and he asked me to suggest an algorithm for choosing the airport given the destination and the timings of each flight at each airport. He then asked me to incorporate the significance of "traffic" while I travel from my current location to the airport and asked me to design accordingly. He asked me if I had any questions for him, to which I posed a lot of questions regarding the company's structure, clients and any pre-requisites to be learnt before I could join the company.

The results were announced later in the evening and I got selected!!!

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GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
Accolite

Accolite Interview Experience | Set 12 (On-Campus)

Accolite visited our campus. There was a Pre-Placements talk before Round 1.

Round 1

- MCQ (20 Qus)- 30 Mins

72 people selected in 640 students.

Round 2 – Paper Coding

1. <http://www.geeksforgeeks.org/print-shortest-path-print-string-screen/>
2. <http://www.geeksforgeeks.org/find-zeroes-to-be-flipped-so-that-number-of-consecutive-1s-is-maximized/>
3. <http://www.geeksforgeeks.org/serialize-deserialize-binary-tree/>

21 people selected

Round 3 – Technical Interview

1. The size of array is 101 and the range of number is 0-99 . Only one number comes 2 times find that number .
2. <http://www.geeksforgeeks.org/write-a-c-program-that-given-a-set-a-of-n-numbers-and-another-number-x-determines-whether-or-not-there-exist-two-elements-in-s-whose-sum-is-exactly-x/>

3. Delete the nodes in the BST whose range in between

Round 4 – Technical Interview

1. Find Diagonal Sum of Binary Tree.
2. Inorder Traversal (Recursive , using stack , Morris Traversal).
3. Basics questions of Java (Collection , Thread , Polymorphism , static, final, finalize(),finally).

Round 5 – Technical Interview

1. Print leaf to root of a given leaf node value from given array where 0th index of array represents the root node and index represents the child node and the value represents at that index is the parent node.
2. Minimize the redundancy of the data so which DS will u prefer.
3. Database questions(Join , Normalization , Transaction , E-R diagram).
4. People got FTE 2 people got Internship

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview Experience | Set 11 (On-Campus)

Accolite visited our campus. They had a PPT before the online test.

ROUND1:

It had a total of 20mcq questions from C, C++ basics, operating systems, data structures and DBMS. Totally around 600 appeared for the test, and they selected 70 to the second round.

ROUND 2:

This round had 3 programming questions.

First one was to serialize and deserialize a binary tree.

Second question is the input will be a binary array and a number M,we have to find the positions of M zeroes to be flipped such that it produces maximum number of consecutive zeroes.

Final one :

A B C D E

F G H I J

K L M N O

P Q R S T

U V W X Y

Z

Given the word like "ACCOLITE",print the shortest route along the matrix.Ex:from starting index is A

So print "OK" if destination is reached else print MOVE LEFT,MOVE RIGHT,MOVE UP and MOVE DOWN according to the destination.

21 ppl got shortlisted and I was one among them.

ROUND 3 : Technical

LCA of a binary and a BST was the first question.

Given two arrays find the missing number in the second array.Then he extended the question like to find the missing two numbers.

Find the first missing positive number in the range of N which also has negative numbers.

ROUND 4 : Technical

He asked my areas of interest in algo, and asked me a real time example of bitwise algo.

Some questions on Java and then given a linked list and a number K,rotate the every k nodes in a list until the end of the list.

Another one was trapping rain water problem.

ROUND 5: Technical

A problem on union-find where given an array construct tree from it.

And given a node in the array find the node to root path using the same array.

Final question was to minimise the redundancy of data, so what sort of DS to use.

I said him a TRIE based one.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview Experience | Set 10 (On-Campus)

Accolite Software visited our campus. Firstly, they presented a pre-placement-talk where they talked about their work culture, their biggest clients, their intra, fests, etc. The work life aspect was discussed too.

Following this, they conducted Online test for 30 min that included MCQ questions from

C, C++ : finding o/p, complexity, bugs if any

DBMS: Join queries, indexing and theory

OS and Networks: Basic theory Networking

and Little Quantitative Aptitude.

Around 200 Students appeared for this round. 11 were shortlisted for first round interviews. I got through this round. For the next top 10, a coding round of pen/paper (1 hour) was carried out from where only 2 were shortlisted. There were three questions as narrated by my friends. One on tries, one on heap, one on sorting. Thus, 13 people made it for technical interviews.

Round 1 FFS : 1 hour

The two interviewers congratulated me for reaching this far.

1) After a little introduction, they threw me a puzzle. $3 _ 1 _ 3 _ 6 = 8$. I had to fill the spaces with any operator I can, to satisfy the equality. I thought for about 5 mins. Then I gave the following: $(3 ^ 1) & 3 + 6$. They were happy with the not so conventional approach but directed me towards a simpler construction. See if you can find it yourself

2) Then followed a barrage of sql queries, probably as I had mentioned databases in my resume. I suggest everyone to practice join queries.

3) Next question was to detect the merging point of two linked lists with length m and n. I initially gave the hashmap solution which he asked me to code. Then he asked for other less expensive ways. I reduced problem into finding the start node of a loop, if modification was allowed, otherwise, advancing the longer by the difference between the two lengths. Full working code was required along with the time and space complexities.

4) Another question was to find a triplet in the array that sums to a particular value.

After this, I was notified to get ready for round 2. Five folks were eliminated.

Round 2 FFS: 2 hours

1) Given a huge array consisting of integers in a certain range. How would you solve the queries of the following type : Report the number of integers lying in the range between l to r. I built a prefix array as in the counting sort. Now all queries could be answered in O(1). He modified the question by stating that the range now was always a multiple of some number. I proceeded by dividing the i/p into buckets and then building the prefix array. Full code was asked.

2) Given a huge numbers of strings in an arraylist, report the longest common prefix of the strings. I solved this by creating a trie with an augmented node storing depth and count at each node. Only the important modules were asked to be coded.

3) Short discussion of my summer internship, why I used JAVA, what challenges did I face. He asked me to explain the differences between treeMap, linkedHashMap and hashMap.

4) I had mentioned a project carried out on Linux Mint. He asked me the basic commands of linux, namely cat, grep, ps, df along with syntax for git commands.

5) Assume a traveller wants to books a cab. Write an automated server that schedules a cab present in the region pool of the user in a way that maximizes the benefit to the company. You can make assumptions like GPS availability. At first, I had no clue where I was heading. Then I broke down the problem into structures and assumed the necessary. This was more of a discussion sort of thing, as this had no definitive answer. I had to write the pseudocode of anything I thought. 30 mins went straight into this question.

6) Core JAVA Questions. 7-8 of them including but not limited to new operator, constructor, static blocks, synchronized keywords etc.

3 were eliminated. I got through to round 3.

Round 3: FFS 1:15 hours

The interviewer greeted and informed me of this round being a techno-managerial round.

1) You are the manager of a restaurant. Given the archives of past purchases of raw materials per day of the week, write an algorithm that forecasts the amount of each raw material to be purchased so as to cover the next week requirements. Mention data structures used, if any. After thinking for a while, I proceeded by the method of weighted averages, assigned more weight to weekends over weekdays, special diets etc. I said, I being the manager would use the trend adjustment factor to forecast the next demand (economics helped) Explained this using an example.

2) Given an i/p stream of train coaches in the following format: XY where X: uppercase letter, Y: a number, what is the most efficient way to sort the coaches such that at the end of the stream, we can get the sorted order in O(1). eg. A3, B2, C10, A1 -> o/p A1, A3, B2, C10.

Also prove why comparison sorts have a lower bound of O(nlogn) where n is the size of the input.

3) How do you delete an arbitrary item from a heap. Write the code. Even the redundant lines in my code were subjected to scrutiny.

I wasn't confident of my performance in this round, but stayed positive. It had been 10 hours of waiting.

HR Round(15 mins)

The HR Ma'am was very friendly. Asked me what I knew about the company so far. I had a feeling I was being tested for my listening skills against the morning pre-placement presentation.

I would like to thanks geeksforgeeks for their content that helped me through. A word of advice: Practice pen and paper codes. Never lie on your resume, it may back-fire at any moment. Inner peace is a must Cheers!

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GATE CS Corner Company Wise Coding Practice

Accolite Interview Experience | Set 9 (On-Campus)

Accolite Software visited our campus on 31st august 2015. At first, they conducted pre-placement-talk that was the most interesting session i ever attended.

Followed by this, they conducted Online test for 30 min that included MCQ questions from C, C++, DBMS, Networking, OS and little Quantitative Aptitude. Around 160 Students appeared for this round. 8 were shortlisted for first round interviews. I was the lucky one to get through .

Interview (Round 1 : 1:15 hours)

The Interview Started with simple question. I was asked to Write a program to find whether loop exist in circular linked list or not. I wrote the code and then she gave different test cases to check the correctness. After this, she told me lets move to tougher problems. I was scared at that moment. Next question was the famous Dynamic Programming Problem to find maximum sum contiguous sub-array. I had practiced this problem before so did it with ease. She tried different test cases on my code and all ended up in success. Next question was to find max sum path from root to leaf in a Binary Tree. I was stuck in this question for a minute but landed up optimal solution. She was so impressed that she told me there itself that i am passing you for the next round interview.

Interview (Round 2 : 1:30 hours)

There were 3 members in the panel. First question was " You have to implement the dictionary, which data structure will you use to implement it ". I told them about tries and explained the entire scenario. They told me to optimize it. I moved to ternary search trees and explained why it is better than Tries. Then They Appended the question to " Now you have to search for all anagrams of the given word in your implemented dictionary ". I told them the brute force solution and they told me to optimize it. I tried and presented a different solution but they were not happy. After About 45 minutes of discussion on this, they moved to the next question. He asked me the approach to find permutations of the given word. I presented him the solution along with the time complexity and he was happy. Next they gave me a puzzle " You are given 1271 apples and 17 buckets. You have to distribute apples in such a way that you can represent any number with bucket sum ". My solution was almost correct and after this they told me to leave.

I would like to thank GeeksforGeeks for such wonderful collection of Data Structure Questions.

Thanks

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview Experience | Set 8

Round -1(written)

20 Online MCQ topics are c, Data Structure and Algorithms, Networks, DBMS,OS

Round 1(F2F) [1.5 hr]

Introduce yourself.

1) Sort array [0,1,1,1,1,0,0,1] do it inplace as well as in O(n) time. While sorting you are not allow to change the original ordering of same element.

2) Find the all pair whose sum in K in an array. eg [-1,2,5,3,2] k=4, O/p is {2,2},{-1,5}

3) <http://www.geeksforgeeks.org/count-ways-reach-nth-stair/>

4) Find the no of rectangles/square in a ChessBoard.

5) <http://www.geeksforgeeks.org/search-in-row-wise-and-column-wise-sorted-matrix/>

Round 2(F2F) [2.5 hr]

Discussion On Projects.

Design a code Parser which checks a c++ program is syntactically correct and memory footprints.(more focus on Loops parsing,conditional Statements, global variables, local Variables)

Round 3(F2F) [1hr]

Discussion On Projects.

Design a machine that generates the glossary of a book.(input is book content and output is word with a one line or two line summary that are extracted from book)

Round 4[HR] [15 min]

Tell me about Yourself

Projects

Family

Strengths and Weakness

Why Accolite.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview Experience | Set 7 (On-Campus)

Accolite visited our campus for full time Software development.

First round: MCQ round consists of 30 questions 30 minutes. Questions on C aptitude, four to five general aptitude, two puzzle based aptitude questions. Around 120 wrote test, 10 were selected for next round.

Second round: It took around 1 and half hour two people were there. All rounds were purely technical. Questions are, Tell me about yourself.

Implementation of queue using two stacks and some modification on that.

Finding pair in a given array such that sum is equal to given value. Then he modified for negative numbers.

Check if a given tree is binary search tree or not with full code.

Child sum problem on binary tree told to write code also.

One puzzle related to coin and two rooms.

Third round: Only one question in this round. I have to design a dictionary of words such that if any word is entered then it should give meaning for all anagrams for that word. We discussed for one hour. First I told about using try data structure to make dictionary and generate all anagrams of that word then searching each words. But he is not satisfied. Then I came up with some modification in structure of try data structure still not satisfied. Then I come up with multilevel hashing Technique. He somewhat satisfied.

Fourth round: It was final round and only two people were selected for this.

Puzzle: There will be 17 buckets and some 2197(don't remember exact number) apples. You have to put these apples in buckets such that if I ask any number of apples then just give any number of buckets such that apples in those buckets should equal to that value. Hint, arranged as bits arranged in binary representation of numbers.

Finding loop in a linked list. He first asked you already know this question I told yes sir. Then he asked will it work if by changing fast pointer and slow pointer with difference of 3, 4, 5 nodes.

Addition of two linked lists with full code. Numbers are in reverse order and all border conditions should be considered like, lengths are not equal. First he told to write for positive numbers I wrote using recursion. Then he told to write negative numbers.

We both were told to wait outside. After few minutes they told only I am selected.

Thanks geeksforgeeks.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview Experience | Set 6 (On-Campus)

Round 1(Written):

There was a technical online test in the first round. 20 questions were to be done in 30 minutes. Questions were basically from data structures, DBMS, operating systems. There was a negative marking of 0.5. After this, 10 students were shortlisted.

Round 2(Technical) (2 hours):

1. Introduce yourself
2. Given a string, I had to construct tree from that string. Also I needed to write the code for it.
3. I was asked to construct the schema for the voting system of India, to put all the keys like primary key, foreign key etc. in the tables, to normalize the schema. All the 5 Normal forms should be fulfilled.

Then I had to write query to display the political party who won the elections.

After this round, 5 students were shortlisted.

Round 3(technical) (2 hours):

1. Given a file of size 500MB which contains cgpa of students as a single stream without spaces and without any other separator. I had to tell them the logic to separate the different cgpa's.
- Also, I needed to tell them which data structure should be used to store the cgpa's efficiently.
2. Given a link list I had to tell whether it contains a cycle or not. If there was a cycle then which nodes were orphan nodes (i.e. the nodes which were not in the cycle).
3. Given an array of positive numbers, I had to tell them whether the square root of the array element exist in the same array or not. If it exists then display that number.
4. Given an array containing denominations (i.e. the value of different coins) and the total sum. I had to find the minimum number of coins needed to make that sum.

After this round 2 students were shortlisted.

Round 4 (HR interview) (30-45 mins):

1. Introduce yourself
2. What are your strengths and weaknesses?
3. What do you want to become in future?
4. A situation was given to me like if I was selected and I had to work late at night on some project whose deadline was approaching. Then what will be my reaction?
5. Asked me about my interests and hobbies.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview Experience | Set 5 (On-Campus)

Accolite Interview Experience (On-Campus)

Round 1 (Written)

Around 190 students appeared for the online test which consists of 30MCQ's to be done in 30minutes, questions were basically from data structure, networking, dbms, and 2-3 questions of apti also. You need to pass out the cutoff in this round, also remember negative marking was there.

They shortlisted 12 students in this round.

Round 2 (Coding)

After that online coding round was there in which 2 questions were given in 1hour.

- Two strings i.e. one parent and one child string, you have to find how many child subsequences can occur in the parent string, there can be different combinations if a character repeats itself. For ex:
Parent[] = ABABDCAD
Child[] = AD
Then your answer should be 5.
I applied modification of LCS here and coded it.
- Given a 2D matrix, you have to find maximum elevation of water and no. of ways to achieve it. Water can flow in all four directions only if value there is less than its own. Maximum value can be found out by subtracting the last value where you stopped from the value from where you started. Consider all elements of the given array and not a specific position.
I applied DFS.

They shortlisted 4 students in this round and I got lucky J.

Round 3 Technical Interview (1.30 hour)

I was the first to be interviewed.

- Tell me about yourself. Meanwhile he(interviewer) looked into my resume and asked about my projects.
I have done 3 projects so he started discussing first of them which was a TLB website, semester based library system made in PHP, he asked me to explain the working with proper approach and algo applied in the main module of allotment. It lasted about 25-35 minutes.
- Then he asked me to implement APPENDIX of the book(thick one, cormen types 😊). He told me take your time and think. I first came out with hashmap and told him the approach and complexity, then he asked to optimize it, I told him that it can be done by dictionary based method and so I told Trie data structure with full code and complexity and he was satisfied. About 30 minutes discussion.
- Now the easy one, Tell whether a string is a rotation of another string in O(n). I wrote the code.
- One array based question was also there which I don't remember.

Round 4 Technical Interview (2.30 hour)

- Tell me about yourself in detail, my goals etc.
- He then asked about my second project made in JAVA. He basically asked me to write Ajax module of that and then somewhat discussion related to hibernates and servlets and MVC model that I used in my project went on. (about 30 minutes)
- Difference between implementation and inheritance with proper example in java.
- 25 horses, find first 3 positions puzzle.
- You have to design a software for a big restaurant, all database, UI for manager as well as for customer assuming customer has access to Kiosk machine and can book the table, order and option of payment as well. He told to optimize table booking from manager point of view. I first designed the database and showed him, then I designed interface for both, he asked how to implement it in code, he was very particular in table booking optimization. I came out with BFS related algo, then he asked how customer can have option of various tables showing him many different positions in the restaurant and table number stored in db. I told it by code but it then became specific for a particular restrau he asked general solution, I said I can take input from manager in graph form. This discussion went on for about 45 minutes.
- Given a 1D array, you have to print multiplication of all the elements of array except that position element. There was a condition not to use division operator and solve it in O(n). I did it in 5 minutes, it was the easy one as I read it on geeks <http://www.geeksforgeeks.org/a-product-array-puzzle/>
- You are given two 1D arrays, one is of heights(h₁,h₂,...,h_n) and other is of distance(d₁,d₂,...,d_{n-1}). Water is poured in between the heights, you have to find maximum volume of water it can hold. I told him the approach by using STL map and vector. Then he asked me to write full optimized code considering all the corner cases.
- Given a row-wise and column-wise sorted 2D array, find a given element. Write code and tell complexity. Again on geeks <http://www.geeksforgeeks.org/search-in-row-wise-and-column-wise-sorted-matrix/>
- Why should we hire you? They don't want any bullshit of HR related crammed answer, they want genuine technical answer.

They took 2 rounds of all 4 candidates, then selected 2 for the third round, I was being one. 😊

Round 5 (Technical+HR) Interview (2 hour)

- Tell me about yourself, key strengths and examples justifying it.
- He was going through my resume and finally he asked about my last 3^d project of ANDROID, and saw running app installed in my phone, asked what I used in it, and why it is only static. I directly told him that I was not interested in android and it was the team project.
- After that from resume itself he asked about one of my achievements, and then I showed him my certifications that I was carrying.
- Then he asked about sql injection and dos attack and how to remove them, it was due to as I had mentioned hacking as a part of my extracurricular in college startup company **Kratikal**.
- Then he asked my written online coding round second question, and the error in it as it was not submitted due to time limitation, which I knew and told him.
- Reverse a linked list firstly in iterative manner and then recursively also(strict with corner cases). Write full working code and analyze space and time complexity. It was easy, you can read it on geeks <http://www.geeksforgeeks.org/write-a-function-to-reverse-the-nodes-of-a-linked-list/>
- Given a sum, write a code to find a path in a binary tree from root to leaf whether it exists or not. Also on geeks <http://www.geeksforgeeks.org/root-to-leaf-path-sum-equal-to-a-given-number/> and then he expanded it to m-ary tree finding the same. I wrote code for it also.
- Any questions from us? I asked about the work culture, technology and the areas that I have to work on and location 😊

I would suggest that your approach and concepts must be strong as they always give questions with some variations and tell them your thinking process and interact with them and ask more and more questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview Experience | Set 4 (On-Campus)

Round 1 (Written)

Around 140 students appeared for the offline test.

There were 20 MCQs that to be done in (30 minutes), questions were from OS,DBMS,Datastructures.

After that coding round was there (paper coding) in which 3 questions were given and we have to attempt any 2 (1 hour)

1. Write your own sqrt() function. the function should return square root if it is a perfect square else return floor(sqrt(x))
2. Given an array containing positive and negative integers. you have to find the smallest missing positive number. your code should run in O(n) time and O(1) space.
3. Given an array of strings, find whether the strings can be chained or not to form a circle. A string x can be put before another string y if last character of x is same as first character of y.

After round-1 , 19 people were shortlisted for the interviews.

Round 2 (Technical) (1:30 hr)

1. Tell me about yourself. Meanwhile he(interviewer) looked into my CV and asked about my projects.

I have done 3 projects so he started discussion CUDA and parallel programming and how you implemented over images to detect edges and how much gain factor achieved. secondly,I have made an project on online voting system so he asked me to draw E-R diagram, schemas and the relationship between them and their functionalities.About (25-30) minutes discussion.

2. Given a BST, you have to find the kth smallest element in it in O(n) time and O(1) space.

3. Suppose you have a server where multiple requests are coming at time t₀,t₁,t₂...Now suppose a user hits at any particular time t on the server then server should return the last request. you have to design the datastructure for the same.

I suggested that we can use stack that will return the last request, he then asked me to do for last 10 requests then I suggested to use array of structures which will store request no. and timestamp along with them.Now at any time t we can move 10 elements back but he said that suppose user hits frequently then every time i will have to traverse back again and again so time complexity will be much high, I agreed and suggested another solution similar to LRU implementation so that the requests which are coming frequently can be processed faster. then he modified question that user wants requests of last 1 minute and he gave a hint that is it necessary to store all requests can we not just store requests of every 1 min only,then suddenly it clicked to me, I suggested to use deque for 60 secs now suppose request arrives at 61st sec then we can just add that at rear and remove one from front maintaining a window of 60 seconds.He was satisfied but he wanted that no deletion should be there so I told him to use circular deque so that we can replace previous elements.He was completely satisfied now with the approach.(About 35 min. discussion)

4. Given an array containing prices of a share of 30 days.A person has 1 share which he can buy and sell any number of times, you have to find the maximum profit which can be earned.

I suggested one approach to create two auxiliary arrays MIN from left and MAX from right and traverse both simultaneously if difference between MAX[i] and MIN[i] is greater than maxDiff then update maxDiff and store current index and add to sum if index+1 is not equal to current iteration index and finally return sum.He tried some test cases over my code and found that for some cases it was giving wrong answer,then he asked me that how is my command over dynamic programming,I told I know only the standard ones and no other experience,then he said this question is of DP but he was happy to see my approach.(About 20-25 min.)

Round 3 (Technical) (1:30 hr)

1. She(interviewer) asked me if I attempted 3rd question in written test, I said I attempted only 1st and 2nd, then she gave me paper and told to implement the 3rd question. I suggested an approach to use two arrays of structures(for first characters and last characters) which will contain boolean value to mark presence of character in string and also its index. Now compare two arrays and see that if both arrays have same boolean value and different indices for all first and last characters. If so then strings can form a chain else not.She was in doubt for my solution so she found a testcase where my code was giving wrong answer,so she told me to look for another solution,I came up with another approach and told her that we can make a directed graph from first and last characters and then traverse it in DFS, now suppose if the visited node is visited again and count of total visited nodes is same as total nodes then we can say that strings will form a chain, now she was satisfied with approach and asked me to write code, now as my graph was weak I was in shock,so she said to just write the pseudocode.

2. Given a BST, you have to find the kth largest element in it in O(n) time and O(1) space.

I suggested to declare a static variable count which will increment count if node visited in inorder and if count becomes k, I will print that node's data and return. Then she asked me how static works and difference between global and static.

3. Given a mobile keypad of say nokia phone and a dictionary which has all the meaningful words which can be formed, suppose now user types some number(input) then your program must suggest all the meaningful words which are present in dictionary.Before implementing this she asked me the datastructure to store the dictionary efficiently and then how will you use this datastructure to make code.

At first, I suggested I will store dictionary in 2-D array and lexicographically sort it, now suppose user types a number the string starting with that character is searched in the array. she said to reduce complexity because dictionary may contain 1000s of words,then I suggested to use trie datastructure to store and search the string, she was satisfied now and asked me to explain the concept.

4. Given preorder and postorder of a graph, how can you construct the graph.

As I heard this question, I was stuck for 2 minutes but then I said as far as graph is concerned I don't know about it but a unique tree cannot be constructed with preorder and postorder so as graph,so inorder is needed, she was happy and agreed on answer.

Round 4 (Technical) (2:30 hr)

1. Suppose a linked list is given and there is a loop, you have to find orphan nodes in O(n) time. orphan nodes are the nodes outside the loop.

2. Design a BRTS traffic signalling system such that no two vehicle clashes. Note that BRTS bus will follow the BRTS traffic lights B1,B2,B3,B4 in 4 directions and regular traffic will follow regular traffic lights R1,R2,R3,R4 only. In input only maximum cycle time was given(time after which the process repeats) check for all corner cases (traffic lights have two states only (RED and GREEN)).you have to tell any one possible combination of traffic lights under maximum cycle time. (About 1hr discussion).

3. Suppose a linked list is given but we dont know the count of nodes, you have to find the kth node from last without counting the nodes.

4. Given an array of n integers such some elements are in the range 0 to n-1 and some out of range may be negative.You have to rearrange array such that all elements which are in range appear on their index and rest appear in sorted manner for indexes not present.This should be done in O(n) time and O(1) space.

Eg- suppose n=6 ,4 5 2 3 6 -3 output= -3,6,2,3,4,5

5. How can you implement stack using queue/queues.

6. How can you sort the elements with the help of queue.

I suggested one O(n) time solution along with O(n) extra space.He asked to do in O(1) space so I suggested deque, he seemed satisfied.

only 4 were selected till this round (I was one of them)

Round 5 (Bar Raiser) (30 minutes)

1. find the length of longest palindrome in a string starting from index 0.

2. find if a string A is present in string B or not.

3. find the length of longest prefix in a string

After this 2 were selected finally and unfortunately I was not amongst them as they might have thought I was little stressed out. At last I would suggest that your approach and concepts must be strong as they always give questions with some variations.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview Experience | Set 3 (On-Campus)

Written MCQ

There were 20 multiple choice questions to be done in 30 minutes time and most of the technical questions were from geeksquiz , one blood and relation question and one simple probability question.

There was no negative marking.

Paper Coding round

21 students were shortlisted from the 1st MCQ round and in this round we were asked to write the codes (function only) of 3 questions in 1 hour time.

Q1. You are given a matrix of size MxN and only possible values in the matrix are

0 – representing empty position

1 – representing a fresh apple

2 – representing a rotten apple

A rotten apple converts all the fresh apples to rotten ones which are adjacent to it in 1 unit of time. Given an input the matrix and you have to calculate the amount of time in which all the fresh apples become rotten. Also determine whether all fresh apples could be made rotten in finite time or not. (20 marks)

Input

2 1 0 2 1

1 0 1 2 1

1 0 0 2 1

After 1 time unit, the matrix will be transformed to

2 2 0 2 2

2 0 2 2 2

1 0 0 2 2

After 2 time units the matrix will look like

2 2 0 2 2

2 0 2 2 2

2 0 0 2 2

Hence output should be 2 time units. (Definition of adjacent only included the left , right, bottom and upper cell and NOT diagonal cell)

Q2. You are given a Binary tree and you need to find out the maximum path sum between any 2 leaf nodes of the binary tree (The maximum path sum may or may not pass through root of tree). To be done in O(n) time (20 marks) <http://www.geeksforgeeks.org/find-maximum-path-sum-two-leaves-binary-tree/>

Q3. You are given an unsorted array of integers and you need to find out whether there exists a majority element in it. (Majority element is one which appears more than n/2 times in an array of size n). To be done in O(n) time (10 Marks) <http://www.geeksforgeeks.org/majority-element/>

The result of this round was declared late in the night. Some 7 or 8 students were called for the face to face interview rounds. I was the first one to be called and F2F rounds started at 11.30 PM and ended up in 5 AM in the morning :-p I was lucky to be free around 1.15 AM ☺

Face 2 Face Round 1

Q1. I couldn't complete my Paper coding round question 1 (rotten apples). She (the interviewer) asked me to rectify the problem in it. I did it with the help of MxN extra space for visited[][] matrix. She said do it inplace. I did by modifying the Matrix values to 3 , 4 , etc.

Q2. Find 5th from last element in a singly linked list. Firstly I gave a solution which took two traversals. She said to do it in 1 traversal only. I did it by taking two pointers and maintaining a distance of 5 nodes between them. Q3. You are given a string for example if input string is "I am abc xyz". Output should be the modified string as "xyz abc am !". This was to be done inplace and in O(n) time.

Q4. You are given a unsorted array of both positive and negative integers. You need to find out the maximum sum subarray in O(n) time. You need to find the start and ending indexes along with the sum.

Q5. You are given a BST and two keys k1 and k2. You need to find out the lowest common ancestor of the two keys iteratively. I suggested the solution of storing the path in a vector and finding the 1st mismatch of key value in the root to k1 and root to k2 path.

Face to Face round 2

Q1. Take the example of paper coding round rotten apples question and suggest some algorithm where you are allowed to change the position of rotten and fresh apples in such a way that the resultant matrix converts least number of fresh apples to rotten apples. I suggested an approach where I would first count the number of rotten and fresh apples initially and arrange all fresh apples in a sub-matrix starting from (0, 0) position and similarly arrange all rotten apples in sub-matrix from (N-1, M-1) position. He was satisfied with this approach

Q2. You are given an elevator system with 3 elevators, you have to suggest some algorithm in which the amount of time that a person waiting on some x floor and has pressed the up or down button should wait for least amount of time and also the person inside the elevator also should not wait for too long to reach his destination floor.

Q3. Asked some general questions as to what are tokens of a language. What is a grammar and production rules. Then he asked me to check whether a given code in some language is syntactically correct or not. You are provided the set of valid tokens for this language and also symbol table.

Q4. You are given a text file storing characters or words. Suggest some way to compress the file such that there is always some amount of space compression possible.

I suggested to use a trie tree as all the prefixes will share the space. He said this approach is dependent on whether the input has common prefixes or not.

Suggest some other way. I then said that we can use Huffman Encoding and assign smallest code to most frequent word in the file and so on. He said again this approach also is dependent on whether your input has frequently occurring words or not.

Then I suggested that since all characters can be represented in terms of 8 bits or 1 byte. We can take the XOR of prev and next character and store it in the current character position. This way I would be able to always get a n/2 size reduction in the encoded file. The idea was similar to <http://www.geeksforgeeks.org/xor-linked-list-a-memory-efficient-doubly-linked-list-set-1/>

He was satisfied and this was the end of my 2nd F2F round. He told me to get some sleep because you will be having a skype interview with our technical manager followed by HR round in the morning.

3rd round (Skype)

Q1. He asked me to define NP and NP hard problems followed by the definition of automata and regular language. He then asked me are regular expressions.

Q2. He shared a google doc with me and gave me a regular expression like abab*(ab) and an input string s. I needed to write a code to check whether the given input string could be generated from this regular expression or not. Return a Boolean true or false value. I coded it up in 5 minutes :-p

Q3. You are given a N-ary tree and a value K. You need to return true if there exists some root to leaf path having sum = k and false otherwise. I did it using recursion and in O(n) time.

He told me that you'll be having your final HR round in some time. I knew that I was going well because he seemed to be quite satisfied with my answers.

Final HR round

That was the round for which I've been waiting for hours 😊

She (the HR) started off with some general questions like tell me about yourself and your aims and goals in life. What are your hobbies. I told her that I love art and craft. She asked me what will I make for her if tomorrow is her birthday :-p She was very friendly and nice to talk to. It didn't seem that I was talking to the HR. It was more like talking to a friend. She asked me what I liked about Accolite and why do I wish to join the company and stuff. Finally we discussed about the pay-scale and work culture in Accolite.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview | Set 2 (On-Campus)

Accolite came to our campus for recruitment.

First Round Written Test:

30 MCQs in which question related to DS Networking OS Unix commands DBMS. Questions were easy.

They selected 7 students out of around 60 students for next rounds.

Tech Round 1: First of all interviewer see my resume then asked about the projects that I have done.

1. He asked to write a program to print right view of binary tree. First he asked me approach. I told him two approach one iterative and other recursive .Then he asked to write code for iterative version considering all corner cases.

2. He write an array A[n][2],where n is no row , 1st column contains child node and 2nd column contain parent node. A node can have any no of child. You have to find no of distinct groups.e.g.

A1 A
A2 A
A3 A
A21 A2
A31 A3
A22 A3
A33 A3
B1 B
C2 C

O/P is 3 because when we create graph between parent and child then no of disconnect graph will be 3.I

told him to create a graph then find no of disconnect components using DFS but he asked to solve without creating graph i.e. only using the given matrix. Then I told him an

approach he was satisfied with that.

One more ques that I forgot.....

After this round 4 were left.

Tech Round 2: In this round interviewer was a very cool and friendly person. When I entered into the room he was doing something with his laptop and then he asked about me after that he draw a picture and asked my opinion on that.

1. Row and column wise sorted matrix was given you have to find kth smallest element. I know the solution but I said him push all elements to min heap and then pop min from heap k times then he asked me to optimize it .Then I told him using min heap of size k then asked me write the code I couldn't write complete code he said ok u.

2. 3 balance are given and weight on each balance and weight of each balance is given .then 3rd balance is kept on right side of 2nd balance and 2nd balance is kept of right side of 1st balance .I have to find how weight I need to balance all the 3 balances.

I told him approach then he said write the code as quick as possible. I completed the code and then go through my code and said go for next round.

After this round 2 were left.

Tech Round 3: In this round interviewer was very serious. 1st he go through my resume and then asked about myself. Then he asked do u know java I said NO .then asked about my projects that I've done.

1. He asked to find root to leaf path having path sum equal to K.

2. Merge two sorted linked list.

HR ROUND: This round was just for formality. She(HR) asked me that what do u know about ACCOLITE,

I told him something about the company and asked why ACCOLITE ,my strength weakness etc.....

And then she asked to wait for results.

After this round only I was left and waiting for results

Finally she called me, all the interviewer were present in room and they said u have done well up to this level but they some doubts choose a language JAVA C OR C++ I choose C.I was given a plane paper asked me solve it.

THIS WAS JUST A PRANK AND THE EVERY LAUGH AND SAID U R SELECTED AND then everyone congratulated me and gave me some goodies.....

I would like to thank geeksforgeeks which helped me enormously in getting placed.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Accolite Interview | Set 1 (On-Campus)

Accolite came to our campus for recruitment.

First Round Written Test:

20 MCQs in which general CS basics question were asked. And one subjective paper where we have to write 3 codes.

1. Maximum path sum between two nodes of a tree
2. Majority element in an array.
3. Some 2d array related question.

They selected 7 students out of around 180 students for next rounds.

Tech Interview Round 1:

1. Let's say you are given with some lines of codes, in any language say C++. You have to design a complete syntax checker.

– I need to give him a algo or design steps which I will follow to make this checker.(Around 1 hr 15min discussion/suggestions/more test cases/new boundary case were discussed, Then finally he was satisfied with the output)

2. This question was pretty easy just to complete the round 1,I think. He asked me to code the problem "to find kth smallest element from the last in a Link List".

Tech Interview Round 2:

There were two interviewers:

They picked my subjective paper (code I wrote in written test).

1. He picked my majority element question, in that question, I have used the MedianOfMedian technique. He was not very much clear with the technique so he asked me to prove the complexity that this technique works in O(n). I was also not sure about the proof that time but after some discussions in 45mins he was satisfied about the technique.

2. He asked me give him a technique for the following question:

You are given with an array. You have to put even numbers at even places or odd at odd places. Firstly i had to tell how will I decide what to do, even at even or odd at odd? Then he asked to design algo for that. He asked for inplace O(n) solution.

I have never heard about the question so it took 30mins to give the best solution. At first I gave –outplace O(n) solution then –in place O(n^2) solution –Then an incorrect O(n) in place one, for that he asked me to prove that this is wrong and finally I gave a correct solution.

And finally he asked to Code that algorithm.

Tech Interview Round 3:

1. He asked me the difference between P and NP problems.

2. Draw a venn diagram showing the relationship between P and NP (I got it completely wrong)

3. Probability question, Six coins are tossed What are the probability of getting at least 5 heads. (because of some stupidity again I gave the wrong ans)

4. Then he finally asked me to design an algorithm to find LCA of two nodes in an n-ary generic tree. I did that correctly and he was satisfied.

In next HR round, general HR questions were asked.

I think the whole process was little bit cumulative kind of process. All the rounds, even written round had some weightage in final selection. Although students got eliminated in between rounds.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Accolite

Payu Interview Experience | Set 6 (On-Campus)

Recently Payu came for recruitment in our college.

Hiring Process : Online Test + 3 Technical Rounds + HR Round.

Position : Software Engineer

Online Coding Round (1 hr):

There were 5 coding Questions. All of us got different sets. Most of the Questions were based on standard Dynamic Programming like 0-1 knapsack etc. For each Question a testcase with complete explanation was given.

I attempted only 3 Questions.

1. All possible ways to construct buildings in the plots such that there is a space between any 2 buildings.

<http://www.geeksforgeeks.org/count-possible-ways-to-construct-buildings/>

2. Print Preorder traversal when Inorder and Postorder traversals are given.

<http://www.geeksforgeeks.org/print-postorder-from-given-inorder-and-preorder-traversals/>

3. One Question based on Kadane's Algorithm.

<http://www.geeksforgeeks.org/largest-sum-contiguous-subarray/>

Only 5 people were shortlisted after this round.

Luckily i was able to get the highest score.

Round 1 (~1:15 hr):

Introduce yourself.

Then, Discussion on projects, resume, internship.

1. Sort Array of 0s and 1s in one traversal.

<http://www.geeksforgeeks.org/segregate-0s-and-1s-in-an-array-by-traversing-array-once/>

2. Check whether two given strings are anagram or not.

<http://www.geeksforgeeks.org/check-whether-two-strings-are-anagram-of-each-other/>

3. Best dataStructure for implementing Dictionary

I said Trie and explained basic Functionality like insertion,deletion and searching can be done in O(n) time where n is length of the word to be processed.

4. <http://www.geeksforgeeks.org/reorder-a-array-according-to-given-indexes/>

5. Basic Questions on Stack like time complexity of Push(),Pop().

Then, Best case and worst case time complexity of finding Maximum from stack.

O(N).

How to find Max in O(1) from stack.

<http://www.geeksforgeeks.org/design-and-implement-special-stack-data-structure/>

Then, 2nd interviewer came.

6. Level Order Tree Traversal

and BFS,Queues

<http://www.geeksforgeeks.org/level-order-tree-traversal/>

7. Zig zag traversal

<http://www.geeksforgeeks.org/level-order-traversal-in-spiral-form/>

8 . <http://www.geeksforgeeks.org/write-a-c-program-that-given-a-set-a-of-n-numbers-and-another-number-x-determines-whether-or-not-there-exist-two-elements-in-s-whose-sum-is-exactly-x/>

For each Question both of them were looking for the most optimal solution in terms of space as well as time.

They asked me to write the pseudocode for 1 or 2 questions. They were checking the algorithms by dry running it.

9. Questions from OOPS like data Abstraction, Encapsulation, virtual functions, Abstract class, Polymorphism, inheritance.

10. Gave me a database table and asked me to write 3 simple queries.

Then asked about

Inner Join and Outer Join.

First round was nice.

Round 2: (~50 min)

Introduce yourself.

1. Puzzle

<http://geekexplains.blogspot.in/2008/06/puzzle-avg-salary-without-disclosing.html>

2. Not able to give the DP solution.

<http://www.geeksforgeeks.org/remove-minimum-elements-either-side-2min-max/>

3. Asked me to write the full code on paper.

<http://www.geeksforgeeks.org/reverse-words-in-a-given-string/>

4. <http://www.geeksforgeeks.org/a-program-to-check-if-strings-are-rotations-of-each-other-or-not/>

5. <http://www.geeksforgeeks.org/count-ways-reach-nth-stair/>

Round 3 (~40 min):

Tell me about yourself.

Then, Few questions on project,resume.

1. Told me the functionality of atoi() library function and then asked me to implement it on his laptop.

<http://www.geeksforgeeks.org/write-your-own-atoi/>

Interviewer was very concerned about the corner cases like what happens when integer overflow occurs, how to handle inputs like "12abc", max/min integer value (range of long long) etc....

2. Difference between process and threads.

3. Inner Join, Outer join, left ,right join.

<http://stackoverflow.com/questions/38549/difference-between-inner-and-outer-joins>

Two people were called for HR round.

HR round (~20 min):

Tell me about yourself.

Strengths

Why Payu ?

Most challenging moment in your college life.

Asked me If I had any Questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Payu

Payu Interview Experience | Set 5 (On-Campus)

Online Round

1 hour coding contest, different set of coding problems were given. They were manually evaluated. I was able to score 2nd highest score in my batch. They were judging you on these factors proper Algorithm, and clear code.

20 people were shortlisted after this round.

Round 1

<http://www.geeksforgeeks.org/find-first-non-repeating-character-stream-characters/>

N -ary tree given ,print the zig zag order traversal

<http://www.geeksforgeeks.org/level-order-traversal-in-spiral-form/>

Link list consist of 0 and 1 ,arrange it in such a way that all 0's on the left and all 1's on right

Given an sorted array find a pair such that their sum is equal to key value.

My friend gave me the solution in order(n), he told him tell the solution in $O(\log n)$, just to test his temperament.

6 were shortlisted out of 20

Round 2

There was discussion on my project for about 15 mins . Since my project was based on web crawling he asked me Find top 10 urls used by clients and 10 clients accessing the urls for 1 day of data . I answered by using heap ,he asked to me ,how insertion works in a heap .

Puzzle : 25 horses race, he modified it to 30 horses

Given a string without spaces and a dictionary return or print all possible ways that the string can be broken so that only valid words are formed.

Eg. "programmerit", dict = { "pro", "gram", "merit", "program", "programmer", "it" }

ans: { {"pro", "gram", "merit"}, {"program", "merit"}, {"programmer", "it"} }

3 were shortlisted

Round 3

Position of knight and king in a Chess board, find the minimum no of moves knight can move to reach king position.

Boundary traversal of Binary tree

All permutation of string ,with and without duplicates

HR round

Tell me about yourself.

3 Strengths,3 weaknesses, 3 things you like and hate about you college, why payu, why coding?, motivation, challenging moment.

Things we were judged was effort and all codes were asked to code .

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Payu

PayU Interview Experience | Set 4 (For Fresher)

Here's my interview experience at PayU india (fresher).

Round 1

Firstly, a discussion of projects in resume and a detailed chat on my internship

1. Search for an element in a pivoted array. (Only logic and pseudo code)
2. Find middle node of a linked list. (Tested a lot by asking questions)
3. LCA in binary tree. (Complete code was required).
4. A puzzle which I can't recollect. (Was not common)
5. Was asked to design corpus search engine. He told me the basics and I gave ideas based on what I could think of . (Came close to a good design)
6. Some OS questions like mutex and paging.

This round well and I qualified for next round.

Round 2

Again, a detailed discussion on projects and internship. This round had very less DSA.

1. <http://www.geeksforgeeks.org/given-only-a-pointer-to-a-node-to-be-deleted-in-a-singly-linked-list-how-do-you-delete-it/>
2. <http://www.techinterview.org/post/526370758/100-doors-in-a-row/> (With proof)
3. Asked about semaphores, race conditions, deadlock etc. Asked me to implement a situation.
4. Databases – Gave some data in the form of tables and asked questions on inner join, normalization etc.
5. Again a very hard puzzle, can't remember it. (Was not common)

This round didn't go well as I was not good at OS and DBMS. So, prepare those sections as well apart from DSA. I was rejected after this round.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Payu

Payu Interview Experience | Set 3 (On-Campus)

Recently Payu visited our campus and its process of selection was as follows:-

Online Test :

15 technical questions + 5 Coding Questions(I solved all the coding and about 10 technical Questions). Luckily i got shortlisted for the personal interviews. There were 4 technical rounds and 1 HR round.

Technical Interview 1 (30 mins):

1. Introduce yourself.
2. Tell me about Projects
3. Code for a modified least common ancestor of two nodes in BST (complete working code with boundary conditions needed).
4. given two strings, remove the characters from string1 that appear in string2 in O(N) and constant space.(code was needed).
5. modified DP problem of Rod Cutting.(No code needed, we wanted the mathematical equations and how to solve by DP approach).

Technical Interview 2(45 mins):

1. Introduce Yourself.
2. Asked me to write the complete code for insertion and deletion in AVL Trees implemented using maps.(I mentioned it as one of my projects). I was not able to write complete code and then asked me if can only explain it(He was OK with that).
3. Discussion about how to maintain session of users on web.
4. Discussion about what are cookies and their significance.
5. Given an array of integers, find all pairs with a given sum K.
6. Given an array of integers, find all pairs (a, b) such that (a % b) = k. (k was given as input). O(N) solution was expected.
7. Given an array of integers, find all subsets of size 2 and size 3 such that in subset of size 2 , a+b = K and in subset of size 3 , a+b+c = K.

- (K given as input). needed O(N) solution.
 8. Few questions on resume and achievements.
 9. Puzzle: Given 16 horses find the top 5 horses in least number of races. Only 4 horses can take part in a single race.
 (my starting approach was correct, but later on asked for hint), finally solved.

Technical Interview 3(30 mins) :

1. Introduce Yourself.
 2. Why not higher studies.
 3. Why Computer Science.
 4. Gave me a paper with a single problem on it :- Given an English Dictionary that contains only valid English letters. We need no to worry about the way English Dictionary was implemented. Given some input and the corresponding output , I was asked to write the code for getting the required outputs. Once you are done with small cases he kept on giving more complex inputs.
- He was actually checking by understanding of the Recursion, base cases and Problem Solving Approach. Code was needed for every case.

Technical Interview 4(40 mins) :

1. Introduce yourself
2. What is KMP Algorithm. Write code for preprocessing function.
3. Difference with Http andHttps.
4. How Security is provided on network.
5. DBMS : Discussion on Normalization and its significance and various Normal forms(1st NF, 2nd NF, 3rd NF, BCNF).
6. OS : Explain Paging with Example.
7. Design Patterns: Asked me to implement Singleton Design Pattern.(Asked for hint and then implemented it).
8. Some easy questions on Arrays again.
9. Asked to write code for Vertical Tree Traversal by considering all boundary cases and all test cases. (I took some time then coded using map >). He was okk with my code.
10. Asked me the same English Dictionary question, I told him that I have already solved it.
11. How to implement Mutual Friend Feature of FaceBook.
12. How to implement top 5 friends feature.
13. Asked If I had any Questions.

HR Round (20 mins) :

1. Introduce yourself.
2. Why Pay U
3. Most Challenging situation during college projects and how to solved it.
4. Strengths.
5. Weaknesses.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Payu

One Payu Interview Experience

Company : One payu india ,Gurgaon

Profile : Software Engineer

Round 1 : Coding Round

Consisted of 5 coding questions to be done in 1 hour .Most of them were based on algorithms but some were adhoc also . Everyone has a different set of questions jumbled from a pool of questions . Do 3 and you will definitely be through to the next round.

Around 30 were shortlisted for interviews .

The interviewers focused mainly on coding knowledge and skills .

Can't remember all of the questions.

In all three interviews I have to make codes for all problems.

Tech interview 1(50 min) :

1. Tell me about urself.
2. Given an array of ints of size n having no. from 1 to n+1 . find the missing no. Atleast two solutions expected .
3. P node problem in linked list .Its solution . I told him Floyd cycle .he asked why I moved fast pointer by two and not by four . told him we have to check multiple conditions to find whether there is a second/third /fourth node otherwise if we try to access a node that doesn't exists then it's a runtime error. He looked satisfied.
4. What is a stack ?
5. Find leader elements and ii) next greater element for all in an array.
5. Find whether a tree is a BST or not . Gave him 2 solutions :Inorder traversal and check if sorted with or w/o array , use recursion in top down manner. He was expecting another solution which uses property of bst . Told him the min , max solution .told me to code latter two .
6. Game question : 2 players play alternately . 1st always has to win.he can choose whether to play first or second.there is an array of coins(ints).at a time the player can choose only extreme ends.ex: 1 3 2 17 9 so player can choose only 1 or 9,if it chooses 9 then other can choose only 1 or 17.finally the player with max coins sum will win . what strategy will player 1 choose to win always.. Solved it with some help from interviewer . He extended the ques. Now the player 1 has to win with max sum (a good dp

question).

The round went very good and the interviewer said he was impressed 😊 .

Tech Interview 2(1 hr):

1 . Given a text .there is a string in the text somewhere which is rotated version of original string .find and correct the rotated string in the text .ex: text – there was a company named entureacc in 1990s. string : accenture . gave the solution using 2 arrays . he told me to take advantage of space(' ') and code solution. So i used space as delimiter and coded solution using a 26 size char array.

2 . Reverse every word in a string . Code it . make sure ur code doesn't have any bugs and try to code faster.

3 . Discussion onQues asked in prev round.

4. Multiple and multilevel inheritance in java. Is there multiple inheritance in java and why ?

5. Design questions : i)Design a car , ii) Design an elevator system .

6. Camel banana Puzzle . Google it for problem statement .

7. Boundary and zigzag Traversal in a tree.

This round went perfectly and I was called for 3rd round immediately .

Tech interview 3(50 min):

Seemed like a police interrogation room with only 2 chairs and a table.The interviewer told me that I have to write complete codes for all probs in this round. I stayed confident...from outside ..

1) Rotate a square matrix by 90 degrees using O(1) space .The question was new to me and after struggling for about 10-15 minutes while the interviewer was busy with his laptop, I solved it and wrote complete code for it.

2)Given a binary tree ,I was given two pointers p1 and p2 to two nodes in the tree I have to swap the subtree rooted with these nodes . he asked me the base cases for this prob. I told him none of p1 and p2 should be ancestor of other .p1 and p2 should be in tree and they should not be null . Another constraint was that I can traverse the tree only once. I told him that I will find lca of both nodes and keep track of all ancestors of both using array and then use this array to perform swap. told me to code it.

HR round (Telephonic):

Just a formality. Asked everything about myself. How the prev rounds were. What I know about payu. Relocating, CTC, workin days etc.

Recommended Reading: geeksforgeeks.org/data-structures, headfirst for java, os video lectures by pk biswas.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Payu

Payu Interview (On-Campus)

Written round: 5 coding and 15 MCQ on ds, algos, dbms.

Round 1

Tell me about yourself

Given two strings str1 and str2 find if str2 is substring of str1, if yes return the starting index else return -1.

Given time as a string in format of HH:MM, draw an analog clock. (no logic , but made me write the entire code)

Round 2.

Tell me about yourself

Given a binary tree, change the value in each node to sum of all the values in the nodes on the left side of the node.

Eg

```
    1
     / \
    2   3

    3
     / \
    2   6
```

solved this question using int* he asked me to do it without integer pointer.

->3 basket, apple, orange puzzle

-> bridge and torch puzzle

-> given an array first increasing then decreasing, find the max element, find any element

boundary cases..

-> <https://oj.leetcode.com/problems/trapping-rain-water/>

Round 3

Tell me about yourself

Given a string without spaces and a dictionary return or print all possible ways that the string can be broken so that only valid words are formed.

Eg. "programmerit", dict = { "pro", "gram", "merit", "program", "programmer", "it" }

ans: { {"pro", "gram", "merit"}, {"program", "merit"}, {"programmer", "it"} }

HR

Tell me about yourself.

Strengths, weaknesses, why payu, why coding?, motivation, challenging moment.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Payu

Aricent Interview | Set 4 (On-Campus)

There were 3 rounds consisting of Written, Technical Interview and HR round.

Written Round:

Aricent organized an online written test via amcat(aspiringminds). The questions were very easy. There were total 5 sections.

Section 1:

Questions on computer fundamentals were there. It comprised of questions from os, dbms, c etc. for example paging, referential integrity, output based on pseudo codes. Finding the distance moved by disk head in CSCAN algorithm in processing some requests. Brush up your basic concepts no need to go into details.

Section 2:

This was based on Quantitative aptitude. There were questions based on profit and loss like given SP and profit find CP, averages, HCF LCM, finding unit digits etc. This was an easy section just be through with all the formulas. But don't spend too much time on one question otherwise you are gonna miss some questions.

Section 3:

This section was to test your English. Few questions asked the synonyms and antonyms of a given word. There were questions with fill in the blanks and you need to select the correct option, questions where some part was italicized and you need to replace it with some other phrase preserving the meaning of the word. Comprehensions were given and you need to give the answers.

Section 4:

This was based on logical ability. Questions were based on data sufficiency, blood relations, coding and decoding, direction test, linear arrangement, clocks. This section was easier than aptitude one.

Section 5:

This was based on programming. Pseudocode based questions were there. Output finding, Stacks, queues based questions were also there. Clear all programming and ds concepts. No language specific questions appeared.

This time there was no GD and Critical Incidence Form filling. There was some other form HR asked us to paste a passport size photograph, personal details, educational details, achievements/honors (if any), whether any problem with bond and job location preference, family member details, whether had any criminal history or not. This form was to be submitted with a copy of resume and copies of mark sheets graduation, school etc.

Technical Interview:

He first asked me to introduce myself. Then he asked me to declare a static variable, a global variable and local variable. Then he asked their usage, memory storage, scope, lifetime etc. He asked me the difference between declaration and definition. Then he asked me to write a statement for allocating 40 bytes to an integer. I wrote it using malloc. Then he asked me to deallocate it. I wrote it using free(). He asked when you allocated memory you specified the size but when you deallocated it you didn't mentioned the size, how come compiler able to deallocate only 40 bytes.

He then asked me to write a code for inserting a node at the end of a linked list where I am provided only with head pointer and handling all the cases. He also asked me to delete a given node from the same list. I did it in two scans. He said can you know how can you do it in only one scan, I said yes then he moved on.

He said an array is given containing only 0's and 1's in random order, you have to sort it. I knew this question so I said that I know this one. Then he moved on. He asked me how to check if there is a loop in a linked list. I knew this one too so he moved on. He then asked me that given two lists you have to merge them in a sorted order and asked me only the complexity. Then he asked me are you comfortable with networks, I said no. So he moved on to DBMS. He said have you used any tables in DBMS. I mentioned him about my project so he asked me which tables I used there and what all attributes were there. He was asking questions from my project. He asked me that any other project I have done, besides websites. Then I told him. Then he asked questions about nfas dfa etc. He then asked me to give a real world example of nfa.

HR interview:

She started with asking me to introduce myself. Then she asked me do you like to work on a specific technology, mobile applications and all. Then she asked me about my project which I explained to her from the scratch by giving examples. Then she asked me about whether I am comfortable in testing, I said yes I am comfortable with both testing and developing but I like to do coding. In the end she asked me if I have any problem with the bond and about job locations. That was it.

Geeksforgeeks helped me alot. So a big thanks to geeksforgeeks.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Aricent

Aricent Group Chennai Interview Experience

Aricent is a telecom(network) based company.

There were three rounds

1. Online test hosted by amcat(aspiring minds) was very easy and there was sectional cutoff

2. Technical interview ... questions from networks, datastructures, os, dbms and ooad and also wireless networks.

for eg... what is the difference between vlr and hlr?

the interview duration went off for 45 minutes.

3. HR interview: I was very comfortable with the HR. They also asked me to speak about a topic for about 2 minutes, the topic is of your choice.. And some question is about the company and why aricent... etc

The total selection process was very long.. i came to college morning 8 clock and went to home at 11pm.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Aricent

Aricent Interview | Set 2 (On-Campus)

Round 1: Online Written test(AMCAT).

Sections:

1.1 English.

English was pretty simple. The only hiccups were in the questions asking for the opposite words and meaning of some unusual words like 'TYPIFY'.

1.2 Aptitude

1.3 Logical Reasoning.

Both Aptitude and Logical reasoning were from most commonly asked questions like time and work and family relation questions.

1.4 Computer Programming.

1.5 Computer Science.

Computer programming were from basic C and C++.

Computer Science were asked mainly from OS and CN.

Round 2: Technical Interview.

The TI lasted for about 1.5 hours. The interviewer was quite experienced and was pleasant to talk with. He started off with questions on my project that i had done and had a pretty long discussion for about 15mins, asking me to make changes to my project and optimize it.

After that he asked a few basic q's on C and asked a question on SLL to insert a node at the end(simple enough) and asked me what would happen if malloc() function fails and asked me to make some other changes to the program.

Then he moved onto asking me about Microprocessors which was a weak spot for me. asked about what would be the technical requirements for me to be able to implement a simple microprocessor. Then he asked some qs on EC like Op-Amps.

He went onto OOPS and asked a few questions like overloading,over-riding,virtual functions,inheritance and encapsulation.

Some other questions were pretty logical ones like how would i compare the efficiency of two super computers.

Then there was a long discussion on Computer Networks starting from the basic question of the different layers of OSI model. He then gave me a few practical scenarios where i had to give in my thoughts to implement the solution to some problems based on networks.

Finally he asked me a puzzle to which i believe there was no definite answer. Say your house is at Position X and You're currently at position Y which is 3 kms away from your home and you have a car and a cycle for you to take home. You have to take both of them anyhow as the place is not a safe place.

constraints: 1. you cannot pull the cycle tied to the car

2. You cannot carry the cycle inside the car or anywhere on the car.

3. You're ALL ALONE . Neither you have any mode of communication with others.

Round 3 : HR interview.

The HR interview was pretty short and just asked questions like 'Tell me something about yourself not in the CV' and 'Why aricent?' and a few questions on my hobbies. And she asked if i had any questions for her. I asked her 2 questions . And then that was it.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Aricent

Aricent Interview | Set 1 (On-Campus)

Aricent(On Campus) Recruitment Process Divided into 3 parts:

Round 1: Online Written test(AMCAT).

Sections:

1.1 English.

1.2 Aptitude.

1.3 Logical Reasoning.

1.4 Computer Programming.

1.5 Computer Science.

Round 2: Technical Interview.

Round 3 : HR interview.

Round 2 : Technical Interview question:

- 1) Write a structure for SLL that stores integer value. Then, she asked me to modify it to store value of any type i.e. integer char etc.. (using void pointer).
- 2) What is the difference between char a and char a[1]?
- 3) She asked about my favorite subject ...I said ds and algo. Then, She asked me to write an algo to find the middle node in SLL.
- 4) Given only a pointer to a node to be deleted in a singly linked list, how will you delete it?
- 5) How will you check in SLL whether any node is corrupted or not? Can you correct it?
- 6) Explain Rat and maze problem. How will you solve it and what data structure you will use. She asked me to code it.
- 7) How to print something without using ";".
- 8) In Networks, she asked what will happen if i type google.com in browser (Basically, She was interested in headers and layers, Dns etc)
- 9) ARP and RARP, mac address and ip address.
- 10) In which layer Router and switches are used?
- 11) Puzzle : 3 bulb and 3 switches.
- 12) Puzzle : 26-63=1 (change only one digit up, down, right or left ... do not change the value of digit)
(Ans : $2^6-63=1$)

Round 3 : HR interview

- 1) Tell me About yourself.
- 2) About your family.
- 3) Questions From Resume.
- 4) In which area you want to groom yourself.
- 5) Preferred Job Location.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Aricent

Intel Interview Experience | Set 2 (On-Campus for Full Time)

Intel visited our campus for software profile

Written Round-

- Elitmus test.
- they test your logical, mathematical and verbal skills

1st technical round-

- tell me about yourself
- counter questions on project
- reverse a linklist both way iterative and recursive
- some c++ concepts like virtual function, copy constructor etc. (give some example also)
- they asked os concepts like scheduling, paging, segmentation, virtual memory, physical memory, cache, thread, semaphore etc.
- one simple apti. problem based on time speed and distance
- they asked some questions on python because i mention in my resume
- some basic questions on pointer, memory allocation etc.

2nd technical round-

- tell me about yourself
- so many questions on security and cryptography because i did project on stream cryptography.
- some web application and user interface questions
- some questions on networks like how http/https work and some questions on web server.
- detailed discussion on dbms like uml class, er diagram, some queries etc. one question like you don't have database and some thousand entries are stored in file and they asked which data structure will be used?
- code for nth fibonacci number recursive and dp
- discussion on complexity like merge sort, quick sort etc.
- some oops concepts.
- i don't remember some questions.

NO HR round

Tips- be confident and be prepared what is in your resume.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Intel

Intel Interview Experience

Students were shortlisted based on their resumes. [Mainly on the basis of OS Projects]

Technical Round 1

1. Write the most efficient algorithm to find square/square root of a number.
2. Write the most efficient algorithm to find if a number is prime or not.
3. At Bit level, how will you find if a number is a power of 2 or not.
4. What is call by value, call by reference in C language.
5. Projects done in MTech

Technical Round 2

1. Swap two numbers using XOR
2. What are various storage classifiers and quantifiers in C.
3. What is a semaphore? Explain in detail.
4. What is an interrupt. How does a processor handle an interrupt?
5. What is the exact role of Memory Management Unit?
6. Explain your MTech projects.

Behavioral Round

1. You are Intel's representative for India and you are about to board a flight to US for a very very important billion dollar deal. But at the airport you are asked for a bribe of Rs500/- . Will you give the bribe or not?

Ans: NO!!! ☺

etc....

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Intel

Intuit Interview Experience | Set 11 (On-Campus)

Intuit was the first company to visit our campus. They selected 6 students.

Online Round

Only people with CGPA of 9+ were allowed to write this. They shortlisted 13 people after this round.

20 questions including aptitude and output (pretty easy).

3 coding questions:

1. Given two integers c and s, find maximum integer, i, for which:
 $c * \log(i) * \sqrt{i} * i \leq s$
 2. Given two strings A and B, find the list of ending indices of every substring of B that's a prefix of A.
 3. Given two arrays, A and B, find the number of pairs for which $\text{GCD}(a, b) \neq 1$, where a is a number in A and b in B.
-

Design for Delight

A GD round with no elimination.

Question: There is an app which is supposed to calculate the profit of a SBO. What questions should the app ask?

Interview Round I

1. For a given array = [4, 2, 3, 6, 11, 7, 9, 8], output = 6. Find the pattern, and code it.
Solution: Pattern = Numbers on the left of 6 are less than 6 and on the right of 6 are greater than 6.

2. Given a 3x3 matrices of dots:

...
...
...

Traverse all the dots using 4 lines without lifting the pen and without visiting a dot twice.

Interview Round II

1. Given the position of knight and some square on the chessboard, find the minimum number of moves that the knight must make to reach that square.
2. A matrix which consists of 1s and 0s, 1 represents island and 0 represents water. Find the size of the largest island.

Interview Round III (Design Round)

1. Design a college administration system.
 2. Design a URL shortener service.
-

Interview Round IV

1. There is a function that produces anagrams. How will you test if the function works as it should?
 2. Given a stack, how do you keep track of the minimum element?
-

HR Round

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Intuit

Intuit Interview Experience | Set 10 (On-Campus For Internship + FTE For Devops)

Intuit had visited our campus for recruiting 2016 batch students for internship + FTE for Devops profile. We had four rounds.

Round one :

Online exam on hacker earth platform.

20 MCQ questions 5 marks each.

3 coding questions 100 marks each.

MCQ questions were technical questions and logical questions. Technical questions were on cn,data structures ,algorithms.

There were three coding questions.

1) A girl is standing on matrix of size $m \times n$. She is standing at the position (1,1). There are cards on which numbers are written . For example on top of card we have value A = 4 and on bottom B= 6. Then the girl has to move to a point $((x+A),(y+B))$ from her position (x,y) .She is not supposed to cross the boundaries of matrices . She throws away a card when she cant make further moves with it. And picks up the next card. We are supposed to find out number of jumps she made until all cards are completed.

```
input:  
1 :number of test cases  
3 , 3 :size of matrix  
2 :number of cards  
(1,1) :values of A and B on card  
(-4,1)  
marks : 100
```

output:

single integer value giving number of jumps.

2) Splendid matrix question.

A matrix having numbers in a particular form was given . Analyzing those matrices we were supposed to understand the trick of creating those matrices.The splendid matrices for values on $n = 1,2,3$ is given below. Its a $2^n \times 2^n$ matrix. Given value of n we should generate $2^n \times 2^n$ matrix.

```
n=1  
1 2  
3 4
```

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

```
n=3  
1 2 5 6 17 18 21 22  
3 4 7 8 19 20 23 24  
9 10 13 14 25 26 29 30  
11 12 15 16 27 28 31 32  
33 34 37 38 49 50 53 54  
35 36 39 40 51 52 55 56  
41 42 45 46 57 58 61 62  
43 44 47 48 59 60 63 64
```

input : number of test cases, value of n and queries.

the queries would be : 1) to find out at which index does the given number is present.

2) given the index value i and j find out the number at that index.

output: number or index values based on the queries.

marks:100

3) Navi is a counter strike pro. He always say how good he is at counter strike. After being tired of Navi, his friends decided to test his skills at shooting. They put M targets on a X-Y plane, each target is denoted by (X, Y) where X is x-coordinate and Y is – y-coordinate. His friends also gave him N locations on X-Y plane from where Navi can shoot the targets. Navi knows that he can shoot a target if Manhattan distance between his location and target is ? D. If Navi can shoot more than half of the targets (for odd values of M check only for the integral part of half of M, say M = 3, $3/2 = 1$) only then his friends believe that he is a pro at counter strike otherwise he is not.

Input :

First line of input contains an integers T denoting the number of test cases. First line of each test case consists of three integers N, M and D separated by a space. Next N lines of each test case contains a pair of integers denoting the X -co-ordinate and Y – co-ordinate. Next M lines of each test case contains a pair of integers denoting X -co-ordinate and Y – co-ordinate of each of the target.

N is number of shooting locations for Navi.

M is number of targets.

D is shooting range of Navi.

Output:

For each test case , Print "YES" if he is a pro else "NO" (without quotes) .

Based on the results of round one 12 students were shortlisted for second round.

Round 2:

Technical round

Introduction to Devops profile.

Questions:

1) Tell me about yourself.

2) Technical Interests,hobbies.

3) Why computer science? What is its importance ?

3) Deep discussion on my projects.How i implemented,What problems i faced,what technologies were used,etc. Prepare well on your projects because they expect you to know everything related to the project.

4) Scenarios were given and asked to give solutions for them . for e.g: It requires 1 second to retrieve 1 gb data from a database. Now you fill the database with 10GB data . It takes 3 seconds. What technology u will use to reduce that 3 to one second even to retrieve 10GB data .

5) Questions related to skills u mention in the resume. I had mentioned about cisco packet tracer so they asked questions related to that.

Round 3:

Technical round:

1) Tell me about yourself.

2) What is cloud ?

3) What is Big data?

4) Difference between cloud and big data?

4) Bankers algorithm.

5) TCP protocol – the three way handshake

6) Deleting an intermediate node in a linked list

7) Quicksort algorithm

Round 4:

HR round:

Introduction to Devops.How they work and what they work on ? .They explained everything related to Devops profile.

1) Tell me about yourself.

2) What are your strengths ?

3) What are your hobbies?

4) Since they came for Devops , they were testing trouble shooting capability of all students.

&nbap;&nbap;&nbap;&nbap; a) If you search for bluetooth in google and it gives result for television ,what will you do ?

&nbap;&nbap;&nbap;&nbap; b) When you are trying to open a website and you get some other unexpected website like a fake website ,what will you do?

&nbap;&nbap;&nbap;&nbap; c) You are in your house connecting the speakers to the television to watch a movie. But you find that you cant hear any sound. So how will you find out the problem and rectify it?

5) Some questions related to project.

6) How you will use the technologies you have studied until now to help the devops team ?

7) How will you see yourself after 3 years?

8) What is your approach towards learning about any new technology ?

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Intuit Interview | Set 9 (On-Campus)

Intuit came for on-campus hiring for 2016 batch and internship offerings for 2017 batch in our college last week.

Round One (Online round, 90 minutes):

The shortlisting was done on the basis of an online round which consisted of 24 questions (one question was for the profile chosen and 20 were a mix of aptitude and puzzles). Most of the puzzles are available on GeeksforGeeks. The rest 3 were coding questions. It was hosted by Hackerearth.

1. A text string and a pattern string are given. If any part of the pattern string occurs in the text string return true, else return false.
2. A stack of chemicals with their reacting times is given. A series of numbers indicating the addition of these chemicals from the bottom of the stacks is given. We need to access these chemicals according to the given series and find out the maximum reacting time at each addition (it is basically the maximum of reacting times of all the chemicals added till each step). (Try creating a structure of chemical name, reacting time, and a flag for popped node and create an array of this structure.)
3. The number of nodes n in a tree and a number k are given as input. These are followed by the n-1 edges of the tree with first node as the parent and second as the child. We need to provide a count of pairs such that
 - The pair consists of a node and its ancestor.
 - The product of the pair of nodes is less than or equal to the number k.

Round Two (Technical Interview, approx. 1 hr)

The Design for Delight round was bypassed and directly the interviews were taken.

1. Tell me about yourself.
2. Discussion regarding my projects. Its ER diagram and the database design.
3. The normal forms in DBMS. Codd's rules.
4. Various basic questions from C, C++ and Java and differences between these languages.
5. Implementation of a queue using two stacks.
6. Difference between calloc, malloc and realloc.
7. If garbage collector is possible in C++, at what level will it be implemented? (At runtime)
8. Can a pointer and a reference be null?
9. Various tree traversal techniques and code for any DFS traversal.
10. Storage classes in C++.

Round Three (Technical Interview, approx. 1 hr)

1. Introduce yourself.
2. Again a long discussion about my most recent project that was using ASP.NET MVC. I explained how the whole MVC works.
3. Since the project was web-based, I was asked about networking. So I explained the TCP/IP and OSI models and functions of each and every layer.
4. Asked me to write a simple "Hello World" program using MVC.
5. Given a new language, how to determine if it is object-oriented. (I explained all the features of OOPS using real world examples.)
6. Codd's rules (again).
7. Transactions in DBMS, their ACID properties with examples.

Round Four (Technical Interview, approx. 1 hr)

This was the final round. It started off in a very casual manner by the panel sharing his own experiences and anecdotes from his personal life.

1. A discussion on my Resume.
2. Operating System based. Given two processes P1 and P2, in Linux OS, if P2 is malicious and gets hold of a pointer that points to the location where P1 has written its data, can P2 access this data? No encryption and security is used. How can the OS ensure that it cannot access other process's data? (The addresses are not direct addresses but indirect addresses with the base address known only to the corresponding process.)
3. Can garbage collector be implemented in C/C++? If yes, how? If no, why? (Answer is no, and it is something related to pointers.) How is it possible in Java? Write a program for memory leak in C given the number of bytes to be leaked. (Simply allocate the specified number of bytes and do not delete it.)
4. Given a tree where each node can have arbitrary number of children, what should be the structure of such a tree node? (Each node will have two pointers, one for a child and the other for a sibling.) Write the function for insertion of a node in this tree, given the pointer to the parent and the new child's value. (Cover all cases: (a) If parent is null (b) If parent does not have a child (c) If parent already has some children.)

At the end, I asked some questions about the kind of work they do and the technologies they use.

All-in-all it was a great experience, all the panels were very good and tested my knowledge in almost all the domains (C/C++, Java, DBMS, Algorithms, Data Structure, Networking, Operating Systems)..

I would like to thank GeeksforGeeks for helping in my preparation. The interview experiences posted here helped me. I hope my experience would also help someone in the future..:)

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Intuit Interview | Set 8 (On-Campus)

Intuit came to our college campus for placements. Shortlisted 13 students after written and then selected 4 students for Full Time Job.

There were 3 coding questions and 21 (apti+puzzles) to be done in 90 minutes. Apti n puzzle questions were 5 marks each and coding questions were 100 marks each.

Online coding round:

1) There is a text and pattern given. Return true if any part of the pattern exists in the text. Else return false.

2) Edges of a tree are given as input.

```
Eg.: 1 2  
     1 3  
     2 4
```

The LHS no represents the parent and RHS no represents the child. A no 'k' is also given as input.

We have to find no of pairs which satisfy these 2 conditions:

a) the product of both the vertices(nodes) should be less than k.

b) the RHS node should be ancestor of LHS.

Hint: Done using graph.

3) No of elements are given which are already popped into the stack along with their reacting time. An order is given as input in which these element will react. We had to push these elements in another stack according to the order given. Also had to return the max reacting time. The tricky part was how to access any random element from the stack)

(Could be done using 2 arrays, one storing elements and other storing their reacting times.)

Round 1

1) Tell me About yourself

2) Tell me about your project – In detail 15 min discussion on project

3) A binary tree question with code:

There is a root folder which has some directories in it, these directories have more directories and files in them (arbitrary number). We know the size of the files, we have to find the sum of all the directories. (if one directory has 2 files of 10mb and 2mb and a directory of size 50mb in it then size of directory is $(50+10+2 = 62\text{mb})$.

4) A puzzle:

3 closed boxes are there. One has orange written on top, other has apple and other has (apple+orange) written. Boxes contain anything other than what is written on top.
i.e Box with apple written can have either 'oranges' or 'apples+oranges' written on it.

We had to find the minimum no of picks in which we can tell which box contains what.

Round 2

1) A ($M \times M$) matrix is given. We have to rotate it by x.

– Put all the elements in an array of size $M \times M$ and to rotate it by 1, shift last element to the top and again push it in the matrix.

2) There is a string eg "101102103105" given we have to find the missing number in it. First we have to find how many digit number is it forming. In the above example, its 101 102 103 105.. so the missing no was 104.

They were only checking how you proceed with it. There was no right or wrong answer.

3) A matrix is given containing 0's and 1's only. We had to find no of islands.

(a island is a '1' which is surrounded by 0 on all its eight sides)

4) Tell me about yourself. A simple HR question. What will you do if in your team your best friend and another member are not going along.

In all these questions they were judging how you think, checking your thought process.

Round 3

This was the most grilling round which continued for one and half hour.

1) Tell me about Yourself

2) Discussion about project.

3) A binary tree question.

A root has 'm' no of children and each child can have any arbitrary no of children. We are just given a function to create this tree. It has two parameters. Address of the parent node and the value to be inserted. No of children can extend to millions as well.

Hint: Use linked list

4) In LINUX, There are two processes P1 and P2. Process P2 is a virus. Can it access P1? Yes/No. If yes how, if no why.

(I told about segmentation fault, privacy options in LINUX, access rights, memory protection by memory management unit in linux, core dump and boundary around allocated memory of a process but he was looking for something else I guess).

5) There are commands

Fopen(....)

Fclose(....)

They are executed again and again. What will happen when no file exists and when file exists. How will OS react. Will os communicate and will there be any system call if no file exists.

6) A function is given

```
Void memLeak(int bytes) { ..... }
```

We have to write the code to leak memory of 'bytes' size.

then discussion on memory structure. Where will bytes variable be stored. Role of heap and stack in memory allocation.

7) Garbage collector in java. Can we implement it in C/C++ other than free/delete. If yes, How.

8) Reverse a string.

9) Some easy question on multitasking.

Round 4

This round was additional which covered only my project related questions.

1) Tell me about yourself.

2) Android- Activity, Fragment, Intent, Listener. Explain them.

3) Java+SQL

An e-commerce wishes to extract top 100 products which were sold in last 10 hours. Give a query for that. Now store the retrieved data in Java. (result set is used for that). He asked me to explain the data structure of result set. And once the data is retrieved, how to display it sorted on basis of different criterias like cost, model etc.

4) A puzzle: 3 Ant Problem. Then extended for a n-equal sided polygon.

Overall it was a great interview experience. People were very friendly and it was a great learning opportunity.

I would like to Thank Geeksforgeeks for all the help and guidance.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Intuit

Intuit Interview Experience | Set 7 (For 3.5 Years Experienced)

1st Round : (2 hrs)

1. Implement LRU Cache,
2. Implement your own Blocking Queue.
3. Questions on Collections ,
 - a. How AtomicInteger works
 - b. Hierarchy of Collection
 - c. Internal Functioning of Hashmap.
 - d. Fail fast and Fail Safe Iterator.
 - e. Write different ways in which you can traverse over a map.
4. Print odd and Even Numbers using Threads
5. Questions on Concurrent API, Executor Class, Executor Service, ThreadFactory.
6. Questions on Serialisation/Deserialisation
7. Questions on Design Patterns – Composite, Observer, Decorator etc

I dont remember other questions, but the interviewer grilled me completely in Java.

2nd Round: (1.5 to 2 hrs)

1. Search in a rotated sorted array.
2. Implement Heap Sort.
3. Given an Alien Language , with all sorted words , find the order of alphabets.
4. Find median in a stream of numbers.
5. Implement Producer Consumer Model with Threadpool, without Executor Framework.
6. Garbage collector design discussion

3rd Round: (1 hr)

1. Find the Median in two sorted arrays.
2. OS questions
 - questions related to memory management and allocation.
 - Fragmentation.
3. Design Question
 - Bus Seat booking System.

Later i was informed that i was not selected, but i was really impressed with the nature of the interviewers, they were very friendly and cooperative, I was happy that i realised how hard i need to work. Thanks GeeksforGeeks because of which i could solve few of them.

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GATE CS Corner Company Wise Coding Practice

Experienced
Interview Experiences
Intuit

Intuit Interview Experience | Set 6

Experience – 1.8years

Round-1:(Technical-1:10 min)

1. Introduce yourself.
2. Deep discussion on the current project which I'm working on.(project high level architecture, questions on design, frameworks used etc.,)
3. Write a clean code to find the median of incoming stream of integers(I started with brute force approach and with a little help from the interviewer I could come up with the optimized solution,discussion on complexities)
4. Find the top 'K' repeating elements in a given file.
5. Basic questions on java.
6. What do you know about spring frame work?
7. Questions on Hadoop,hive,sqoop etc.,

Round-2(Technical-2hrs)

1. Introduce yourself.
2. Deep discussion on the projects that I have worked on.(High level design, Technologies used etc.,)
3. What are the object oriented features present in java?
4. What is polymorphism?
5. Difference between run time and compile time polymorphism with example.
6. What are the different types of exceptions that you have faced till now?
7. Difference between array out of bounds and array out of index exception?

8. Exceptions hierarchy.
9. Difference between checked and unchecked exceptions with example?
10. What are the different collection which you have used till date?
11. Collection hierarchy.
12. Difference between arraylist and list?
13. Difference between set and map?
Which of them can contain null values?
14. Equals and hashCode with example?
15. Write a clean program which takes input as "entuet" and converts it to "Intuit". She was basically checking if I know how to code in java.
16. Write a program which takes input as a file containing few sentences and outputs in descending manner the list of repeated keywords.
17. Questions on map-reduce in Hadoop with an example
18. few SQL queries.
19. MVC design pattern with example.
20. How to send the username and password of a database securely when you use sqoop?
21. Difference between equals and hash code? When to override etc?
22. What is single ton design pattern?
23. Give me a real life example of where we use Singleton pattern?
24. How hash table works internally?
25. Why do you want to leave your current company?
26. Why do you want to join Intuit?
27. Do you have any questions for me?

Though I couldn't make it after this round ..it was super duper exhausting interview experience. It was a back to back interview and I was scribbling on the board these 3hrs.
Thank you geeksforgeeks. ☺

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Intuit

Intuit Interview | Set 5 (On-Campus for Internship)

Intuit visited our campus for summer internship for positions of Software developer and Software Quality Engineering. I was among the 5 people to be selected for the internship. The details of the process are as follows:

Written Round:

This was a written round. Proper code with correct syntax to be written on paper.

There were 4 questions to be solved in 1 hour. Some questions needed test cases and time complexity to be answered as well.

- 1) Binary numbers are given as linked lists. Add and store result in linked list.
- 2) A number starting from 1 can be got by either multiplying 3 or adding 5 to it. Given a number, find the sequence of operations to get it or say it's not possible.
Eg: $13 = 1 * 3 + 5 + 5$, 15 ; Not possible
- 3) Given an input array of integers. Output an array of same length such that the value at i^{th} position of output array is the product of all numbers in input array except that at i^{th} position.
Eg: Input: 3, 5, 7 Output: 35, 21, 15
- 4) Sort a stack in ascending order using another stack.

12 people were shortlisted for next round.

Design Round:

This was NOT an elimination round.

It was a problem solving team exercise to understand their way of working.

The interviewers were making notes though during the exercise, don't know if it affected our selection.

Interview Round 1 (Tech):

General questions based on resume, was asked to explain my internship project.

He asked questions on my written round. Asked me to find the bug in my code for 1st problem. He was extremely happy with me when I gave the correct answer.

He asked me for the code for the last problem since I hadn't solved it.

Asked to reverse linked list using recursion, since I said I did by iteration earlier.

He had written code of second problem, I had to find bugs in it.

Discussion on quality engineering and developer profiles.

Interview Round 2 (HR):

This was more of a general discussion. She told me about what quality engineers do, how their role is more powerful. Asked me how you would test the Google page.

She was extremely impressed by my resume and asked me questions about my electives. She told me in this round itself that I was selected, only need to wait for the official announcement.

I would like to thank geeksforgeeks for all the resources, they really helped me prepare well. I hope this article helps students. One advice, make sure you make a good resume and also try to focus on proper code and explaining your logic well.

Thank you!

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GATE CS Corner Company Wise Coding Practice

Intuit Interview | Set 4 (For SSE)

I recently cleared Intuit Interview. It was a life changing experience and I am very happy to crack the interview for SSE.

Below are the questions asked :

Round 1:

Java basics:

1. int v=2

v += v++

what is output of V?

2. Design a compiler for throw and throws key words. OR, how does compiler interpret those keywords.

3. Why string is immutable and then some tricky questions on that .

4. Algorithms:

a. sorting of 0 and 1 in place in n time.

b. stack option problem with maximum profit in O(n) complexity

Round 2:

Algorithm 1: Write a code to max sub array by considering elements not next to each other

Algorithm 2: design a dice face such that one normal dice is played with the designed dice then the ouput of any value should have same probability.

Some logical puzzle.

Round 3:

Lot of OS questions and distributed system generic questions

How to decide which DB to use in application

Some design pattern

Difference between Design pattern and framework

My projects related questions and challenges

Logical puzzle

REST Framework questions.

Round 4:

1. Program to sort handle 1GB data in a 64KB RAM.

2. How to handle caching in distributed environment

3. Challenges in my current project

4. Logical puzzle (sorry dont remeber now).

Round 5: With Director of the Product

General Behavioral questions

Round 6 :

My projects and Behavioral questions

Finally after a week I got an offer letter.:)

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GATE CS Corner Company Wise Coding Practice

Intuit Interview | Set 3 (For SE-2)

Written round:

1. Write a parser which takes java file as input and give count of uncommented lines as output. I wrote code with regular expressions, but I think he was expecting some state transition sort of approach.

2. Given a large file in which one no. occurs in strict majority(>50%). Find that no.

F2F:

1. Mostly discussed written round questions.

2. Secondary sort with map reduce.

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GATE CS Corner Company Wise Coding Practice

Intuit Interview | Set 2 (On-Campus)

Round One (Written round, 60 minutes):

1. Given an unsorted linked list, remove all duplicates without using temporary buffers.
2. A number starting from 1 can be got by either multiplying 3 or adding 5 to it. Given a number, find the sequence of operations to get it or say it's not possible.
e.g: 13 is $1 * 3 + 5 + 5$ but 15 you cannot get.
3. Given a tree, get the path from root to leaf such that the sum of nodes in the path is maximum.
4. There are 50 people in a bank. Each person is either an employee or a customer. Each person knows what everyone else is. The police can ask person i what person j is. Customers will always tell the truth. Employees are evil geniuses who may not tell the truth. The police have to find at least one customer asking a maximum of 49 questions. More than half the people are customers.

Round Two (Group activity, 60 minutes):

The selected students were divided into groups of 5 to 6 and were asked to design a system to "How does a student achieve academic excellence"

All ideas were jotted into a chart and we were asked to present it after 45 minutes of brainstorming.

No elimination in this round.

Round Three (Technical interview, 45 minutes):

He started off by asking me to tell him about myself. He went through my resume and asked my which one is my favorite project. One of them involved string matching. He started with that.

1. Given a sentence say, "I love Intuit and Intuit loves me", find the number of times the word "Intuit" occurs in the sentence.
I asked him, any language restrictions or any other constraints. He told any language, but it has to be better than brute force and the coding standards must be production level with all exceptions taken care of, properly modularized and neatly structured.
I first told him my approach and he was satisfied. I wrote the code in Java.
2. He extended the question. Assume you have 2 million files with some text in it. How do you find the number of times the word "Intuit" occurs in all these files. I suggested an approach with $O(n)$, but he said it can be better optimized.
3. Some puzzle question.
4. He saw that I had mentioned UI developer in a web project. He drew the Facebook news feed layout on a sheet of paper and asked me what happens when you click on an image thumbnail in Facebook. I told him that the background goes dark, the picture becomes bigger and the comments and likes appear to the right of the picture.
He asked me to write HTML and JavaScript code for that.

Round Four (Technical interview / HR, 60 minutes):

1. Tell me about yourself.

2. Tell me one situation where conflict arose in your team and how you handled it.

3. What are your strengths and weaknesses?

4. I was then asked to design a student database to keep track of the academic progress of the student and calculate the GPA of the student.

She then asked me to write a few basic queries against the database and I did that.

Then she asked me to update one table for all the values held in another table. I wrote a loop and for iteration called an update function. This code I wrote in PHP.

5. She asked me if I had any questions for her.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Intuit

Intuit Interview | Set 1 (On-Campus)

Intuit had come on campus last week for SDE-1 and Quality Engineer profiles. These were the questions asked:

Round One (Written round, 60 minutes):

1. Given an unsorted linked list, remove all duplicates without using temporary buffers.
2. A number starting from 1 can be got by either multiplying 3 or adding 5 to it. Given a number, find the sequence of operations to get it or say it's not possible.
e.g: 13 is $1 * 3 + 5 + 5$ but 15 you cannot get.
3. Given a tree, get the path from root to leaf such that the sum of nodes in the path is maximum.
4. There are 50 people in a bank. Each person is either an employee or a customer. Each person knows what everyone else is. The police can ask person i what person j is. Customers will always tell the truth. Employees are evil geniuses who may not tell the truth. The police have to find at least one customer asking a maximum of 49 questions. More than half the people are customers.

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The selected students were divided into groups of 5 to 6 and were asked to design a system to "How does a student achieve academic excellence"

All ideas were jotted into a chart and we were asked to present it after 45 minutes of brainstorming.

No elimination in this round.

Round Three (Technical interview, 45 minutes):

1. What's the angle between the hours' hand and the minutes' hand when the time is 3.15
2. How many times does the minutes' hand cross the hours' hand during one day?
3. Given an array which can contain either 0s or 1s, write an algorithm to find the length of the longest subarray of all 1s and all 0s.

Round Four (Technical interview, 60 minutes):

1. Design an e-commerce system for me using block diagrams and architecture diagrams. What components will you use and why? What does each component do?
2. Write an algorithm to delete an element from a circularly linked list. Optimize it. Implement it in Java.
3. Give me an example of a machine learning algorithm which you will use for giving suggestions on a e-commerce website.

Round Five (Technical / HR, 60 minutes):

1. Why do you want to join Intuit?
2. What will you do if a conflict arises in your team?
3. What were the major challenges you faced before?
4. Design a database schema for an Android app which calculates your GPA and stores it in a SQL database.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Intuit

Zoho Interview Experience | Set 19 (On-Campus)

Zoho is one of the esteemed company with a unique style of intake i.e it takes a candidate only on the capability and strength on C language and coding. Its tagline for intake is also that the candidate should be passionate about coding(programming).

Everyone from our college could attend, even with backlogs also. The only thing is he should be good at programming.

They said us to assemble at 9:00 AM

ROUND-1:

I expected to write the outputs of the program but the scene was different. They gave every question on loops and control flows.

They gave us 1hr 30 min to solve 45 ques.

22 ques were on loops and we should write the output from the program, each ques is the same routine. Next 23 ques were the flow charts and we need to write the output.

We are given rough sheets and they are taken back.

they gave us the results in the afternoon.

ROUND-2:

I was not selected for round 2, but of my friend shared his experience.

This round was coding round we are given systems and a C IDE. the invigilators give us the ques and we need to solve them one by one, after solving one we are given the next ques. each ques is interrelated somehow. after solving around 6 to 7 ques we are announced qualified fr the next round.

ROUND-3:

This round is an application development one of my friend was asked to develop an program such that accepts all the cases of the railway reservation. We need to handle booking, cancellation, user priority and no of seats left etc. almost we have 2 hrs or more to deal with that. my friend was unable to deal with it. all our program will be visioned by the members of Zoho.

ROUND-4:

They ask us several ques and test our programming knowledge.

ROUND-5:

After our 4th round they asked us to come to Chennai. there they take one more filtration and give us the call letter with a package of 6.5lakhs.

To ace this Zoho u need to be perfect with C language. At least 70% proficient. u need to leave everything at least for 6 months and practice coding. luck don't support u until the last round.

My classmate aced zoho, who was passionate about programming since 1st year of B Tech.

She even got 100% in nptel exam conducted by iit on DS and coding, that is all. Overall its a great company with good growth. Don't give a try, put some effort and then try.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview Experience | Set 18 (On-Campus)

Number of days – 2

Total number of students applied – 250

Round 1:

15 C Output and 10 Normal Aptitude.

10 C Output– 1 Marks

5 C Output– 2 Marks

10 Normal Aptitude — 1 Mark

28 sets in geeks for geeks is more than enough for getting through this in addition to basic general aptitude competence. MAKE SURE YOU READ ALL THE 28 SET.

That's all I did and I found the test very easy. Questions were mostly pointers, arrays, loops and strings. No questions had any sort of compile errors and most likely answers will be a single number or a string or a character.

General aptitude consisted of age problems, speed, ratios etc. Normal level of competence would be enough to get through this. POINT TO NOTE :- The 2 mark C questions attend them first and double check them they will save your life and don't even skip one set from geeks for geeks they are very very good, can't stress this enough.

About 56 students cleared round 1 and round 2 started soon the same day.

ROUND 2:

6 Programming questions

1. Adding 2 numbers

Given 2 huge numbers as separate digits, store them in array and process them and calculate the sum of 2 numbers and store the result in an array and print the sum.

Input:

Number of digits:12

9 2 8 1 3 5 6 7 3 1 1 6

Number of digits:9

7 8 4 6 2 1 9 9 7

Output :

9 2 8 9 2 0 2 9 5 1 1 3

2. Given sorted array check if two numbers sum in it is a given

value

Input

Array = {1 3 4 8 10} N = 7

output

true

3. Computing value of sin (x)

Input x = 30 n = 10

output = 0.5

Hint : The equation $\sin(x) = x - x^3 / 3! + x^5 / 5! - \dots$

4. Write function to find multiplication of 2 numbers using + operator You must use minimum possible iterations.

Input: 3 , 4

Output 12

5. Given array find maximum sum of contiguous sub array

{-2 -3 4 -1 -2 1 5 -3}

output 7 elements [4 -1 -2 1 5]

6. Given unsorted array find all combination of the element for a given sum. Order should be maintained.

Input :

8 3 4 7 9 N=7

Output

{3 4 } {7}

PREPARATION :

Solve all the previous questions asked

Solve extras on arrays

Solve extras on matrix

solve extras on strings

Learn all Datastructures available in whatever language you are using.

For me it is java so COLLECTIONS... Know every inch of it too. CPP guys ... basic DS and functions in algorithm header.

I solved all the questions, you would clear the round if you solve minimum of 5 questions if you are from computer science branch. For other branches they are a bit more lenient. 3 or 4 is enough.

22 Students cleared round 2 and they were called for the next round the next day

Day2:

Round 3: 3Hr

Advanced programming.

You are given coordinates as input

(0 0) (0 1) (0 2) (0 3) (1 5) (1 4) (3 5)

1. Check if the given points lie in the same line

2. Given a point find the points on the largest line [in terms of the points it contain] passing through that point

Input : 0 1

Output : (0 0) (0 1) (0 2) (0 3)

3. Given 2 points find the points in between them.

Input (0 0) (0 3)

Output : (0 1) (0 2)

4. Find the number of points in the line with the largest number of points in it.

5. Given a point print all the lines passing through it [ie for each line print the points in it]

PREPARATION :This round usually consist on making modules and oop stuffs. This was out of the blue. Previous problems, I just did Railway Reservation partially for this round.

If you have done some projects and is good with oop you will get through no need to practice specifically for this else brush up your OOP Designing skills and do some previous questinos.

I solved all the problems. The invigilator will be around

checking your code all the time, SO NO SLOPPY CODING GUYS!! They need good code. Take a paper and figure out your aproach before solving each of them. And also check if you could use one problem to solve the other. Here The function written for Q2 can be used for Q5 with some modification if you're out of time.

12 Students cleared round 3.

I was one of the top 3 students and was directly taken to HR

Round.

Round 4 Tech 1 : I was told they were asked basic questions on arrays, strings and matrix. If they find you are good enough they will send you to HR else there will be another tech round

for you with another person.This is the end of the line if you dont impress them here too.

Round 5 HR : Basic questions.

Note : Higher studies – say no

Why ZOHO

projects

If you get another company will you come to ZOHO

We are gonna have oracle next week so some questions like will you be attending oracle

Finally 8 students got through 6 of them got higher package and 2 of them got lower package.

Thank you geeksforgeeks, you guys are the only source that i used to prepare for this test and no way would've cleared without the help from people who posted their experience. My results were announced 3 hours ago and here I am posting the questions. So whoever is prepping for ZOHO, know that previous questions are of absolute importance. Zoho is easy to crack with proper preparation for a 15 days or so. Persistence and consistence is the key here and a bit of luck.

Good Luck Guys!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview Experience | Set 17

Round 1:

First round is a written test. This is different from the other company written tests which I had faced till now. This round consists of 20 C output questions and 10 aptitude (logical) questions. To clear this round one should have a deep understanding about the concepts of C programming language; mainly pointers, array and string manipulations, loops. We have 28 sets of C output questions available in the given link <http://www.geeksforgeeks.org/category/program-output/>. The other 10 questions not only consists of aptitude but also logical questions. To attempt the aptitude questions, we have <http://www.indiabix.com/aptitude/questions-and-answers/>. I think these two links is good enough to clear the first round.

Round 2:

This is a coding round. We are given 4 programming questions which have to be done in a very optimal way. To clear this round, one should attempt at least 3 programs.

1. Given an odd length word which should be printed from the middle of the word.

The output should be in the following pattern.

Example:

Input: PROGRAM

Output:

G

GR

2. It is a program to implement Least Recently Used (LRU) concept. Given a key, if it is already existed then it should be marked as recently used otherwise a value should be stored which is given as input and marked as recently used. The capacity is to store only 10 key, value pairs. If the table is full and given a new key; the key, value pair which is not recently used should be deleted which gives feasibility to store the new key, value pair.

3. Given a few pairs of names in the order child, father. The input is a person name and level number. The output should be the number of children in that particular level for the person given.

Example:

Input:

```
[  
{Ram, Syam},  
{Akil, Syam},  
{Nikil, Ram},  
{Subhash, Ram},  
{Karthik, Akil}  
];
```

Syam 2

Output: 3 (Syam has Ram and Akil in level 1 and in level 2 he have Nikil, Subhash, Karthik. So the answer is 3).

4. Given an array of positive integers. The output should be the number of occurrences of each number.

Example:

Input: {2, 3, 2, 6, 1, 6, 2}

Output:

```
1 - 1  
2 - 3  
3 - 1  
6 - 2
```

Round 3:

This is an advanced programming round. The task is to develop an Invoice Management. The main focus in this round is in designing part. We should mainly focus on the data base part. How we are going to design the tables to store data and how we are going manage the data plays an important role. It is better to refresh DBMS concepts before attending the ZOHO placements. Techtud videos on DBMS in youtube helped me a lot to understand basic concepts of DBMS. Particularly, in this round think in the aspect of ER models (Tables, attributes, primary and foreign key etc).

After designing part they gave us two queries. Here, the coding part should be done in a very optimal way. Based on the query, from the data we stored, the result should be printed. I did in C language but better to implement in any OOPS language.

Round 4:

This round is a face to face interview. I had been interviewed nearly one and half an hour. Nearly 45 minutes, they asked about my project which is done in Java using servlets. They asked to design all the database tables which I have used in my project. They asked about the extensions of my project and asked how I'm going to implement. They also raised a problem in my project and asked which concept I will use to solve the problem. Another 45 minutes they asked about some other TR questions, my family background and some HR questions.

Round 5:

This is just a formality round. They asked about the relocation, why you prefer ZOHO and some other basic HR questions. At last, only 4% of the people survived.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview Experience | Set 16

Round-1 (aptitude test)

This was unlike other aptitude tests. It contained output based questions. Questions were mainly based on logic and loops.

Round-2(coding)

They gave questions one after the other. Initially it was easy, then ,the difficulty level increased. The first one was to check whether a year is leap year and the last one was to sort numbers based on digits starting from most significant numbers. Eg: input-100 1 11 21 2 3. Output-1 100 11 2 21 3

Each question was a continuation of the previous one, so its good if code is written as function.

Round-3

This was also coding round. They asked us to develop a train reservation system. Here also each question was continuation to the previous one(better to write code as function).The task was to write a program to book a ticket, cancel, add to waitlist.... Some constraints were also given.

Round-4(personal interview)

They Asked about classes, private constructors, garbage collections, sql , puzzle(1,7,26,?)

Round-5

In this round, they asked about kernel, some puzzles , print letter 'X' using **.

An array contains values between 0 to n-1. Task is to find the duplicate numbers with time complexity o(n) and space complexity o(1). (Use hashing on the same array- add

n to a value if the index has already been visited).

Thank a lot geeksforgeeks .

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview Experience | Set 15 (Off-Campus Drive)

It was an off-campus drive. More than 1000 people appeared for the drive.

ROUND 1:

This round had 15 aptitude questions which were easy. The hint is you have to think logically and apply basic maths. And also 10 C output questions which were tough.

Only 15% of people survived for programming round.

Those who didn't clear first round went for Content Writing role.

ROUND 2:

This round had 5 easy programming questions.

- Given an array, find the minimum of all the greater numbers for each element in the array.

Sample:
Array : {2, 3, 7, 1, 8, 5, 11}

Output:
{2>3, 3>5, 7>8, 1>2, 8>11, 5>7, 11>}

- Find the largest sum contiguous subarray which should not have negative numbers. We have to print the sum and the corresponding array elements which brought up the sum.

Sample:
Array : {2, 7, 5, 1, 3, 2, 9, 7}

Output:
Sum : 14
Elements : 3, 2, 9

- Given a string, we have to reverse the string without changing the position of punctuations and spaces.

Sample: house no : 123@ cbe
Output: ebc32 1o : nes@ uoh

- Given a 2D grid of characters, you have to search for all the words in a dictionary by moving only along two directions, either right or down. Print the word if it occurs.

Sample :
a z o l
n x h o
v y i v
o r s e
Dictionary = {van, zoho, love, are, is}

Output:
zoho
love
ls

- Given a string, change the order of words in the string (last string should come first).

Should use RECURSION

Sample: one two three
Output : three two one

Should solve atleast 3 problems.....Around 30 students cleared this round.

ROUND 3:

This was an application development round. The application was TOLL PAYMENT PROCESSING .

They insisted us to do it in a object oriented language. First they asked the design(what are all the classes and objects & what data structure do you use).

Application description:

- There are 'n' number of points in a highway out of which some points collect toll.
- Each toll has its own charging scheme according to the vehicles and whether or not they

- are a VIP user.
- If they are VIP user, 20% discount apply.
- If the vehicle passes 3 toll gates, it has to pay in all the 3 toll gates according to the scheme of respective tolls.

There were 4 modules.

- Given the details of vehicle type, start and destination.....display the total toll paid during the journey and print the amount after applying the discount.
- Display the details of all the tolls.....like what are all the vehicles(vehicle number) passed that respective toll and the amount each vehicle paid.....and the total amount charged in that toll.
- Display the details of all the vehicleslike what are all the journeys did it take....the start and destination of the same.....tolls it passed during that journeyamount paid in that journey.....and the total amount paid by that vehicle.
- Assume the highway as a circular path.....we have to find the short route and identify the tolls between that route and calculate the amount.

After this round , only 7 students survived for the next round.

ROUND 4:

It was a technical round.

It was more than an hour for me and it was very tough.

Questions were mainly on Java and DBMS.

How jdbc connects with database(steps)....why we need a driver to do that...and also he asked me to design that driver.....how Resultset processes the result.

How will you query to get all people details from aadhar database....what are all the challenges?

And some queries on JOINS.

Asked me to solve some first round aptitude questions.....and asked me about the previous programming rounds.

ROUND 5: GENERAL HR 1

Asked about my family, my project, my previous interviews i attended, my cutoff in HSC, do you smoke?, what is the salary of your father, what is your strength and weakness characterwise.

ROUND 6: GENERAL HR 2

Asked the same questions asked in HR 1....what went wrong in all the previous interviews....are you interested in higher studies....if not why?.....what is your long term goal.

Any finally 6 of us got selected

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview Experience | Set 14 (On-Campus)

The selection process consists of 5 rounds and there were almost 350 people came for the process.

Round 1:

This round consists of 15 c questions and 10 aptitude questions and won't be in MCQ format.

Questions from c will be bit more difficult and it takes extreme understanding of c concepts to solve it. They will cover arrays, strings, pointers and functions mostly (90 % of questions). **Focus on “output of c programs” in GeeksForGeeks and GeeksQuiz.**

There will be 28 sets and if you go through all sets then it is more than enough to clear the test. When it comes to aptitude questions, they will ask basic questions and basic hands on at quants and logical will get you through. They will give more priority to c questions rather than aptitude questions. So, focus on c part more. I cleared 11 c questions and 3 aptitude questions. They called me after 1 week and believe me there were only 27 people cleared this round.

Round 2:

This round consists of 6 competitive coding questions and you need to solve at least 4 to get you through.

- Given a number, convert it into corresponding alphabet.

Input Output

1	A
26	Z
27	AA
676	ZZZ

2) Given a Roman numeral, find its corresponding decimal value.
<http://www.geeksforgeeks.org/converting-roman-numerals-decimal-lying-1-3999/>

3) Write a program to print all permutations of a given string. Note here you need to take all combinations as well, say for the input ABC the output should be as follows:

Input: ABC	Output:
A	
B C	
AB AC BA BC CA CB	
ABC ACB BCA BAC CBA CAB	

4) Write a program to rotate an n*n matrix 90,180,270,360 degree.

<http://www.geeksforgeeks.org/inplace-rotate-square-matrix-by-90-degrees/> is the solution for rotating a matrix 90 degree. For rotating the matrix 180,270,360 degree, u need to call the same method 2,3,4 times based on the input.

5) <http://www.geeksforgeeks.org/reverse-words-in-a-given-string/>

6) Write a program to convert a number into a mono-digit number.

Conditions:

- a) You are allowed to add and subtract the consecutive digits (starting from left).
- b) You are allowed to do only one operation on a digit.
- c) You cannot perform any operation on a resultant digit of the previous operation.
- d) Your code should also find if a given number cannot be converted to a mono digit number.

Input	Output
72581	7(2+5)81
	77(8-1)
	777
3962	cannot create a mono digit number

8 people cleared this round. They didn't see any optimization in this round. Simply, completing 4 or more questions will get you through to the next round. The interviewers helped us to find some rare corner cases too if we miss anything.

Round 3:

We were asked to design an application program for n*n tic-tac-toe game. Here, you are expected to code with proper standards and in a most optimized way. And, in this round you need to find all the edge cases and corner cases yourself. The interviewers won't help you if you miss anything. So, make sure you covered all the cases before showing output to the interviewers.

<http://www.geeksforgeeks.org/implementation-of-tic-tac-toe-game/>

Only 2 people cleared this round.

Round 4:

First of all, they asked me to explain the logic I have implemented for the previous application programming. Then, they asked me some oops questions, static keyword, difference between array list and linked list. Then they asked me to write a query for inner join, left join and right join. Finally, they asked me 2 puzzles to solve which are as follows:

- 1)<https://www.mathsisfun.com/puzzles/hourglasses-2-solution.htmlz>
- 2) http://www.geekinterview.com/question_details/46800

It was only me who cleared this round and the other one didn't make it.

Round 5:

HR round is just for formality and they asked me some typical HR questions like tell me about yourself, why zoho, will you go for higher studies, your salary expectation and finally they selected me.

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview Experience | Set 13 (On-Campus)

The selection process is based on 5 rounds which lasted for 2 days. Round 1 and Round 2 held on the first day and the remaining rounds held on the second day.

Round 1

It contained 30 questions (20 C aptitude + 10 general aptitude). All the questions are in fill the blanks format. No MCQs.

Round 2

It contained 5 programming problems :

1. You're given an array. Print the elements of the array which are greater than its previous elements in the array.

Input : 2, -3, -4, 5, 9, 7, 8 **Output:** 2 5 9 You should solve this question in O(n) time.

2. You're given an even number n. If n=4, you have to print the following pattern :44444334

4334

4444

If n=6, then the pattern should be like this :

```
666666  
655556  
654456  
654456  
655556  
666666
```

3. You're given a number n. If write all the numbers from 1 to n in a paper, we have to find the number of characters written on the paper. For example if n=13, the output should be 18 if n = 101, the output should be 195
4. A number is called as binary-decimal if all the digits in the number should be either '1' or '0'. Any number can be written as a sum of binary-decimals. Our task is to find the minimum number of binary-decimals to represent a number.**Input : 32Output : 10 11 11**

Input : 120

Output : 10 110

5. You're given a string as an input. You have to reverse the string by keeping the punctuation and spaces. You have to modify the source string itself with creating an another string.

Input : A man, in the boat says : I see 1-2-3 in the sky

Output :

y kse, ht ni3 21ee slsy : a sta o-b-e ht nin amA

Level 3 : (Advanced programming)

We were asked to develop a mini-project 'Invoice Management' with the following modules :

1. Add a customer
2. Add an invoice
3. Add items to an invoice
4. List all customers
5. List all invoices
6. List all invoices of a customer
7. Display the full details of an invoice

Level 4: (Technical HR)

Questions were mostly based on [Database Management](#). The other areas include Data Structures and Operating Systems. Some of the example questions are : What is referential integrity, Explain outer joins : Left outer join and right outer join, What are holes in OS etc.,,

Level 5: (General HR)

Some blah blah questions.

They also give me [puzzles](#) while I was solving level 2 programming questions. After all these rounds only 2% of people survived. Hope it helps all. Good luck.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview Experience | Set 12 (On-Campus)

Recently ZOHO visited our campus for recruitment and i would like to share my experience.

Thanks to geeksforgeeks which contributed to most of my preparations..

Round 1 : TIME : 2hrs

I was expecting an aptitude written round .But they gave us 30 flowchart and asked us to go through each flowchart and the questions were based on the flowchart..Questions included finding the o/p of the flowchart , find the missing statement which when added produces the given o/p..If you concentrate and go through the flowchart it should be easy to crack the first round..

Round 2: TIME : 3hrs

They shortlisted 150 candidates from the first round..This was a programming round and consisted of straightforward questions..

1.Given two numbers a and b both eg) i/p a = 20;b = 100; o/p 25,36,49,64,81,100

2.Alternately sort an unsorted array..

(eg) i/p {5,2,8,7,4,3,9}
o/p {9,2,8,3,7,4,5}

3. Given an array and a threshold value find the o/p

eg) i/p {5,8,10,13,6,2};threshold = 3;

o/p count = 17

explanation:

Number	parts	counts
5	{3,2}	2
8	{3,3,2}	3
10	{3,3,3,1}	4
13	{3,3,3,3,1}	5
6	{3,3}	2
2	{2}	1

4.a. Given two binary numbers add the two numbers in binary form without converting them to decimal value.

eg) a = 1010 b = 11001

o/p 100011

b.The two numbers were given in base n

eg) a = 123 b = 13 n = 4

o/p 202

5.Write a program to print the below pattern

```
for n = 6
1 7 12 16 19 21
2 8 13 17 20
3 9 14 18
4 10 15
5 11
6
```

6.Given bigger NxN matrix and a smaller MxM matrix print TRUE if the smaller matrix can be found in the bigger matrix else print FALSE

7.Given two matrices a and b both of size NxN find if matrix a can be transformed to matrix b by rotating it 90deg , 180deg , 270deg if so print TRUE else print FALSE

8 In addition to the above question you have to check if matrix a can be transformed by mirroring vertically or horizontally to matrix b.

I solved 7 questions .. Those who solved more than 5 were selected for the next round.

Round 3 : TIME : 3hrs

About 50 – 60 were shortlisted .. This round was also a programming round..

Questions were based of matrix transformation.Each question was an extension of the previous question in some way..There were 5 questions .. I solved only 2 But got selected for the next round , I think it was based on my performance on all previous rounds..

Round 4:

We had both HR and technical HR.

In technical HR if they found out that a candidate was not sure on some topic the candidate was asked questions on that topic for the rest of the round even after the candidate said he does not know that concept . In my case it was DBMS The round also consisted of 3 puzzles ..they were easy to solve , i solved all of them..

In HR round we had a friendly chat ..They didn't want candidates who were willing to quit the job after a few years and go for higher studies(obviously)..I was asked about my family and my hobbies..

After round 4 we had to wait for almost 5 hrs before the results were announced..There were 2 packages x and x+y.. I was offered the x package mostly because i didn't do round 3 well but they said that if we prove ourselves during the internship they would change the package to x+y so looking forward to that ☺

Overall it was a good experience and i really appreciate ZOHO team for the amount of effort they invested in the interview process each round was both challenging and enjoyable in its own way

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview Experience | Set 11 (On-Campus)

It was an on campus recruitment.

Round 1:

It had 30 MCQ questions. (20 questions from C aptitude and 10 from general aptitude). It was a written round, which lasted for 2 hours.

Round 2:

It was a programming round, which had 6 questions. The questions were solvable if one has some basic knowledge on fundamentals of programming. It was not conducted in any online judges/tools. The code/output were verified manually. Those who solved 4 questions were selected. Also those solved 3 questions and got the approaches right for any other question were also selected.

Round 3:

It was application development kind of programming round where we were asked to develop any application which supports some list of use cases. We were asked banking application with 12 use cases. In this round, the design which we create and the object oriented concepts which we use were monitored. Preferably we were asked to use an object oriented language to code, but those were not good in C++ or java, were also allowed to use procedural language like C.

Round 4:

It was a face to face technical interview where the interviewer will test your understanding on basics of core subjects of CS. For those who were not from Computer science or Information technology department, they asked only fundamentals of programming and general aptitude, logic questions.

Round 5:

It was HR round. It was concluding round for formality. It was more like a friendly chat for me.

Overall it was a good interview experience. Thanks for geeksforgeeks.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview Experience | Set 10 (Off-Campus Drive)

The Following rounds were held.

Round 1: The first round was held on Jan 10, 2016. The round one contained 30 questions with a duration of 3 hours. There were 20 c apps and 10 logical apps. The c apps consisted of mostly of pointers. The remaining were questions from arrays loops and macro definitions and function calls.

Round 2: The remaining rounds were held on Feb 1, 2016. The round 2 was programming round with 5 questions.

Question 1: Given two sorted arrays output a merged array without duplicates.

Array1: [1, 2, 3, 6, 9]

Array2: [2, 4, 5, 10]

Merged Array: [1, 2, 3, 4, 5, 6, 9, 10]

Question 2: Given a sliding window of size k print the maximum of the numbers under the sliding window.

Example: Consider a sliding window of size k equals 3. Let the array be [3,2,7,6,5,1,2,3,4] the output should print 7 as the first output as first window contains {3,2,7} and second window contains {2,7,6} and so on and the final output is {7,7,7,6,5,3,4}

Question 3: Given a array with n elements print the number of occurrences of that number each number in that array. The order of number doesn't matter. You can reorder the elements.

Example : [2,1,3,2,2,5,8,9,8]

Output:

2-3

1-1

3-1

5-1

8-2

9-1

Question 4: Enter two strings from command line and check whether any substring present in first string that follows the pattern of second sting.. They asked to implement regular expressions for * and backslash without built in functions.

"abcd" "a*cd" answer : yes

"aaaa" "a*" answer : yes

"a*c" "a\c" answer:yes

"adsd" "ad" answer:no

Question 5: They gave a passage and the output should be printing out the number of occurrence of each word and the indices it occurs without using string matching

The passage given was "jana Gana Mana" and so on.. and we have to print number of jana and its indices.i.e at which position it occurs.

I have completed first and 5th program. The programs were not of equal weight-age. 4th and 5th were given more weight-age. They gave importance with the way of approach. Another guy solved the first 4 programs but he is not selected because of his inefficient code. And I got selected to the next round just because of the appropriate data structure and logic the applied.

Round 3:

This round contained of advance programing but the logics were easy but they gave more importance to the modularity, Object oriented approach and things like that. They asked to create a simple console based application for e commerce. Two user's admin and customer with different functionalities were given. The Customer has to buy items then if discount is applicable for that product he can redeem it and he can also view the Order history. The Admin can add new items and so on.

Round 4:

This round concentrated on technical interview and tested how deep you are goo in the subject. They tested whether I am good at what I have put on my resume. Two staffs interviewed me separately and it lasted for approximately 1 and a half hours.

Round 5:

This round was HR round and just the background details about myself were asked. It lasted for ten minutes.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview Experience | Set 9

The interview took place for 3 days, consisting of 5 rounds. The procedure is as follows:

Round I: This round is a basic round as usual for any interview. It is an offline written test consisting of 40 questions i.e. 30 questions related to C language and 10 on aptitude. The round was taken by around 600 students. Only 72 got selected for the next round

Round II & III: The next two rounds have a set of questions to be coded in C language.

Round II has 11 questions i.e. 1(a)-1(f), 2, 3(a), 3(b), 3(c), 3(d). I did my best to reach up to 3(b) and qualified for the third round. Out of 72, 22 selected for the next round.

Round III is yet another round of coding. It started at 9:30am and continued till 9:30pm with a break of 1 hour for lunch. The total number of questions are not known but I finished till 5th question when I got a call for my TR round.

Round IV: This round is a typical technical round wherein I'm interviewed about my project details, my coding skills as well as my web designing skills. The questions were on Java, C, HTML, CSS, basic PHP.

Round V: It's a typical HR round where I'm asked to solve some logical puzzles. Some basic HR questions are asked along with few questions on Java.

Really, it was a tough interview as only 7 out 600 were hired.

Thanks to GeeksforGeeks for providing with valuable information. I'm able to answer most of the questions. I recommend every interviewee to go through GeeksforGeeks before attempting any interview. Thank you Geeks!!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview | Set 8 (Off-Campus Drive for Project Trainee)

First Round:

Written, pen paper based. The candidate has to write the output for C programs and basic aptitude questions. Total 30 questions. Test duration was of 3 hours.

Description:

There were altogether 20 questions from C programs and 10 questions from logical aptitude. Questions from C programming basically focus on pointers (single pointer and pointer-to-pointer) manipulation, 75% of questions from pointers and rest from arrays and strings manipulation. The questions from logical aptitude was of moderate level difficulty ranging from probability to speed distance time calculations. Both section same marks weightage. I solved 13 from C and 7 from apti.

Second Round:

They shortlisted approx 40 students for the second round. The mail came after 15 days from first round. It was coding round, programming questions on their laptops in groups of 10 students in each room. Test duration was of 3 hours. The test was on 1 Feb 2016.

Description:

There were 5 questions. The instructor will check the code after solving each question, they may ask for reducing time/ space complexity, be ready for it.

1. Spiral printing.

O/P

4444444

4333334

4322234

4321234

4322234

4333334

4444444

2. Sort the array alternately i.e first element should be max value, second min value, third second max, third second min. Eg: arr[] = {1,2,3,4,5,6,7} O/P: {7,1,6,2,5,3,4} Note: no extra space and time complexity should be less;

3. Print all the substring of the given string.

4. Print the numbers which are mismatched from two array. Arr1 = {a b c d e f g h i}

arr2 =[a b d e e g g i j], O/P- cd, de, f, g, h, i.

5. Print all possible combinations from the given string.

The candidate who solved at least four out five are selected for next advance coding round.

Third Round:

Third round was followed immediately after completion of second round. 50% candidates were selected for this round which consists of advance programming question. One full fledged project consists of 7 modules which has to be done on their laptops. Test duration was of 3 hours. Test was on 1 Feb 2016.

Description:

There was one question for each candidate.

1. Develop a railway project which consists of 7 requirements modules. The modules includes booking of railway tickets, cancellation, route option, fare calculations, allotting/deallocating berth, coach position.

Some other questions given to students were online billing and shopping. The instructor may ask to change the requirements run time, you should be ready for it.

Fourth Round:

Fourth round was followed immediately after completion of third round. It was face to face interview round in which technical and HR questions were asked. Interview duration was of 20 mins for each student. It was on same day.

Description:

This round consists of face to face interview, they asked questions from Java collection framework and core Java. Questions related to course project was also asked. Finally, all the rounds were finished at 8 pm.

I am posting these questions here for helping students to crack Zoho interview. Keep an eye on GeeksforGeeks, as I found it very helpful in cracking interviews. All the best Geeks

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview | Set 7 (On-Campus Drive)

Here is my experience in zoho campus drive. It was a two day process

Day 1:

Round 1: Written Test

One and half hour time containing 15 aptitude questions and 15 C programming questions.

In aptitude all topics like time and work, ratio proportion, mixtures, work, boats and streams, number sequences were touched. They were pretty easy.

When it comes to C.. the questions were basically on finding the output of the given code.. u need to have strong fundamentals on pointers, strings, preprocessor directives, enums, unions and structures.

Round 2:

A 3 hour programming round. (offline method)

Once u complete a question, it shall be verified for given sample test cases and 4 or 5 pre-verified test cases. To get the next question every test case has to be solved.

The questions were challenging and explanation was good

the various questions were

1. Cyclic number verification
2. Sorting dates
3. Write a code to solve given mathematical expression
4. Generation of unique number from any random number
5. Given a number u need to print all combination of alphabets for that number

the results were announced around night

Day 2:

Round 3:

Pure programming round.

We were asked to design a code (it's almost a game without any graphics)

The question shall be divided into modules and each shall be verified for 7 to 8 test cases. When first module is done only then u can get the second and important thing is all the modules are inter-related.

Our question was a dungeon game.

An adventurer, A monster, A trigger, A treasure, Pits these are the components.

The size and location shall be given in run time. Adventurer must reach treasure fast than monster else he dies (Hint: use absolute of distance)

around 5 to 6 modules were present and 3 hour time.

Round 4:

A hr interview along with 2 technical interviews

The unsolved questions related to apti or program in previous rounds shall be asked along with some puzzles, areas of interest, why zoho ?

Once u clear third round there is a 75% probability that u are in.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview | Set 6 (On-Campus Drive)

Zoho visited our campus in the month of July.

First round: 15 apti and 15 c output questions. No negative marking and no multiple options. Believe me, this is the only way to avoid people coming into the next rounds based on luck.

Second round: 5 programming questions, they were easy

Q1. Given dates in day,month, year order sort them.

Q2. Given a string of integers find out all the possible words that can made out of it in continuous order. Eg: 11112

ans: AAAAAB

AKAB

AAKB

AAAL etc.

Q3: Find whether a given number is magic number or not. It is something which gives same digits even after cubing it.

Q4: something related to rotating an array.

Q5: Given two numbers and an operation either + or - , perform the operation.

Now remove any zeros if present in the two numbers and perform an operation. See if the result obtained is same or not after removing zero's in the original result.

Third round: 5 questions based on maze.

Q1: Given a matrix dimension find the shortest path between two points.

Q2: shortest path between two points and a monster is present. So we have to avoid the monster and take a shortest path or die.

Q3: print the maze step by step.

Q4: same as Q2 but trigger is present so we can take the trigger to shoot the monster anywhere in the maze.

Q5: this is the tricky part. There are many holes in between. we should avoid them and take the shortest path.

Fourth Round: Tech interview. Mostly who got selected to the interview got placed. Simple questions, puzzles, oops concepts, some general os and other computer science related questions.

Fifth round: Tech interview. Questions on projects,internship and again simple questions on oops, dbms etc.

HR round: This is just a formality.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview | Set 5 (On-Campus Drive)

Round 1:

Questions based on aptitude (10) and c program output (20)

Time 2hr.

Round 2:

5 problem given we have to solve at least 3

Program 1:

Help john to find new friends in social network

Input:

3

Mani 3 ram raj guna

Ram 2 kumar Kishore

Mughil 3 praveen Naveen Ramesh

Output:

Raj guna kumar Kishore praveen Naveen Ramesh

Program 2:

Input:

With the starting and ending time of work given find the minimum no of workers needed

Start time end time

```
1230 0130  
1200 0100  
1600 1700
```

Output:

```
2
```

Program 3:

Find the union intersection of two list and also find except (remove even elements from list1 and odd elements from list2)

Input

```
List 1: 1,3,4,5,6,8,9  
List 2: 1,5,8,9,2
```

```
Union: 1, 3,4,5,6,8,9,2
```

```
Intersection: 1,5,8,9
```

```
Except: 1, 3, 5,9,8,2
```

Program 4:

Rotate the matrix elements

For 3*3 matrix

Input

```
1 2 3
```

```
4 5 6
```

```
7 8 9
```

Output:

```
4 1 2
```

```
7 5 3
```

```
8 9 6
```

For 4*4 matrix

Input:

```
1 2 3 4
```

```
5 6 7 8
```

```
9 10 11 12
```

```
13 14 15 16
```

Output:

```
5 1 2 3
```

```
9 10 6 4
```

```
13 11 7 8
```

```
14 15 16 12
```

Program 5:

Find the largest possible prime number with given no

Input

```
5
```

```
4691
```

Output:

```
9461
```

Round 3:

For one batch of people

Basic programs like pattern printing

```
1
```

```
22
```

```
333
```

```
4444
```

And

```
1
```

```
2 4
```

```
3 5 7
```

```
6 8 10 12
```

Others had app development

Scenario: text editor

Only 40 characters per line and words should be wrapped if they break

Also perform insert delete operations

Round 4:

Tech hr: Topics revolved around OOPS and java thread and Ubuntu commands.

Round 5:

General hr: As usual stuffs like personal info and about projects and why zoho?

Good luck friends

Thanks for geeks for geeks team it helped me a lot.

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Zoho Interview | Set 4

Round one:

Note: They have two patterns, for me they asked programming pattern, which is really tough.

Time: 2.15 hrs

40 Questions full of programming, first 10 questions have half mark, next 30 Questions have 1 mark, no Compilation Errors.

1) First 10 questions is to find the output of program which contains full of loops, loops inside loops.

2) Next 30 Questions has five parts

....a) To find the input of the program, output will be given.

....b) To find the error in logic and correct it, to provide the expected output.

....c) To find which two program gives the same result among given four programs.

....d) To find the loop condition for the desired output.

....e) To find the order of function in execution..

Round two:

Level One:

1) To find the odd numbers in between the range.

Input:

2

15

Output:

3,5,7,9,11,13

2) To find the factors of the numbers given in an array and to sort the numbers in descending order according to the factors present in it.

Input:

Given array : 8, 2, 3, 12, 16

Output:

12, 16, 8, 2, 3

3) To output the number in words (0-999)

Input: 234

Output: Two hundred and Thirty Four

4) To find the print the pattern:

Ip: n=5

Op:

1

1 1

2 1

1 2 1 1

1 1 1 2 2 1

5) A man his driving car from home to office with X petrol. There are N number of petrol bunks in the city with only few capacities and each petrol is located in different places For one km one liter will consume. So he fill up petrol in his petrol tank in each petrol bunks. Output the remaining petrol if he has or tell him that he cannot travel if he is out of petrol.

Input:

Petrol in car: 2 Liters

Petrol bunks: A B C

Distance from petrol each petrol bunks: 1, 5, 3

Capacities of each petrol bunk: 6, 4, 2

Output:

Remaining petrol in car is 5 liters

Level two:

1) Print the given pattern:

Input:

N= 3, M=3

Output:

X X X

X 0 X

X X X

Input:

N=4 M=5

Output:

X X X X

X 0 0 X

X 0 0 X

X 0 0 X

X X X X

Input:

N=6 M=7

X X X X X X X

X 0 0 0 0 X

```
X 0 X X 0 X  
X 0 X X 0 X  
X 0 X X 0 X  
X 0 0 0 0 X  
X X X X X X
```

2) To find the number of groups and output the groups:

Explanation: To find the sum of the elements in the groups and that sum should be divisible by input X and the groups should be limited to range with X numbers.

If X is 3, then the group should have only 2 elements and 3 elements from the array whose sum is divisible by 3.

Input:

Array: 3, 9, 7, 4, 6, 8

X: 3

Output:

3, 9

3, 6

9, 6

3, 9, 6

No of groups: 4

Level three:

1) To output the given string for the given input which is an integer.

Input: 1

Output: A

Input: 26

Output: Z

Input : 27

Output: AA

Input: 28:

Output: AB

Input: 1000

Output: ALL

2) Input:

Number of elements in set1: 4

Elements are: 9, 9, 9, 9

Number of elements in set 2: 3

Elements are: 1,1,1

Output:

1, 0, 1, 1, 0

Input:

Number of elements in set1: 11

Elements are: 7,2,3,4,5,3,1,2,7,2,8

Number of elements in set 2: 3

Elements are: 1,2,3

Output: 7,2,3,4,5,3,1,2,8,5,1

Round three:

Real time programming and analysis:

Note: Showing output does matter need to show the output as soon as possible. And also need to solve the constraints very fast, since you know what you have done in your program. After finishing the program always explain the logic behind it and the constraints about the processing and how you solved those constraints to the technical people.

1) To form a structure which has few elements:

```
struct product {  
    char productname[20];  
    int product_price;  
    int product_id;  
}
```

Get the product name, price and id and display the product name and price in descending of the price.

2) For the same above structure, now add another structure which is the category. That category will have products in it.

```
Struct category  
{  
    char category_name[20];  
    int cat_id;  
}
```

According the category get the product name, product price and id, then display all the products category wise in descending order.

3) For the same structure which as category and product, get the category id from the user in the product structure and save to the category list. Then display them all in category wise.

4) A sheet full of data will be given with inventory stock list, which as different categories and different products as input with category capacity and product availability in the structure. Now we need to add a new category or new product with capacity and availability. Need to check whether the product availability is exceeding the category capacity, if yes the output rack is full or else tell how much free space is available and add the product to list.

5) Constraints in the above in question will be given, need to solve all the constraints, so that the Technical HR gets satisfied.

After these rounds, if they get satisfied, they will call you for Technical HR, followed by General HR. If you solved every single question and you were really fast in problem

solving, then HR interview will be easy. Or else HR interview will be very tough especially the Technical HR (The Technical HR round as lots of logical questions)

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview | Set 3 (Off-Campus)

Hi!! I recently attended ZOHO off-campus drive.

ROUND 1: WRITTEN

APTITUDE(1 hr and 20 minutes-20 questions): Problems on average, probability, time & distance, alligation&mixture,ratio, HCF & LCM and few a puzzles.

TECHNICAL(45 minutes-10 questions): Output for C questions. Practice questions in geekquiz.com and C output questions in geeksforgeeks.org. Questions in pointers, strings, matrix etc.

Nearly 60 students were selected out of 600 candidates. They didn't select the top 60. They had a cutoff and those who cleared the cutoff were called for the next round

ROUND 2: SIMPLE CODING(3 hours)

1. Write a program to give the following output for the given input

Eg 1: Input: a1b10
Output: abbbbbbb
Eg 2: Input: b3c6d15
Output: bbbccccccddddd
The number varies from 1 to 99.

2. Write a program to sort the elements in odd positions in descending order and elements in ascending order

Eg 1: Input: 13,2,4,15,12,10,5
Output: 13,2,12,10,5,15,4
Eg 2: Input: 1,2,3,4,5,6,7,8,9
Output: 9,2,7,4,5,6,3,8,1

3. Write a program to print the following output for the given input. You can assume the string is of odd length

Eg 1: Input: 12345
Output:
1 5
2 4
3
2 4
1 5
Eg 2: Input: geeksforgeeks
Output:
g s
e k
e e
k e
s g
f r
o
f r
s g
k e
e e
e k
g s

4. Find if a String2 is substring of String1. If it is, return the index of the first occurrence. else return -1.

Eg 1: Input:
String 1: test123string
String 2: 123
Output: 4
Eg 2: Input:
String 1: testing12
String 2: 1234
Output: -1

5. Given two sorted arrays, merge them such that the elements are not repeated

Eg 1: Input:
Array 1: 2,4,5,6,7,9,10,13
Array 2: 2,3,4,5,6,7,8,9,11,15
Output:
Merged array: 2,3,4,5,6,7,8,9,10,11,13,15

6. Using Recursion reverse the string such as

Eg 1: Input: one two three
Output: three two one
Eg 2: Input: I love india
Output: india love I

19 cleared this round and they were called for the next round. The next round took place on the next day

ROUND 3: COMPLEX CODING(3 hours)

1) Design a Call taxi booking application

-There are n number of taxi's. For simplicity, assume 4. But it should work for any number of taxi's.

-The are 6 points(A,B,C,D,E,F)

-All the points are in a straight line, and each point is 15kms away from the adjacent points.

-It takes 60 mins to travel from one point to another

-Each taxi charges Rs.100 minimum for the first 5 kilometers and Rs.10 for the subsequent kilometers.

-For simplicity, time can be entered as absolute time. Eg: 9hrs, 15hrs etc.

-All taxi's are initially stationed at A.

-When a customer books a Taxi, a free taxi at that point is allocated

-If no free taxi is available at that point, a free taxi at the nearest point is allocated.

-If two taxi's are free at the same point, one with lower earning is allocated

-Note that the taxi only charges the customer from the pickup point to the drop point. Not the distance it travels from an adjacent point to pickup the customer.

-If no taxi is free at that time, booking is rejected

Design modules for

1) Call taxi booking

Input 1:

Customer ID: 1

Pickup Point: A

Drop Point: B

Pickup Time: 9

Output 1:

Taxi can be allotted.

Taxi-1 is allotted

Input 2:

Customer ID: 2

Pickup Point: B

Drop Point: D

Pickup Time: 9

Output 1:

Taxi can be allotted.

Taxi-2 is allotted

(Note: Since Taxi-1 would have completed its journey when second booking is done, so Taxi-2 from nearest point A which is free is allocated)

Input 3:

Customer ID: 3

Pickup Point: B

Drop Point: C

Pickup Time: 12

Output 1:

Taxi can be allotted.

Taxi-1 is allotted

2) Display the Taxi details

Taxi No: Total Earnings:

BookingID CustomerID From To PickupTime DropTime Amount

Output:

Taxi-1 Total Earnings: Rs. 400

1 1 A B 9 10 200
3 3 B C 12 13 200

Taxi-2 Total Earnings: Rs. 350

2 2 B D 9 11 350

These were just sample inputs. It should work for any input that they give.

Those who finished both the modules within 3 hours and if it worked for all the inputs they give, those candidates were given extra modules to work with.

Only 9 candidates made it to the next round

ROUND 4 : FIRST FACE-TO-FACE(TECHNICAL)

Questions were on project, c, oops concepts, DBMS and a few puzzles. They might ask you more on new scenarios relating to your project.

ROUND 5: SECOND FACE-TO-FACE(TECHNICAL)

Question were on c, c++, java(threading, synchronization etc.), Discussion about questions from first, second and third round. He even asked me to solve a few questions from the first round. He gave me a few puzzles to solve

ROUND 6: FIRST GENERAL HR

General questions about my pros and cons and discussion on my resume(be thorough with your resume). She finally asked me if I had any queries.

ROUND 7: SECOND GENERAL HR

She asked me some family details and gave some scenarios and asked me to what I will do in such situations(like if I am given the power to change 3 things in india, what all will I change) and a few general questions.

I didn't get direct placement in ZOHO but I got an internship offer. If I perform well in my internship, I will get an offer. Round 3 was the toughest and if you perform exceptionally well and as they expect in that round, you will definitely make it through. Many thanks to geeksforgeeks.org for helping me out in my preparation.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview | Set 2 (On-Campus)

Recently Zoho visited for the campus placement. I would like to share my experience to geeksforgeeks because of which I got this offer. Thank you geekforgeeks

Zoho On Campus Placement Process

1) First Round : Written

40 C output questions. 2 Hours.

30 1Mark and 10 2Mark questions. IT WAS NOT MCQ. The questions were challenging and covered all C concepts.

2) Second Round : Coding

Around 150 students shortlisted for this round. It was a local machine coding round. A staff will be assigned to a group of 5 students. He made note of the time took for solving each question. There was totally 7 questions and I solved 4 questions and did not complete the 5th question.

1) Alternate sorting: Given an array of integers, rearrange the array in such a way that the first element is first maximum and second element is first minimum.

Eg.) Input : {1, 2, 3, 4, 5, 6, 7}
Output : {7, 1, 6, 2, 5, 3, 4}

2) Remove unbalanced parentheses in a given expression.

Eg.) Input : ((abc)((de))
Output : ((abc)(de))

Input : (((ab)
Output : (ab)

3) Form a number system with only 3 and 4. Find the nth number of the number system.

Eg.) The numbers are: 3, 4, 33, 34, 43, 44, 333, 334, 343, 344, 433, 434, 443, 444, 3333, 3334, 3343, 3344, 3433, 3434, 3443, 3444

4) Check whether a given mathematical expression is valid.

Eg.) Input : (a+b)(a*b)
Output : Valid

Input : (ab)(ab+)
Output : Invalid

Input : ((a+b)
Output : Invalid

I don't remember the 5th question.

3) Third Round : Advanced Coding

A matrix game was given with 5 rules. We were asked to implement each of the rules separately.

R3 | - - - |
R2 | - - - |
R1 | - - - |
C1 C2 C3

Each of the 9 cells can either be empty or filled with an atom. R3, R2, R1 are the rays that originate from the left. C1, C2, C3 are the rays that originate from the bottom of the box.

Input : Position of the atoms and the rays that gets originated from the outside of the box.

Eg.) 3
3 1
2 2
1 3
3
R3 C1 C3

Output : Print the box.

Rule 1:

A ray that has an atom in its path should print 'H' (Hit) If it does not have any atoms in its path, the ray should pass to the other side.

C1 C3
R3 | - - - | R3
H | - X - |
R1 | - - - | R1
C1 H C3

Rule 2 & 3:

A ray that has an atom in its diagonal adjacent position should refract.

```
H | - - - |  
H | X - - |  
R | - X - |  
R H R
```

Input rays: R1, R2, C3

```
H | - X - |  
R2 | - - - | C3  
| - - - |  
R2 C3
```

Rule 4:

A ray that has atoms in both of the diagonal adjacent positions should reflect back.

Input ray: C2

```
| - - - |  
| X - X |  
| - - - |  
R
```

Input ray: R2

```
| - X - |  
R | - - - |  
| - X - |
```

Rule 5:

The deflection of rays should happen in the order of the input rays.

Input Rays: R3, R2, C1, C3

```
H | - X - |  
R2 | - - - | C3  
| - - - |  
R2 C3
```

The final task was to implement these rules for dynamic matrix size.

Input : no of rows, no of columns
Eg.) 4 4 (row & column)
2 (No of atoms)
4 4 (Position of atom)
2 2 (Position of atom)
2 (No of rays)
R4 C2 (Ray number)

```
H | - - - X |  
| - - - - |  
| - X - - |  
| - - - - |  
H
```

The final task was very confusing and it had to handle all the cases. There are chances for a ray to end at the starting position if the number of rows and columns are more than 5.

4) Fourth Round : Technical Interview

Basic questions from hashing, searching, sorting, JVM, OS, Threads. In-depth questions from the projects that I mentioned in my resume. So don't just add projects that you are not thorough enough to answer all questions.

And a simple puzzle : $(x-a)(x-b)(x-c)\dots(x-z) = ?$ ☺

5) Fifth Round : HR

General HR questions like why zoho, how do you see yourself after 5 years, why did you choose CS/IT stream, tell me about your leadership skills etc.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

Zoho Interview | Set 1 (On-Campus)

First Round: (Aptitude written round)

This round consisted of two sections "Reasoning Aptitude" and "Technical Aptitude". Reasoning section was more like puzzles so do concentrate on logical puzzles. Technical Aptitude dealt more with "operator precedence", "pointers", "iterations", "dynamic memory allocations".

Second Round: (Normal Programming round)

- Print the word with odd letters as

```
P M  
R A  
O R
```

G
O R
R A
P M

2. Given a set of numbers like we want to find sum of weights based on the following conditions

1. 5 if a perfect square
2. 4 if multiple of 4 and divisible by 6
3. 3 if even number

And sort the numbers based on the weight and print it as follows

,

Should display the numbers based on increasing order.

3. Save the string "WELCOMETOZOHOHOCORPORATION" in a two dimensional array and search for substring like "too" in the two dimensional string both from left to right and from top to bottom.

w e L C O
M E T O Z
O H O C O
R P O R A
T I O n

And print the start and ending index as

Start index :

End index:

4. Given a 9x9 sudoku we have to evaluate it for its correctness. We have to check both the sub matrix correctness and the whole sudoku correctness.

5. Given a two dimensional array of string like

Where the first string is "child", second string is "Father". And given "ronaldo" we have to find his no of grandchildren. Here "ronaldo" has 2 grandchildren. So our output should be 2.

Third Round: (Advanced Programming Round)

Here they asked us to create a "Railway reservation system" and gave us 4 modules. The modules were:

1. Booking
2. Availability checking
3. Cancellation
4. Prepare chart

We were asked to create the modules for representing each data first and to continue with the implementation phase.

Fourth Round: (Technical Round)

Technical question which revolved around "data structures" and "OOPS"

Fifth Round: (HR round)

Some general hr questions asked mainly about our projects and about certifications if we had one.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoho

PayPal Interview Experience | Set 7 (On-Campus)

- 1) Dangling pointer
- 2) Singleton class implementation
- 3) DBMS – Different types of joins
- 4) Example programs for polymorphism
- 5) Explain Binary Tree and Binary search tree
- 6) Program for Binary search
- 7) Program to implement stack using classes in C ++
- 8) Virtual functions
- 9) Virtual destructor
- 10) What happens when you create an object using a base class pointer
- 11) Why java uses interfaces
- 12) Diamond structure problem
- 13) Explain deadlock
- 14) Difference between array and linked list. Adv of array
(Accessing k-th element is easier in array than LL)
- 15) Difference between pre and post increment (there's some difference in how they are accessed in memory)

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
paypal

PayPal Interview Experience | Set 6 (On-Campus)

Panel 1

1. Questions about my project?
2. How would I implement this scenario, just an overview, the scenario was the following

There are two different scoreboards for a game, you need combine these scoreboards and get the top 10 persons.

You are expected to answer using client server architecture, Javaservelets, shared memory and data structures concepts

3. Then asked to design a Sudoku game. – <http://www.geeksforgeeks.org/backtracking-set-7-sudoku/>
4. about hobbies.

Panel 2

I would like to make point clear here that if you don't know much about a project in your resume don't ever put it there, I learnt it the hard way in this round.

1. Questions about my Dbms project which I really didn't do myself?
2. Questions about css and php in my project description which I couldn't answer.
3. He asked me to draw the table I used in my project.I got stuck and he found that I didn't do the project?
4. He locked me with even further questions on the dbms project?

I got pretty nervous, then he advised me to do more teamwork.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
paypal

PayPal Interview Experience | Set 5 (On-Campus)

Around 800 students from our university were eligible to attend the interview process conducted by PayPal

First round (online round)

Conducted at hackerrank which had 15 MCQ (technical + aptitude) questions and a coding question. Program asked was Maximum amongst minimum in sub arrays.

I did 12/15 mcq questions correctly and for coding question there was 13 test cases so optimal solution was required to ran all test case (I used heap concept to give $n \log(n)$ solution)

Around 40 of the students were selected for the next round.

Round 2: (elimination round)

It was coding test on paper. There were 2 question

- 1) Minimum no. of coin to a given amount
- 2) longest-palindromic-subsequence in string

it was on greedy and dynamic concept. I gave dynamic solution for both

Around 13 of the students were selected for the next round.

Round 3: Technical F2F

The interviewers (Two of them were present) asked me to introduce myself. They glanced my resume, code and started shooting out the questions!

Asked me to explain the code of second round and what other solution can you give, as I gave dynamic solution for both, first one can be done easily by greedy approach as the coin where in decreasing order and had 1 coin of value one he was happy with the solution.

Asked me about my favorite subjects I said data structure and algorithm.

He gave me some scenario and asked which sorting algorithm will you use and why and what is the worst condition.

After that he started asking question on data base.

Gave me some scenario on board and asked to make ER diagram and write query for the problem, he gave me 10 min for this. I was struggling hear because I was not getting the problem he gave. He helped me to understand the problem and gave some hint and said you very close, then finally I got the solution (you should have a good idea about group by, having and sub query).

Then asked some oops concept

What is difference between encapsulation and data hiding?

How can you access private data from other class?

About dynamic allocations in c

From this 7 students were selected for the next round.

Round 4: Technical F2F

Asked about my online test experience and what programming language you are good at, I said C++ (as I use this for competitive programming).

Then he asked about how virtual function is implemented in compiler.

He gave me some real life example and asked me what oops concept will you use, it real want bad for me.

Then he switched to data structures.

Add a functionality of finding maximum in a stack in O(1).

How will you delete a node (given node pointer) in link list if no head pointer is given.

All 7 where selected (including fulltime offer and internship offer)

GeekforGeek and my interest & achievements in competitive programming (hakerrank/topcoder) helped me a lot.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
paypal

PayPal interview experience | Set 4 (Internship + Full time Employee)

First round (online round)

Conducted at hackerrank which had some 15 mcq technical questions and a program. Program asked was Maximum amongst minimum in sub arrays.

I did 10/15 mcq questions correctly and got 12/13 test cases right. I checked these soon after the test so that in case if i was called for the in-person interview i will be well aware of how i performed in the online test....

- What is encapsulation?
- Given an inheritance hierarchy, how does encapsulation work here?
- Does encapsulation really exist in OOPS or is it just conceptual? I was asked to explain with proper example and with clarity, which i think i failed to do.

Few questions were asked from the online round, the mcqs which i did wrongly was asked by him, but i was good enough to identify which all i did wrongly during the online test, and so explained him the correct ans when he asked me the same question again during the in-person interview.

The questions asked in this round were mostly from my project. Many scenarios were given, and i was asked how well my project will work in the various scenarios; and was also asked to explain the in and out of project in-depth(I didn't do this very well).

Later i was asked to ask some questions, which i asked to make sure i impress the interviewer and let him know that i am serious about this company, so finally, he himself told me, he's pushing me to round 2 and told me all the best for the same.

Second Round (Technical)

It was about a 15 NUMBER PUZZLE GAME. He asked me to design a data structure to implement that game. He asked me how to identify if the game has been won? And also, asked me to provide various solutions for the same(each of them more optimized than the previous...).

I gave him around 3 solutions; Later he asked me questions based on my resume....And finally in my hobbies, i had "writing poems" as one of the hobby, so he asked me do you remember any of them? I told him, sir it isn't actually a poem, but just for fun i used to write something and post in FB in childhood and just told few lines from a poem(acc. to me) to him, and he smiled(maybe it was funny..?)

I was happy that i did this second round better than the first round, but was unlucky and was rejected after this round. (Maybe my answer was not what he expected)...

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GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
paypal

PayPal interview experience | Set 3 (On-Campus for Internship)

Around 400 students from our university were eligible to attend the interview process conducted by PayPal Pvt. Ltd., The selection criteria was based on the CGPA till 4th semester. Luckily I was one among them!

Round 1: (Online Test)

The Online Test was held on their own interface and consisted of about 20 MCQs questions and one coding question.

MCQs were mainly from C/C++ input/output, Math Aps, Verbal and Quans. Coding Question: Simple Currency denomination Problem.

Find the least number of coins required that can make any desired amount. The coins can only be pennies(1), nickels(5), dimes(10) and quarters(25).

Sample Input 1: 30

Sample Output 1: 2 (one quarter and one nickel)

Sample Input 2: 100

Sample Output 2: 4 (four quarters)

Around 8 of the students were selected for the next round.

Round 2: Technical F2F

The interviewers (Two of them were present) asked me to introduce myself. They glanced my resume and started shooting out the questions!

Detect loop in a linked list and remove it.

He asked me to code in a paper and check for all possible test cases and edge cases. He then added to prove the solution. I did it. He was satisfied.

Distinguish between Hash table and Hash Map.

How is Hash Map implemented in JAVA?

The discussion on this topic went too deep and was about 30 minutes. We discussed about the actual mapping of values, implementation etc.,

Single source shortest Path (Was not asked to code. Just explain the algorithm with an example)

What are threads? Does the threads share same address space? Why? Few more questions i don't remember them..

Around 5 of the students were selected for next round. Luckily I was one of them

Round 3: HR F2F

This round was my favorite one and was not asked too much technical. Some basic questions like

Why PayPal?

What is the most challenging thing you have come across?

Unique features about PayPal.

What is the reach of PayPal in your locality

All thanks to G4G which is the most excellent site that i have come across for interview preparation

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
paypal

Paypal Interview Experience | Set 2 (On-Campus for Full Time)

Paypal visited our campus in the mid of August.Students of only CS and IT were asked to attend.

First Round-(Online Round):

This round contained two sections.First section had 20 Aptitude questions and the second section had a classical Dynamic programming problem and our Greedy approach was also passed for the given test cases.

I felt aptitude questions little bit difficult and it consumed much time.Einstein puzzles ,data interpretation questions,C fundamentals and some logical reasoning questions were found in the first section.

Programming question was easy that made me comfortable.

Second Round-(Technical Interview)

Questions from the first round was discussed initially.Followed by a long discussion on my internship experience and my Big Data project was discussed.

Some graph questions like detecting a cycle in a directed cyclic graph was also discussed.Some design questions were also asked.Interviewers were very cordial and helpful.

Third Round-(Hiring Manager)

This round contained lot of questions only on my resume and about the company.

Again I was asked about my experience in first round.

Some questions about my other activities also asked.

Fourth Round-(HR Interview)

This round contained basic HR questions to check the professional fitness.Some questions about my background and my hobbies.

Overall really loved the entire interview experience, it was really great.

All the best!!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
paypal

Paypal Interview Experience | Set 1 (On-Campus)

Recently PayPal visited our campus..

Round 1:

20 math apti 20 mins (moderate ones)

Code: rotation of a 1d array..

(typed in a system.. without any compiler) (20 mins)

20 were shortlisted from this round..

The shortlist was based on your performance and cgpa

(as informed by a PayPal director)

Round 2:

- 1) about myself
- 2) project 1 in and out
- 3) project 2 in and out
- 4) rotation of an array (r1 ques)
He asked me why did i go for element by element rotation and
He asked me to state an improvised version of the same .
- 5) given a number find its roman eqivalent
- 6) Acid properties
- 7) Draw an entity relationship diagram for a student enrolment system.

Round 3:

- 1) how would you rate yourself in Dbms
- 2) Draw an entity relationship diagram for a airport management system.
- 3) Your strength and weakness
- 4) what is your biggest critics
- 5) toughest decision you have made in your life
- 6) how would you see yourself in five years
- 7) why should we hire you

After this round 5 were given full time job offers and 2 were given internships

I just thought the interview process could have been organised in a lot of ways..

But definitely a great experience to share ☺ First interview of mine ☺

Thanks gfg ☺ ☺ ☺

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
paypal
PayPal IDC

Chargebee Interview Experience | Set 2 (On Campus)

1. Given an array and a set of operations on it, perform those in sequence to the array.

Example : given array : 12345

Operations to be performed in order : L1,R2,R1,L3

L1 : shift left once,R2 : shift right twice...etc

2. Given an array of size n of integer type containing the integers from 1 to n (both including), print how many times each integer is repeated. There is no rule that every integer in the range 1 to n will be present in the array. Solve the problem using only one additional variable.

Example : n= 5

Array : 12341

Answer : 1 – 2 times

2 – 1 time

3 – 1 time

4 – 1 time

3. Print this pattern

```
*****
 ***
 *
 *
 ***
 ****
```

4. A code is given which prints the sum of even and odd numbers in the given set of numbers. Identify the error and rectify it.

5. Given two integers m and n, write code for **m power n** without using exponent operation.

6. **Doubly linked list insertion** and **deletion**.

7. Measure 9 min using two 4 min and 7 min sand glass.

8. <http://www.geeksforgeeks.org/the-celebrity-problem/>

9. 2 DBMS queries.(don't remember)

10.<http://www.mathsisfun.com/puzzles/the-fly-and-the-trains-solution.html>

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GATE CS Corner Company Wise Coding Practice

Interview Experiences

ChargeBee Interview Experience (On-Campus)

Chargebee the Hot Startup came to our campus recently.. Here is my Interview Experience

Round 1 : (1.5 hrs)

*there were few c based output questions.

*programs with blanks were given and we were asked to fill .

*Error identification in a program .

Round 2 :(Written code)

1)To check whether a hour glass is fully filled or not. Function must return 1 if full and 0 if not where n >=5 (n is the number of lines)

```
* _ _ _ *  
* _ *  
*  
* * *  
*****
```

Fully filled in bottom half.. So return True .

2)Given a Word

To find all the anagrams of the word in a given sentence .

3)Given a sentence . To increment the count for each character , if that character is coming in a word (from the given sentence) more than once .

Eg:

Given sentence : mississippi River

result : the counter array

```
i=1;  
p=1;  
r=1;  
s=1;
```

Round 3:(coding)

Was asked to code all questions from the previous round(r2)

-was eliminated from this round

followed by a long coding round and then 3 rounds of technical interviews .

4 people were selected finally as ChargeBeEs :P:P

Though got eliminated pretty early.. This was a great interview experience..

Thanks to geeksforgeeks..:)

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
ChargeBee

Interview with WOW Labz for MEAN Stack Developer

Interview was for position of MEAN Stack Developer.

First Round

5 Questions. Relatively Easy ones just required use of if and for.

Second Round with the CTO.

Talked about my Resume. One question from Algorithm and Data Structures on Graph and hopping.

Question : Given a finite set of three letter words How will you find out minimum number of hops required to reach from one word to the other.

Conditions :

Hops should be minimum.

Resulting word should be in the set.

Ex

Input ['sat', 'cat', 'rat', 'tap', 'stt']

'sat'

'stt'

Output 1

Questions on MEAN

Ques 1 : What apps have you created in Node and How ? How much Angular did you use?

Ques 2 : Explain session and cookie in your code.

Ques 3: How does session remember details of every member that logs in. Like thousand people open flipkart. Now what they choose, what they see is being stored. and also there cart. On code level how will you achieve it?

Ques 4 : What are callbacks ? Why callbacks came into existence?

Ques 5 : Scope of variable in javascript.

Ques 6 : Classes in Javascript.

Ques 7 : Which driver you use to interact with mongo from Nodejs.

Round 3 :

HR Round with Product manager.

General questions about current and expected pay.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
WOW Labz

Codenation Interview Experience | Set 4 (Off-Campus for Internship)

I recently applied for the position of an intern as a software developer. Here is my interview experience in brief: The whole interview was classified into 4 rounds.

Round 0: It was an online contest hosted on Hackerrank(90 mins). There were 3 questions, one was string based(medium), the second was a dynamic programming(easy), and third was a dynamic programming(medium hard). Doing one problem was enough, though it depends on the actual rank list and not the number of problems you solve. This was followed by a debug round, a question on binary exponentiation. We just had to correct the code and submit within 15 mins.

Round 1: This was a GoToMeeting interview. The interview was all about your resume. The interviewer asked about the projects in detail for about 30 mins and then in general everything about your experience with past internships and stuff.

Round 2: This was an online coding round. I was given a question on binary trees, had to find the maximum sum path in the tree and code it up within 40 mins. The interviewer expects you to go step by step in this round, that is first you give a brute force solution and then progressively try to decrease the time complexity until the interviewer is satisfied. (Tip: Don't jump to the answer directly even if you know the answer beforehand. They are not interested in the fact that you know a problem but they test your approach to a new problem.)This was followed by a general discussion about the resume again.

Round 3: This was a problem design round, basically to check how you go about solving a problem and how much of your computer science concepts are clear. Firstly, the interviewer presented a problem about recommendations made on an online e-commerce website. I had to suggest how all this could have been done. Another question was to design a bot that wished your facebook friends automatically. Another question was about distributed systems, he posted a query which needed to be parallelized, and you had to discuss all the aspects of it. Basically what the interviewer was looking for was that you understand your solution inside out and know about all of its shortcomings that may occur and then he would ask you to somehow solve these shortcomings. (duration:1hr)

This was all about it. It was a great experience interviewing with Codenation. Note that interviewing opportunity can only be obtained by participating in the Codeagon contest conducted by Codenation. I think you need to be in the top 100 or so for getting to interview. This first process may vary a little depending on a lot of things. So keep your eye on their facebook page for the update. About all the perks and the compensation, I feel that Codenation is transparent enough and has all the details mentioned on their website.

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GATE CS Corner Company Wise Coding Practice

Internship
Codenation

Codenation Interview Experience | Set 3 (Off-Campus for SDE)

I applied for CodeNation off campus.

Round 1:

It was an online programming round. It had 4 questions which were of Competitive programming nature. The 4 questions were of following difficulty: Cakewalk, Easy, Medium, and Medium. The round duration was 1 hour 15 mins. One can clear this round only if he has good experience in Competitive programming. The questions were of following paradigms: Ad-Hoc, Combinatorics, Dynamic programming, Segment tree. I was able to solve 3.5 questions. There was partial points.

Round 2:

It was a skype interview round. It was a debugging round which had only one debugging question. Its duration is 30 mins.

Round 3:

It was a skype interview round of duration 1 hour. I was asked 2 data structure and algorithmic questions.

1. <http://www.geeksforgeeks.org/dynamic-programming-set-21-box-stacking-problem/>
2. <http://www.geeksforgeeks.org/program-for-array-rotation-continued-reversal-algorithm/>

Round 4:

It was a skype interview round of duration 1 hour. In this round the interviewer asked me about the projects which I have done for which I didn't have answer! This dragged the interview as he was surprised. Later he asked me the following question alone:

1. <https://www.quora.com/Given-a-source-string-and-a-destination-string-write-a-program-to-display-sequence-of-strings-to-travel-from-source-to-destination-Can-you>

It was an awesome experience. I learned from my mistakes! Thank you geeksforgeeks.

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Interview Experiences
Codonation

Codenation Interview Experience | Set 2 (On-Campus for Internship)

I applied for two month long summer internship in codenation. It was an On-campus internship recruitment.

It consisted of :

1. Coding Round: It had 3 questions to be done in 1:30 hrs,

1. You're given a string that (may) be appended with a number at last. You need to find whether the length of string excluding that number is equal to that number. For example : helloworld10 , answer is True as helloworld consist of 10 letters. Length of String less than 10,000. (All you need to do was check the last 5 places.)
2. It was a simple dp with bitmasking question. N things to select for N people, you were given a NxN matrix and cost at each element, you needed to find the one combination with max total weight, such that each person gets exactly one thing.
3. It was a Bi-partite graph implementation question. Just to check whether the graph is bi-partite or not. It had a complex problem statement, but the problem eventually broke down to this.

2. Debug Round: It happened online on skype, where they asked us to share our screen so as to eliminate chances of cheating. We were given a code and we were told what it was meant to do, and we were asked to debug it with minimum changes possible, in minimum time. I got a simple iterative heap sort. I changed it to recursive heapsort, as took only 2 line changes for that, He asked me few questions about recursion and iteration, and asked me to memoize fibonacci, along with some questions on System stack and OS.

3. Interview Round 1 – It happened on Skype, he asked me about my projects, discussed the way, i thought over them, i implemented them, my approach , in short everything. Then he questioned different approaches i could have used instead of what i used. He gave me a question saying we had 'k' arrays each consisting of numbers and each of various lengths. We needed to find the shortest range such that the range includes atleast one number from each array. I proposed a $O(n.k.\log(\max(\text{length})))$ solution. He was satisfied with the answer.

4. Interview Round2 – It happened on Skype, he asked about my projects and work experience. He asked me to create a recursive function , for a tree question and then asked me to propose data structures and implementations for "Google Maps". I proposed a graph of graph of graph, with dijkstra for finding the shortest paths. He later asked me about self balancing trees,AVL and splay trees.

5. Interview Round3 – It happened on Skype, he asked me about my projects. Then he asked me to think of an approach for finding a lower bound for an array of structure having 3 integers,(lower bound for all 3 integers together). He asked me to query this in $O(1)$ time and then subtract the integers and reinsert it in the structure. Later, then he asked me to think of some data structure with minimum memory and time complexity for a text editor. I suggested the rope data structure and then he asked me to think of some thing other than that. So i suggested a trie tree which had a vector at last to keep a track of first positions where this word should come. He was satisfied with my answer.

6. HR Round- This was not much of a round. She came on Skype asked me to check my mail, and there it was an offer letter waiting for me !! All i could do was to turn speechless and smile

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Internship
Interview Experiences
Codonation

Codenation Interview Experience

There were 4 rounds

Short Story –

First Round – Online Round (3 coding questions 90 min)

Second Round – Skype Interview (Data Structure and Puzzle)

Third Round – Skype Interview (Open ended Questions)

Fourth Round – Skype Interview (with CEO)

Long Story –

The **first round consisted of three algorithmic questions conducted on Hacker rank**. They were tough questions. One of the questions could be solved using **euler totient function**. The second question was **this**. I don't remember the third question. I was only able to solve the first question and that was enough to clear this round.

The **second round was based on data structures and puzzles, conducted on skype**. He asked me to implement a stack. I implemented it using a singly linked list. With the pointer pointing to the end of the linked list. I implemented push, pop operations handling overflow and underflow cases. Initially I was maintaining two pointers but he

was not satisfied with it and told me to do it using only one pointer. I implement push and pop functions in O(1). I was asked 5 pirates and 100 gold coins puzzle.

The third round was open ended questions and on Skype.

1. You need to come up with solutions. I was asked to implement an algorithm to divide a given data into topics. For example there can be document describing banks, rivers, movies. I need to come up with an algorithm to divide the document into the topics bank, river and movie and each has its own subtopics. This was similar to my minor project. I explained my minor project to him. It is similar to "topic modelling."
2. Implement an algorithm to detect a face, for example when we take a photo from a phone camera, we can see a yellow border on the face. There was a lot of discussion regarding this. I told him I will be using a machine learning algorithm and the accuracy will depend on the data that will be available. For example consider a child face and adult face. He asked to implement it without machine learning. I told him I would consider each photo as a 2D matrix and will consider similarity. I don't remember the exact solution that I came up with. But he was satisfied with my answers.

The fourth round was with CEO and it was on Skype. It was HR round. He asked me why do you want to join this company. What was the toughest problem you have faced. I don't remember the remaining questions.

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Interview Experiences
Codonation

Xome Interview Experience | Set 2 (On Campus- Software Developer)

Long Coding (2 hours)

- Designing a traffic mgmt system.
- You were assigned a person from the company who would aid you with any doubts and clarifications. He would also regularly come and ask how far you have progressed. The emphasis was on the use of oops concepts, proper design of classes, interfaces and abstraction. The solution needn't be complicated. It could just be simple but meaningful.

Of the 32 students 9 were selected for the interviews. I was one among them.

Interview

1. Find the sum of all nodes greater than the given node's value and store in the node in a BST?

(Note: this had to be done for all nodes in the BST)

2. Given two arrays find number that is present in array2 but not in array1.

3. Sort 0's,1's in an array.

4. Sort 0's,1's,2's in an array.

5. 8 identical balls puzzle.

I did well but the reason I got rejected was that the guy who got selected had done the coding in notepad during long coding while I had used Netbeans IDE. So that gave him an edge. Tough luck I guess.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Xome

Xome interview experience for software developer

Round-1:(1:15 min)

Basic questions on runtime polymorphism and static polymorphism

Multiple inheritance in java how can we implement using interfaces.

Connect all the nodes that are at the same level.

Implement stack such that middle element must be implemented in constant time.

Round 2:(1 hr)

Your app uses a 3rd party video player. The VP has the functionalities – play, pause, seek, close. On close, the VP component makes a callback to your app. It passes the below params on close –

a) total length of the video in seconds

b) array of VideoPart objects, where each VideoPart {startTime; endTime;}. VideoPart denotes continuous part of the video that was watched without any disturbance due to pause or seek. Sequence of VP objects in the array, is the same sequence as he watched the video parts.

60, [{0, 60}]

60, [{0, 30}, {30, 60}]

return a int value(0, 1) denoting the user has watched the entire video or not.

Round-3:(1:15min)

Removing duplicates in a given sorted array

Removing all nodes in a given bst.

Group reversal in a linked list.

Round-4(1:15min)

How can we sum at each level ..discussed on various of dfs and bfs approaches

Round-5(1:05min)

Given a binary tree..and node value.print the nearest leaf node for the node with given key.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Xome

Factset Interview Experience | Set 8 (On-Campus)

Hello guys, recently FactSet visited our college for campus recruitment. I Would like to thank GeeksforGeeks team for such an amazing platform. It helped me a lot during my preparation. Hope it might help you too :-). Following is my interview experience.

Round 1 -(pen-paper coding round-1:30hr) :

Around 150 students appeared for the first round out of which 35 were shortlisted. It consist of 3 coding questions(50 MARKS), all of them were compulsory.pseudo code was allowed too.

1>.Concatenate the given n strings to make a single string such that on combining two strings the last character of first string should be same as the first character of next string.(25 marks)

For example:

Input: ab2c,h23f2,c4dsh

Output: ab2cc4dshh23f2

2>.Print the covered and uncovered nodes of binary search tree.covered nodes are boundary elements of tree whereas rest are the uncovered elements.
(order of printing is not important).(15 marks)

3>.Find the next smallest palindrome number.(10 marks)

For example:

i/p: 1221

o/p: 1331

NOTE: APPROACH MUST BE EFFICIENT IN TERMS OF TIME AND SPACE COMPLEXITY TO QUALIFY FOR THE NEXT ROUND.

Round 2(Technical Interview-1 hr):

It Was quite easy.IF You are good with the data structures and algorithm,You can easily crack it.

1>.I was asked to search element in a rowwise and columnwise sorted matrix.since i was already knowing the solution, I asked him if should I answer him all the approaches (with increasing time complexity)

or the best one. He told me to give the best approach and write code for it.I coded it :-). Further he kept asking many modified versions for the same problem.

2> Given a file,consisting of positive integers only.find the first non repeating element.I approached "hashing". He agreed and applied the constraint on same problem for not having enough space.

I answered him using bitmap.He was quite impressed.

3>. Assume a finite stream of integers .The range of integers will be strictly between 1 to 16.Any number can occur any number of times.Again you don't have enough memory. You are allowed to use only 2 byte space.Task is to print the integers which are present in the stream in sorted form.

hint: 2 bytes leads to 16 bits.Hence we can use each bit to mark the presence of each element.Remember the range of elements is 0 to 15.It sounds easy

4>. Find the two elements in an array with sum equal to k.I answered him easily. He further extended the question to four elements.Approach must be efficient.

Finally i was told to write the code.

Round 3(Technical Interview-2):I felt this round was difficult as compared to previous one as it lasted for 2 hrs 15 min.It was hectic too :p

1>. Firstly, Interviewer asked "tell me about yourself". He discussed on one of my project (based on machine learning) for around 30 min.Then He asked me about ms office and its

justification feature.He was very straight forward ,just gave the input output pattern and asked to code.

INPUT: DCCBKJGRIBCNIDKF	OUTPUT:DCCB KJG RIB NI DK F
DSBHFB	D S BH F B
DJG	D J G
JDSFKJKJKDKJJKDFNFF	JDSFKJKJKDKJJKDFNFF

HINT:At first glance, I was completely blank. However,I answered him by assuming input paragraph as 2D matrix and traversing it from right upper corner of matrix keeping the trace of spaces and moving the characters towards right if required ,for each row.

Finally he agreed and asked to minimize number of spaces between characters for the above justification.Did it quickly

2>. You are given continuous stream of ages of employee.your task is to divide employees acc. to their ages in two different groups.your manager may ask you to calculate cumulative sum(avg) of each group at any instant of time.Task Is to answer the manager.Note that no age will be repeated again in the continuous stream.

CONSTRAINT: 1>. The number of employees in the first group can either be equal to or one more greater than the second group.

2>. Following property should be maintained.

INPUT	FIRST GROUP	SECOND GROUP	CUMULATIVE SUM OF FIRST
	GRP FOLLOWED BY SECOND		

1	1	0	1.0
2	1	2	1.2
8	1,2	8	1.5,8
4	1,2	4,8	1.5,6
6	1,2,4	6,8	3.5,7
		so....on	

HINT: USE HEAP.TRY TO MAINTAIN MAX HEAP FOR FIRST GRP AND MIN HEAP FOR THE SECOND.:)

3>. This time interviewer told me, I am completely satisfied with your performance and next question is just for his own fun :p.you are given a sequence of red and green bricks.cost of painting one brick is one unit.constraint was – almost 1 turn is allowed in the sequence.you have to find the minimum cost to paint the given sequence of brick.Exp. time complexity o(n) and space complexity o(1).

INPUT SEQUENCE	OUTPUT(in unit)
RRRRRR	0(RRRRRR)
RRRGGR	1(RRRRRG)
RGGRRG	2(GGGRRR)

HINT: almost 1 turn refers to sequence of R followed by sequence of G(RRGGG)i.e 1 turn or G followed by R(GGRRR) or RRRR(0 Turn) or (GGGG).

**I Was told to wait for the results and there will be no HR ROUND for me.:).

ALL THE BEST GUYS

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Factset

Factset Interview Experience | Set 7 (On-Campus)

Recently, Factset came in our college for campus drive. The complete process took 2 days.

1st Round

It was a pen & paper round where we were asked to write 3 codes:

- Concatenate the given n strings to make a single string such that on combining two strings the last character of first string should be same as the first char of next string.

For example:

Input: ab2c.h23f2.c4dsh
Output: ab2cc4dshh23f2

- Print the covered and uncovered nodes of binary search tree.(similar to bounded and unbounded elements of binary tree.)
- Find the next palindrome number.

For example:

I/p: 206
O/p: 212

2nd ROUND: (technical interview)

I was asked to write code for 2 questions on strings. 1st was to convert a string ie. aabbcccx to a2b3c2x1 without using extra space. I did it in O(n).

He gave me another question of converting the string ie. “axxbbyybc” to “ac”. ie. eliminate the two consecutive characters every time they appear in a string. I did it again in O(n) time complexity after a few hints using three pointers.

He was quite impressed and sent me to next interviewer.

3rd ROUND: (technical interview)

He discussed my projects and asked me to explain some of the algorithms that I used in my projects. After that the actual interview began. He asked me questions related to the concepts of:

- OOPs, difference between c and c++,
- Normalisation in DBMS and then gave me some SQL queries on groupby and having clauses.
- He gave me a standard question to write a code for finding LCS
- Next question was to find the largest palindrome using only delete and swap operation. i.e. for a string “abac”, longest possible palindrome is “aba” or “aca”.

4th ROUND: (HR interview)

He asked me which technologies have I used so far. He started with normal questions like tell me about yourself, why you want to join factset, why are you doing m.tech, what are your further plans etc. Then he said that nowadays people are preferring PSUs over private companies, and then asked so what's my take on that. Then finally he asked whether I'll be comfortable in south places like Hyderabad and Bangalore.

Finally they announced the results and selected 11 people from our college. I was one of them

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GATE CS Corner Company Wise Coding Practice

Factset Interview Experience | Set 6 (On-Campus)

FactSet came to our college for recruitment. We were called for PPT. After the PPT was over, everyone was impressed with the presentation. Following the PPT there was a written coding test. After that there were 2 technical interviews and 1 hr interview.

Round 1:

This was pen and paper round and there were three questions of 25 marks, 15 marks and 10 marks.

- Given two array x and y. Find no of pairs (x,y) where $xy > yx$ in $O(m\log m + n\log n)$.

Solution- I tried to solve this problem by sorting the y array and then for every x find least element in y which is greater than element in x. However, I missed the exceptional cases. Like $x=1$ and others.

- Given an array x, the numbers are in AP. However one term is missing. Find number which is missing in $O(\log n)$.

Solution- I modified the binary search little bit and solved this problem. I found the common difference first. Then I used divide and conquer technique to solve this problem, like find the middle element using average of first and last elements. Then check whether the middle element which we got by averaging is same as the AP term by calculating using first term+ diff*index.

- Given a tree. Print the bounded elements.

Solution- Mark the elements in the left hand side boundary, mark the elements in right hand side boundary. Then print the non-leaf nodes and non-marked nodes.

Round 2:

This was the first technical interview. This interview only included simple questions. I was asked to use inorder traversal to print elements of a BST in reverse sorted order. I first told him that we can swap positions of left subtree traversal and right subtree traversal, but he told me that left subtree will be traversed before right subtree. So, I told him to push the elements in the stack then pop the elements. He asked to implement the stack. I started to write my program but he told me that I can't use function return values to store the stack top. So he gave me hints to use static variable. I used it and solved this.

Round 3:

This was the 2nd technical interview. He first asked me to explain the codes which I wrote in the first round. After this the real interview started. This interview has three questions. All were coding questions.

- First question was a dynamic programming problem in which a matrix was given with some values. We have to start from (0,0) and end at (m,n) with the condition that we can only move forward and downward. Although I never came across this problem, I solved this within a minute or two. He was impressed by the solution.

- I was asked to implement a stack in which we can find min element in $O(1)$ at the same time push and pop operation should take $O(1)$. Initially I tried to implement stack using array but later he hinted me to use linked lists. After this hint, I was able to solve this problem.

- Last problem was to find duplicate occurrences in a telephone directory in minimum time complexity. I suggested a method to use hashing. He agreed that it'll solve the problem but he wanted me to solve it using another method. He gave me hints that graphs can be helpful here, but I told him clearly that I'm not very comfortable with graphs after some time he ended the interview. I asked him what could be the solution with graphs. I was surprised to know that he even didn't have the solution and he told me that he have to think to find solution.

He was quite impressed by me after the interview.

Round 4:

It was basically HR round. I took only 10-15 mins. He asked me about my internship and project. My interests and about me. Why I want to join this company etc.

I liked this company very much because the package was very good and 2 appraisals in a year. The perks and benefits employee get in this company.

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GATE CS Corner Company Wise Coding Practice

Factset Interview Experience | Set 5 (On-Campus)

This test consisted of only one section i.e. PROGRAMMING, and it was pen-paper based.

Time allotted: 1.00 hrs.

Very good thing about the test was that they were checking only the logic that was used to solve the question.

During the PPT round they told us that you guys do not need to write the complete code ,just write the required function and in case if you you want to give an explanation to the solution ,you can write.

Q1.(25 points)Given two arrays X and Y,you have to find the total number of pairs such that $x^y > y^x$ where x belongs to X and y belongs to Y.(already given on geeks for geeks).(solve it correctly).

Q2.(15 points)Given an arithmetic progression ,which has one of its number missing ,you have to find the number in $O(\log N)$ time complexity.

(I did not read the question clearly ...so i did not note the logN solution ,although I was knowing the solution ...)

Q3.(10 points)Given a binary tree you have to print all the elements which are not boundary elements.(st. forwrd)

(As they did not mentioned about the space and time complexity,I used a Map and solved the question)

No restriction on the languages used.But they specifically mentioned that we should not write the code in Python or any scripting language.

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GATE CS Corner Company Wise Coding Practice

Factset Interview Experience | Set 4 (On-Campus)

Factset came to our college for full time hiring for Software Engineer post. There were 4 rounds – 1st was written (pen&paper). Emphasis was on logic rather than full working code, pseudo codes were also allowed. Questions were –

1. To find the mean of k consecutive numbers in an array of size n equal to m
2. To generate all cyclic permutations (clockwise) of a string. If input is abc output should be cab,bca.
3. To find all nodes that are bounded by boundary traversal. If input tree is

```
5
/\ 
10 3
/\ /\
2 0 1 6
/ \ /
1 8 7
output will be 0 1
```

There were two technical PI's then. In 1st tech pi there were two interviewers. They were pretty calm and patient.

1. To check whether a string is palindrome or not. Discussed all methods and then asked to code for the same if the string is not in an array but in a linked list.
2. To find the pivot element in a rotated array in logn
3. Discussions on hash tables. Sum of two nos equal to a given k.
4. Next highest palindrome
5. Next highest no using same digits
6. Power function in logn

2nd pi was a bit challenging

1. Implement bidirectional hash map using other DS
2. Activity selection problem with a lot constraints(don't remember properly). Finally I told him apply recursion and then backtrack in case of a conflict.

Last round was HR. In my case my HR was taken during the first round only. Finally they made an offer to 14 of us

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GATE CS Corner Company Wise Coding Practice

Factset Interview Experience | Set 3 (On-Campus)

Hello Everyone recently I had an interview with factset, it was overall a nice experience for me.

First Round (Written Round):

This was Pen and Paper coding round, 3 questions were asked and 90 min were there to solve them.

- 1) Maximum sum rectangle in 2-D matrix.
- 2) Find number of pairs such that $x^y > y^x$.
- 3) Find path with given sum in a binary tree.

Second Round (Face to Face):

- 1) Check if a binary tree is BST or not (Code required).
- 2) Matrix Multiplication – First I got confused in this but finally I coded it.
- 3) Find nth node from last in Linked List.
- 4) Small discussion on project.

Third Round (Face to Face):

- 1) Tell me about yourself.
- 2) Difference between pointer to constant and constant pointer.
- 3) static keyword.
- 4) Height of Binary Tree without recursion.
- 5) Median in a running stream of integers.

Fourth Round (HR):

This was final HR round, interviewer was very nice he was listening my answers properly this was the best HR I had faced.

- 1) Tell me about yourself.
- 2) Asked about my family background – He felt good to hear that I live in a joint family.
- 3) Why you will didn't joined your father business.
- 4) Any reallocation problem.
- 5) Are you comfortable in working on new Technologies.

and many HR questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Factset

Factset Interview Experience |Set2 (On-Campus)

I find GeeksforGeeks very helpful! It helped me prepare for my FactSet interview. Here's my interview experience for FactSet which came to my college for recruitment.

Round 1 (Written Coding) :

3 coding questions. (Pen and Paper mode Examination)

-print the element that is common in all rows of a matrix

Eg: 2 3 7

1 7 8 ans is 7.

6 9 7

-Find median of two sorted arrays. $O(\log M + \log N)$

-Zig-zag traversal of binary tree.

Round 2(technical interview):

2 interviewers were there and the interview went on for about 60 minutes. Questions they asked were mainly programming and puzzles and some of the operating system and database concepts.

-Given an array and a number k, find all pairs of numbers in array whose sum is least near to k.

-How to find intersecting point of two linked lists. (most efficient way).

-Design Database schema for supermarket (Reliance Fresh) taking care of all the factors about details of discounts and offers to customers.

-puzzle as follows:

0 1 2 3 4 5 6 7 8 9

Fill numbers in the above blank from 0-9 such that number X coming over any number Y means Y should be in X blanks. For eg: if 2 comes over 0 means 0 should be present in 2 blanks.

Round 3 (technical interview + HR):

2 interviewers and 60 minute duration. It was mixture of both technical and HR round.

-Tell me about yourself?

-Given a matrix of characters and a string, find the first index of string in matrix. String can be horizontally,vertically, diagonally present in any direction.

Eg: std i h string: dog

d t o j w
ans: (0,2)
c x g p q

-Questions on hashing and combining it with networks. How to implement it and its uses in various fields.

-Brief discussion of project done in internship and questions over it.

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Interview Experiences
Factset

Factset Interview Experience (On-Campus)

I find GeeksforGeeks very helpful! It helped me prepare for my FactSet interview. Here's my interview experience for FactSet which came to my college for recruitment.

Round 1 (Written Coding) :

3 coding questions.

-printing the boundary elements of binary elements

-finding the smallest square submatrix out of a given square matrix whose sum is equal to given sum

-finding a subsequence of given size whose sum is equal to given sum

Round 2 (technical interview):

2 interviewers were there and the interview went on for about 30 minutes. Questions they asked were-

-designing a stack which performs the getmin() function in $O(1)$ time without using any extra space

- finding the median of two sorted arrays of same size
- how did you solve the submatrix problem of Round 1

Round 3(technical interview):

2 interviewers and 30 minute duration.

- checking if a number is power of 2 using only bit-wise operators
- finding the intersection point of two linked lists
- finding the product of all the elements of the array except for the current element

Round 4(HR interview):

the interview went for about 30 minutes. The questions asked were-

- your strengths
- a puzzle: if a rectangular paper is given, how many ways are there to divide it equally in 2 parts
- another puzzle: if a rectangular section is cut from the rectangle, how many ways are there to divide it equally in 2 parts such that section gets divided equally too.
- another puzzle: if 9 identical items are given of which 1 is heavy, how many minimum numbers of comparisons you need to find the

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Factset

Oxygen Wallet Interview Experience | Set 3 (On- Campus)

First Round:

Online coding test on Cocubes.com

Q1. Given two integers m and n write the function to compute the number of bit changes required to convert one to another

Example: m=14
n=15 answer : 1
Explanation : 24 : 11000
15: 01111

Q2.linked list multiplication: Given two linked list that represents polynomial
return a pointer to linked list which is multiplication of the two.

```
struct node
{
    int coeff;
    int exp;
    struct node*next;
};

example: 4x(2)-2x+1
          x-1 answer : 4x(3)-6x(2)+3x-1
```

Second Round:(F2F interview)

Project related questions

oops concepts in detail.

Linked list what are its advantages.

and some basic general questions on data structures.

Third Round:(With the CTO)

He asked oops concepts

output related questions on virtual functions

what are virtual constructors

what are B trees can you code for that

what are avl trees? why they are used? He said he will ask me to write code for avl tree later but at the end he forgot :p

what are design patterns?

what are singleton classes? is there any keyword to define a singleton class in c

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Oxygen Wallet

Oxygen Wallet Interview Experience | Set 2 (On- Campus)

Written Round

There was 2 coding questions conducted on cocubes platform

Time limit- 40 mins

1. Find the sum of all non- repeated elements in an array
2. Find the maximum subarray sum such that no two elements are adjacent

First technical Interview (1 hour):

1. Tell me about Yourself
2. Which language are you comfortable with?
3. Difference between C & C++
4. Difference between const char *p & char const *p?
5. Why don't we normally write $i = i+1$?
6. Real Life implementation of C++
7. Implement two stack in an array . Interviewer was confused about questions so he doesn't ask about it
8. Why main() is required ? will program compile if we don't use main()?
9. What is macro? how is it different from Constants. What is enum? why do we use it & what are the alternatives
10. Asked some questions about projects
11. What is API? We got into a detailed discussion about API's.
12. Suppose when user chooses OxygenWallet as an option for a payment Using BookmyShow what actually happens in backend. Explain whole process and consider all methods which could possibly happen during process (Hint – he was trying to get into API's)
13. What is the next number ? (2,2,4,12,48,_____)
14. Puzzle – <http://math.stackexchange.com/questions/5595/taking-seats-on-a-plane>

second Round (HR Round)

It was simple chit chat with HR . General Questions about Tell me about you and your family, your academic background, your goal etc. What Salary are you expecting from the company?

If we offer you salary less than expectation would you want to proceed further? (I said No :P)

Would you like to do Summer internship in our organization (Stipend was ridiculously less than anyone can expect) and do you have any questions for me?

This round went for 20 mins and HR was not kind of cool.

Third Round (Telephonic Technical Interview)

It was Final Round with the CTO of the company and we have to call CTO via our cell phones ☺

1. Which Language do you prefer most?
2. What is Virtual Destructor in C++?
3. What is Virtual Constructor in C++?
4. What is Smart Pointers in C++?
5. What is Copy constructor in C++ and write syntax to declare and to call it?
6. Write syntax for Assignment for two objects in C++?
7. What is Virtual Copy Constructor in C++?
8. What is Inline functions and is there any inline virtual functions how do they work?
9. What do you mean by Implicit and Explicit (He wanted to know their Hindi meaning)
10. What is Operator Overloading and which operators can't be overloaded in C++ & JAVA.
11. What is B-Tree?
12. What is B+Tree? And its uses. I told him about Indexing in database.
13. Do you have any questions for me (I told him to ask me some coding questions which is my strong point so he asked couple of "coding" questions)
14. Do you Volatile Keyword in JAVA (I said No)
15. Do you transient Keyword in JAVA (I said No & then He said Your interview is Over).

However, I would like to thank GeeksforGeeks for providing me study material . ?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Oxygen Wallet

Oxygen Wallet Interview Experience | Set 1 (On-Campus)

It was 3 round process.

Round 1:

There were 2 online coding question on cocubes.

1. Find the sum of all non repeating element.
2. Find the next smallest number of a given number by swapping the digits of the number.

<http://www.geeksforgeeks.org/find-next-greater-number-set-digits/>

Round 2:

1. Tell me about yourself.
2. Explain the previous round questions.
3. I was asked some question from their presentation and from my resume.

Round 3 with CTO:

1. What is trie, write code to create and implement a dictionary.
2. Write code to create function `getWord(string str)`, which take string as input and return list of all the words starting with string present in our dictionary .eg str="mo" so it should return everything starting with "mo"

3. What is final, finally, finalize in java.
4. What is third normal form.
5. What is denormalization.
6. What is left outer join, right outer join, inner join etc.
7. What is virtual and pure virtual function in c++.
8. What is copy constructor.
9. what is b-tree
- 10 .diff b/w get post
11. http and https

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Oxigen Wallet

Opera Interview Experience | Set 4 (On Campus-Software Engineer)

Opera Solutions visited our college for full time Software Engineer profile. Selection process was consist of 6 rounds. Total 138 students were there for written round.

Round 1 (Written Test):

It was a 1 hour pen paper round. It had 40 multiple choice questions from

- Quantitative Aptitude
- Networking
- DBMS
- C / C++ output
- Data Structures.

After First round 20 students were selected for F2F interview.

Round 2 (Technical – 20 mins):

Interviewer started with asking me about myself and my family background then he asked me about my preffered location for job , i told him Delhi NCR so he then asked me why Delhi NCR ? He had my written test answer sheet with him , i had left few Dbms question due to limited time in written test , he told me to solve them. Then he asked me about my area of interests (Data Structures , OOPS , Operating System) and he asked me , " What do you mean by loosely coupled?" i explained it well , he was satisfied.

Then he asked me , " Do you have any question for me ?". I asked him about work culture in opera solutions , what are the career opportunities and what technologies opera use.

I was selected for next round.

Round 3 (Technical – 1 hr 10 mins):

This round was totally awesome , enjoyed it a lot (☺).

In my resume i had mentioned about **content writing on GeeksforGeeks**. Interviewer was excited about my articles , he asked me to tell about my articles published on GeeksforGeeks. He checked my all articles and appreciated me for it. After that he gave me 2 coding question and 1 system designing question to solve.

1.) You are given a array and at each index you have to store multiplication of all element except that element on index , you can not use any kind of division method ? (
Product Array Puzzle)

I explained him O(n) approach.

2.) You are given a unsorted array and you have to find 4 elements such that they hold $a^3 + b^3 = c^3 + d^3$ property ?

First i explained him worst $O(n^4)$ approach , he asked me to optimized it then i explained him $O(n^2)$ approach using hashing , he was completely satisfied.

3.) He gave me a scenario and asked me to design a system for it , it was about 40 mins discussion.

He said , " There are some islands initially they are not connected with each other. Now if i give a query like Build(A,B) this means that you have to make a bridge from island A to island B. First , i will give you multiple queries to build bridges then if i give you query like Bridge(A,B) then you have to tell the newest bridge among all the paths from A to B ? ".

It was a graph based problem so i explained him DFS approach for this problem , he was satisfied with my approach . Further he added some more questions in it , i explained those as well.

He asked me do you have any question for me ? In PPT they told us about one of the product opera working for ,so i asked him about the algorithm used for that product. He explained me core part of that product.

Round 4 (Technical – 1 hr 15 mins):

Interviewer asked me about myself and about my strengths. Then he asked me about my project. My project was basically an android chat application , i explained him my complete project and he asked me that how my chat application is different from others ? i had used socket programming in my project soo he asked some networking based questions also.

1.) Explain OSI model ?

2.) How socket programming works , it's phases ?

3.) How we handle multiple clients in chat application ?

4.) How whatsapp works ?

5.) **Egg Dropping puzzle**.

6.) He drawn a weighted graph on paper and asked me to explain TSP (**travelling Salesman Problem**) for given graph and write algorithm for it ?

7.) He explained me about Big Bazar shopping and told me to create all necessary tables to maintain database and write a query for given statement , " You have to give 1 perfume free to all the customers who have purchased atleast 5 beauty products since last 1 month. List out all such customers".

This big bazaar scenario question took time but finally i made it , he was happy with it .

After 4th round there were only 4 students in next technical round.

Round 5 (Technical – 20 mins):

Interviewer started with my project and asked it's features.then he asked ,

- 1.) How sockets are created ?
- 2.) What is use of server in Whatsapp chatting ?
- 3.) What are your strong and weak subjects ?
- 4.) What is abstract class and give real life example ?
- 5.) What is difference between **Binary search tree** and **Ternary search tree** , their complexity analysis ?
- 6.) Write a query to find 3rd lowest salary ?
- 7.) He gave me 1 quantitative aptitude question to solve.

I had answered all the questions. After 5th round 3 students were selected for H.R round.

Round 6 (H.R round – 15 mins):

- 1.) Tell me about yourself ?
- 2.) What your father and mother do ?
- 3.) how many siblings do yo have and what they are doing ?
- 4.) Why you choose M.C.A ?
- 5.) Why you want to join opera solutions ?

After H.R round all 3 student were selected for Full time Role and i am very glad that i am one of them .

It was fantastic experience , it was first interview of my life , in first round i was little bit nervous but after that i was enjoying each and every bit of my interview with full confidence.

Tips :

- 1.) Questions asked will be very easy at most of the times. Whatever be the question you were asked just take your time, share your approaches with your interviewers.They will certainly help you out.
- 2.) Be confident,calm and composed.
- 3.) Be original , don't try to be fake.
- 4.) Enjoy your moment.
- 5.) Work hard and study smart.

All the best

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Opera

Opera Interview Experience | Set 3 (IOG division)

First round was a test that had 35 questions having negative marks.

The test consisted of aptitude, technical questions in dbms, os, [programming questions](#), and there were 5 questions based on a case study which was about a language that was unlike sql and had different queries and operator styles, also different arguments. They had to be understood then and there in the paper and related questions were to be answered.

I got shortlisted and was called for the interview.

Round 1

The panel consisted of two people. They first asked me to introduce myself. I mentioned my strengths being Theory of Computation, Operating systems, Data structures, DBMS.

1. So they first asked me where was I comfortable in OS. I said, they could ask me anything from os. So the first person in the panel asked me about semaphores and why dont we use a simple lock instead of semaphores. I could answer that easily.
2. Next they moved onto TOC and asked me how would we design a compiler for a text file that has about 50 lines of simple text. I answered that too explaining the various phases of designing a compiler.
3. The other person in the panel then asked me a puzzle. It was the two trains in tunnel and a bird puzzle. Opera solutions expects you to be good at puzzles, considering the fact that they asked me puzzles in 2 consecutive rounds and even my friends were asked puzzles very often, at least two per round in the start.
4. They asked me a simple DS question. They said that there is a database of aadhar numbers and corresponding names of the 1.2 billion population of india. What data structure would i use to store the database? I said a hash map and then they asked me why not an array. So we discussed a bit about complexities then.
5. The next was a simple database question. They gave me two tables which had a common column. They asked me about how could i get the common entries in both the tables. I replied that we could join them both using that common column. They asked me to show the output of the join as well. I could do that easily. Then they asked me how could i get all the entries of the first table and only the common entries of the second table. I suggested them the left outer join which was good enough as per their satisfaction.
6. Then they were looking at my resume and asked me to write the pseudo code for one of the projects which i made in my 1st year.

I cleared my round 1 and was subsequently called for the second round.

Round 2

1. They asked me a [puzzle](#) for which i knew the answer. It was a triangle and three balls probability puzzle.
2. Then they asked me another puzzle which i couldn't solve at all. I even took time but couldn't get it. The question was that there was a function that returns a zero

- 40% of the times and returns one the rest 60% of the times. I was asked to modify the function so that it will return 0 and 1 with equal probability (i.e 50% each).
3. They asked me a simple **probability** question. The probability of getting 3 heads and a tail in 4 tosses of a coin.
 4. Then they asked me data structures questions. The first was linked lists. They asked me to get to the second last node of the linked list in a single pass. This was easy.
 5. The next was using the same logic, could i **detect a loop in a linked list**. I said yes and explained them the logic. Floyd algo.
 6. Then there were two questions on **arrays**. They asked me to place the odd numbers first and the even numbers just after the odd ones from a given unsorted array of numbers and then sort the odd and even ones among themselves. I started off with using extra memory. They asked me to do it in place. So i thought for a while and told them that i will traverse the array and the first even number found by me would be replaced by the first odd number starting from the end of the array. And then when both the odd ones and even ones are in place, I would sort them. This was a convincing answer for them.
 7. Another question on arrays they asked. They gave me an array and asked me to print the product of the rest of the numbers other than the number at that index. The product was to be printed at that index only and the array of products had to be returned. The constraint they gave me was that i cannot use division of any sort and i could use any amount of space. I gave them the answer in the first go itself and they were convinced.
- They asked me if i had any questions. I asked them about the job profile and got a clear idea what i would do in the company.

I cleared the 2nd round as well and was called for the 3rd round.

Round 3

Opera solutions is a company all related to data and giving optimized solutions to clients. Since i wasn't very much tested in DBMS and SQL till now, i was expecting that this was the round where i would be put to test in these areas.

1. The panel in round 3 was looking at my resume and they asked if i had any experience in databases. I mentioned the projects of android apps which i had made which had a great use of databases and tables. The discussion of this project went for long and they just wanted to know how good i was with databases and joining tables and manipulating real time data. They were quite convinced with my answers. Then they asked if i had more experience in this area, to which i replied yes and talked about another project of mine.
- Then they asked me about my internship and it was a general discussion about the experience with professionals
2. Then they asked me if i knew **python** or did shell scripting, to which i replied no and said that i am well equipped with java, both core and advanced including hibernate framework. So they were fine with it.
 3. Then they asked me if i was good with concepts of oops. To which i said yes they could ask me. So they asked me about inheritance and how it is implemented in java. Differences between interface and abstract class.

That was all in round 3 which i cleared and went for my 4th round with the Asst Vice President of Opera solutions

Round 4

1. It was a general discussion with avp sir about what i was expecting from opera and about my technical rather than software development. He made it clear to me that opera is not the place for software developers . So I convinced him in the right way that i was a complete fit for the profile of a project analyst at opera. He was convinced and after a good discussion for about 10 mins, he asked me a random question of dbms.
2. He asked me for a m:m relationship, how many tables are required, to which i promptly replied
3. He cross questioned me and tried to test my confidence. But I stucked with my answer and firmly asserted that it was 3. He was fine with it and I was good to go.

I finally managed to get through all the rounds and got the job offer from opera.

The important topics opera expects you to be good at are your technical skills especially **DS, algorithms, DBMS and SQL**, operating systems, case studies that test your analytical skills and puzzles and problem solving approaches.

Thank you **GeeksforGeeks** for helping me get through the interview. I had prepared many of the questions asked in the interview from **GeeksforGeeks** website and it helped me a lot.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Opera

Opera Interview Experience | Set 2 (On-Campus For Software Engineer)

WRITTEN TEST:

Consists of questions on:

- A) General computer Science:- os, networking,library functions in c/c++ etc.
- B) Data structures and Algorithms(Highest wattage)
- C) Sq l Queries on join and aggregate functions, simple queries ,questions on 1 NF,2 NF,3 NF, BCNF and loss less and lossy join
Cutoff-(65-70% questions)

39 students were selected for interview from 300 students.

INTERVIEW ROUND:

FIRST:

A detailed discussion on my project.

After that interview questions were as follows:-

- A) Design a login page of the system with two constraints:
1) If the person is not login and if he gets the url of the main page after the login,den he should be redirected to the login page.

2) There is a condition in the login if you login from one system and you do not log out and try to log in into another system then a error message should be generated that "you are already login/logout and then log in again".

B)Design a control+Z operation in the text editor.

C)Design a new operation in the stack get max,such that you get the maximum element from the stack ,but the order of the stack should be maintained.

D)Circular link list implementation

E)Palindrome in the String,(pay special attention to all the test cases).

F)How to compare two max heaps with only one element differ(basically time complexity).

G)Design a module for your college such that each student mention her preferences of language and each company coming for campus placement give its preferences,design a module to compare the preferences of the company and students, on basis of that allow that student to sit for placement(basically the data structure used in this)

H) Shuffle the character array in the least possible steps and the most simplest ways(I was'nt able to solve this question).

I)If you are at the starting node of the circular linked list and you have to find out it's tail node not in O(n) time.The time complexity should be O(log n) and space complexity O(1).

SECOND ROUND:

(Interview with the director of the company)

Main focus was on java and core java concepts.

Questions from the operating system basically deadlocks.

****NOTE: Opera solutions expects the student should be well versed with all the concepts especially java and DBMS(sq l queries).**

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
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Interview Experience Opera Solutions, Noida

Day 1: Technical MCQ questions (90 mins)

Round 1 consists of three sections-

general question- contains questions on unix commands, languages etc.

programming- questions on errors, output questions

dbms- last section was sql queries, joins, rdbms, and dbms related

Around 40 students were selected for next day process from 300.

Day 2:

Round 1: F2F Technical interview (approx 40-45 min)

1. Introduce yourself
2. Tell me something about your project- Detailed discussion about the project can be done here
3. A sorted array is given of 0's, 1's and 2's. Write an optimized code for calculating number of 1's.
4. Tower of hanoi puzzle
5. You are given an array with numbers 1 to 99. A number is missing. Write the code to find the number.
6. Complexity question (i dont remember the exact question)
7. Given two ropes that burns in 60 min. You need to calculate 45 min using those ropes
8. SQL queries on Joins
9. Given 7 balls of equal weight. One ball was heavy/Light weight among them. How many minimum number of times u need to weigh the balls to find that heavy/light weight ball.
10. Given an array, unsorted , only one number is there in the array that is occurring twice, Write an optimized code to find that element in the array.
11. Diff between ArrayList and linkedlist.

Round 2- F2F Technical Interview (1 hr approx)

1. Introduce yourself
2. Discussion about the project. Your role in the project.
3. Given two arrays (v large arrays) and values are in unsorted order. Find intersection of two arrays. (write optimized code).
4. Given BST. Find all the nodes in the range n1 and n2(given). write the code
5. Given BST, Write the code to convert the root data with the sum of its child nodes data. write the code.
6. What are Interfaces. Give examples. (Not typical animal, dog example).
7. What is polymorphism. Give examples.
8. Given an infinite series of numbers. at any position you can be stopped. you need to find the 10th smallest number till that point. (constraints you cannot store the numbers in an array)- I suggested to use min heap but couldn't do the code for it.
9. Code to check valid parenthesis given an expression.
10. If in previous question last parenthesis is removed still its a valid expression. Make changes in your code to accommodate that change, Eg. (2+3 is a valid expression without last braces.

At last they ask if you have any questions.

Round 3- Interview with the Director

1. Introduce yourself.
2. Questions on resume.
3. Hobbies.
4. What is your area of Interest- i said Web development (mistake) ☺
5. Questions related to Area of interest

What are web services

What are web apps

What are clients, servers.

How web browsers work.

Diff between writing WWW and not writing WWW in URL makes.

What is Response design

what happens when you type URL.

I was eliminated after this round

Round 4- F2F Technical

1. Again Introduce yourself.
2. What is your area of interest.

My friends told their interest in OOps concept. so they were asked questions on that.

What are OOps concept.

What is encapsulation.

Diff between data hiding and Abstraction. Give examples.

Interfaces and abstract classes

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Interview Experiences
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Teradata Interview Experience | Set 5 (On Campus)

For Round 1 students were selected based on CGPA and Entrance Examination's ranks

Round 1: Offline Objective Test

Total 20 Questions with time limit of 40 mins.

The paper consisted questions from DS, OS, C++, C.

Level of the paper was medium.

It was Primarily based on Concepts of all these subjects, if you have Depth knowledge of all concepts then you won't find any question difficult at all.

Round 2: Technical Interview (1.5 hour)

Q1. If you were interviewer and I was interviewee what would you ask ?

I told him a few questions and then he asked me to answer them all (thankfully I have seen it coming from the beginning it self ☺ , so I had already told him only the questions in which I was Confident)

Q2. You are Given a Binary Tree and you have to update it such that for each node Difference between height of its left subtree and height of its right subtree is maximum.

Q3. He changed his last Question when he realized I am doing it right way and said now you only need to return the data at node in the tree which has the highest difference between height of its left subtree and height of its right subtree.

Q4. Given a Square Matrix print its values in Spiral Form.

<http://www.geeksforgeeks.org/print-a-given-matrix-in-spiral-form/>

Round 3: Technical Interview (1 hour)

Q1. Reverse a Stack.

He kept asking me to give more and more possible solution until I gave him every possible solution I could think of.

Q.2 String Permutation.

I gave him Iterative Solution Which he then asked to improve so I gave him Recursive solution.

He then asked some OS questions (As I have mentioned it at first place in my Area of Interest)

Discussion on Projects.

In both technical interviews there were many small theoretical questions which I don't think I need to include here.

Round 3: HR (Telephonic) (30 mints)

1. Tell me about yourself, your family and your education.
2. What are your hobbies?
3. What else do you like except programming?
4. What is it that you want in your job?
5. How long do you plan to work if us if selected?

6. Why Teradata?
7. What do you know about Teradata?
8. Did you ever encountered any person who you feel was hard to handle? how did you handled him?
9. What makes you different from other candidates?
10. Tell me 3 reasons why should we hire you.
11. Do you consider yourself as hard worker or smart worker?
12. What do you think who are important in a company hard workers or smart workers?
13. What is the primary thing that you are looking for in the job money or job profile?

Tips:

Keep your concepts very clear.

Be confident.

Be honest

Try to be as interactive with interviewers as possible.

Be clear how you will proceed before you start writing your code.

Check your code for errors and bugs before you present it to the interviewer, its never a good idea to present a code with errors & bugs because they will always find the smallest bugs in your code.

Before you start writing code, tell them what are all the possible solutions and which one you are choosing and why.

Thank You geeksforgeeks.org.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Teradata

Teradata Interview Experience | Set 4 (On Campus – Feature Testing Role)

Written Test

- MCQs on Coding (predict the output, identify the error, ...), Operating System

Technical round -1

- If a linked list has a cycle
- OOP concept, with examples
- Prime number, fib series, reverse str (iterative, recursive)
- Some SQL Queries.
- ACID properties of DB Transactions.
- Some puzzles and logic questions.

Technical round – 2

- structures:

```
struct t{
    int a;
    int b;
};

t c[100] = {{1,2},{3,4},{5,6}....};
t *tmp = (t*) &c[1].b;
tmp->a=100;
tmp->b=200;
```

Answer and explaining what values changes

- Binary search – input array is either ascending or descending, detect and do search! (give most optimized sol possible).
- 240 students marks list is given. Generate the report and marks count of students

0-10 – ,

11-20

.

.

.

91-100

Give a solution, use any DS if you want, give optimize solution!

-> After i gave answer with hashing, hash function calculates upper bound and lower bound, so extended question on that for bin size 0-5.

- Given a list of names of unknown length, store them dynamically in contiguous locations
- Talk about different databases in market (as I had mention of MongoDB in my Internship Experience)
- Talk about NoSQL Database and SQL databases (since I gave him few reasons why I found MongoDB more cool over SQL database over some areas).
- Questions on Internship Experience, schooling, College. Casual one on one talk about their company, asked me if I've any questions to ask.

HR Round – 1

HR Round – 2

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Teradata

Teradata Interview Experience | Set 3 (On-Campus)

Recently, TeraData visited our campus for both developer and test developer profiles. I have been shortlisted for developer profile.

Round 1 : Written Test

- 20 MCQs in a time limit of 40 mins. Questions were from DS, OS, Computer Organisation, Recursion, C.
- The level of the questions was **medium to hard**. Conceptual clarity is a must to crack this round. Only 4 candidates were shortlisted for the second round.

Round 2 : Technical Round:2 hours

Purely based on C,data structures and algorithms

1. Given two sorted strings,of length m+n and n, merge them into a single sorted string of length m+n in place.
2. Run length encoding. Take care of the worst case when each character is repeated only once.
3. Mirror of a binary tree
4. Design a stack data structure that allows push(key) pop() and max() in O(1). Efficient usage of space was required.
5. Search in a row and column sorted matrix
6. Root to leaf path equal to the given sum.
7. Given an array find it an element that can be represented as subset sum of the array.
8. Declaration of some complex function pointers.

Round 3 : Technical 2 hours

```
char* s1="first"
char* s2="Second"
char* a1=s1;
char* a2=s2;
call and define a procedure swap( ?,? ) where ?=any type of parameter u want
such that s1="first",s2="Second",a1="Second",a2="first"
```

Lots of discussion on **stack area segment**,heap segment, and read only area segments.

2. Recursive and iterative fibonacci series with exact complexities. Find nth fibonacci number . Fortunately gave it in O(1)
3. char str1[100] = "First"
char str2[100] = "Second"; What does the following code do

```
while (*str++ = *str2++);
str1[20] = 'X';
printf("%s", str1);
```
4. MultiThreading concepts
5. Semaphore programming
6. User level and kernel level threads
7. What is NULL. Internal details of the same

Third Round: HR + Technical : 1 hour

1. Write code that returns true if a matrix is a subset of another matrix
2. Tell me about yourself
3. Why should i hire you?
4. What if you dont get to learn new things from the company?
5. What do you expect from the company?
6. Discussion on projects
7. Discussion on articles that I have contributed on for **GeeksforGeeks**.

Final Round: HR:1 hour

1. Introduce yourself
2. How did you overcome some serious problem of yours?
3. Why did you work as an intern for a company that paid you nothing!
4. What is so unique about you?
5. What is your plan after 2 years from now.
6. Would you want to work for 24hrs a day for the company.
7. What do you do in your free time?
8. Any questions you want to ask?

Tips:

- Be honest. Don't fake anything.
- Enjoy the interaction to the maximum.
- Interviewers are really friendly and help you to get the solution
- Don't give up while solving a problem. Before writing the code, get all the details without any ambiguity from the interviewer
- Interviews are quite time taking. Be energetic and patient enough for the entire process.
- Last but not the least, work hard and prepare well before.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Teradata

Teradata Interview Experience | Set 2

Total of 5 rounds

1. Written – 20 questions (15 from C,DS and algorithms and 5 form OS),

2. Technical Interview – No Introduction directly they have take into technical discussion.

- a. write a function which will return the length of the string. the function should return only length(i.e interger), and u should not use any varialbles(i used recursion).
- b. revrse a string without using any variable, here you can use your previous defined ur own length function.
- c. some basic questions on pointers, errors, outputs.

3. Technical Interview – Completely on Data structures and algorithms

- a. merge two linked lists with O(n) complexity.
- b. BST
- c. A general scenario and we should design it.
- d. Some basic DS and algos questions like search algos and sorting algos, pros and cons of recursion and iteration.

4. Technical interview – Again on C

- a. Hashing questions,
- b. anagrams problem with efficient algorithm.
- c. arranging the array in ascending order where array condtais random 1's and 0's. (some how I impressed the interviewer with different approches).

5. HR round – Only on package discussion

Interviewers are awesome, they will help u to the maximum. Interact with them, ask them some clues, thats it as simple as that.

last but not least thanks GeekforGeeks without u guys I would not have made it far.

keep rocking guys

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Teradata

Teradata Interview Experience | Set 1 (On-Campus for Developer Profile)

Recently Teradata visited in our campus for recruitment

First Round: Time: – 40 Minutes

There was total 20 objective questions from C/C++ and OS. Questions was Easy and medium level. Those who have solve 16+ correct questions cracked first round. There is no –ve Marking.

Second Round (Technical): Time: – 1:20 Hours

1. There is a character Array of 20 size. You have to set 102 bit.
Ex – char arr[20] . set 102 bit
2. Reverse Link list. <http://www.geeksforgeeks.org/write-a-function-to-reverse-the-nodes-of-a-linked-list/>
3. Discussions about my project.
4. Lots of discussions about internal working of malloc() and free(). What will be happens in following statements?

```
int *arr = malloc(100*sizeof(int));
free(arr+1);
```

5. What is Balance BST? What is difference between BST and Balance BST?
- What is difference between RB Tree and AVL Tree?
- Write code for Insertion, Deletion and Traversal of AVL Tree.
6. What is Hashing? Different Hashing techniques. How hashing is implemented internally in C++ STL Library.
7. What is Breath first Search (BFS)? Write Code?Also what is real time Application of BFS?
8. What is compiler? Difference between compiler and interpreter How compiler works internally?
9. Find Bug in the following code with reasons.

```
a. int n = 5;
int arr[n] = {1,2,3,4,5};
printf("%d", arr[4]);
b. int n;
scanf("%d",&n);
int arr[n];
```

10. How OS Allocated Memory in RAM when your C program loaded into RAM
- Discussion of Different memory Segments. What is difference between Stack and heap Segments?

<http://www.geeksforgeeks.org/memory-layout-of-c-program/>

Third Round (Technical): Time:-1:20 Hours

1. Write code to check Two Tree are Identical or Not (Optimize code).

<http://www.geeksforgeeks.org/write-c-code-to-determine-if-two-trees-are-identical/>

2. Find Height of the tree.

<http://www.geeksforgeeks.org/write-a-c-program-to-find-the-maximum-depth-or-height-of-a-tree/>

3. What is dequeue? What is the difference between dequeue, circular queue, priority queue and normal queue? Real time applications of all the different types of queues.

4. What is "strstr" functions? Write your own "strstr" functions.I have given Naïve Solutions. Then he tell me to optimize it. Then I give KMP Algorithm. He satisfies with my answer and he tell that write the code for KMP Algorithm.

5. What is the output of the following statements?

```
char str[] = "";
char *ptr = NULL;
sizeof(str) ____ ? sizeof(ptr) ____ ?
sizeof(*str) ____ ? sizeof(*ptr) ____ ?
strlen(str) ____ ? strlen(ptr) ____ ?
*str ____ ? *ptr ____ ?
```

6. Discussions about my projects.

7. Find the first non-repeating character in the given string (optimize code). <http://www.geeksforgeeks.org/given-a-string-find-its-first-non-repeating-character/>

8. Find largest continuous sum sub-array. <http://www.geeksforgeeks.org/largest-sum-contiguous-subarray/>

9. Check the given tree is BST tree or not? <http://www.geeksforgeeks.org/a-program-to-check-if-a-binary-tree-is-bst-or-not/>

10. Level Order traversal in spiral order

<http://www.geeksforgeeks.org/level-order-traversal-in-spiral-form/>

Fourth Round (HR + Technical): Time: – 30 Minutes

1. Tell me about yourself?
2. What you known about Teradata?
3. After next 10 years where you see yourself in the company?
4. Which subject you like most?
5. Anything you have done apart from your academic syllabus?
6. Why you want to join Teradata?
7. Discussion about my project.
8. Between you and your friend if you have to select one whom you will be select?

Fifth Round (Telephonic HR Round): Time: – 30 Minutes

1. Tell me about yourself.
2. Tell something about Teradata.
3. What is your strength and why it is your strength?
4. What was the last time when you had broken the rule?
5. Why I should hire you?

Tips

1. Your basic concepts should be good.
2. Good knowledge about C, C++ and OS.
3. Be honest on front of interviewers.
4. Be confidence.
5. Average knowledge of all the data structure and algorithm.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Teradata

Infinera Interview Experience | Set 2 (For Layer 3 Routing/Singnalng Developer)

I interviewed at Infinera for the post of Layer 3 Routing/Signaling Developer.

OVER ALL PROCESS:

First there was a written round. Then we had three technical, one managerial and one HR rounds. Interview questions were good, and the interviewers were very friendly and easy to move with.

Background: I had worked with timers, and IPv6. Hence most technical questions were relevant to my resume. Almost all questions were very basic and easily answerable. Apart from resume, they expected only multi-threading, socket programming and C++ knowledge.

ROUND 1: WRITTEN :

In the written round, there were 30 questions. The questions were grouped into easy and hard sections. Easy section had one mark for each question. Hard section 3 marks for a question. No negative marking.

We had some **few puzzles**.

1. What is the angle between the minute and hour hand when time is 03.15 ?
2. That poison in 1000 bottles and to be found in one hour problem from <http://geeksquiz.com/puzzle-19-poison-and-rat/>
3. You have to measure from 1kg to 40kg. What is the least number of weights you should use?
4. A man climbs uphill in 12 hours from 06am to 06pm , in variable speed and resting at various points. He rests for the night, and starts descending again in variable speeds and resting at various points. He took 12 hours, same 06 am to 06pm of next day to get downhill.What is the probability that he was at the same place at the same time of the day during his uphill and downhill travel?

Then we had questions related to vectors, copy constructors, exception handling and overloading in C++. Most of the technical questions were

"Find the output of the following code snippet" format. Few that I remember are :

5. what is the output of (0xA0A0A0A >> 1)
6. Dead child process ID is returned by which socket function?
- 7.

```
int i,j,k,c;
for(i = 1; i < 31; i++)
    for(j = 1; j < 31; j++)
        for(k = 1; k < 31; k++)
            if((i+j+k) % 3 ==0)
                c++;
printf("%d",c);
```

8.

```
int i = 7;
int *p = &i;
if (fork())
{ *p = *p + 10; printf("%d", i); }
else { wait(); printf("%d", i); }
```

Then **some networking related questions** were there. They were all easy to answer. So, I remember only these two.

9. What is the class of Multicast Address in IPv4?

10. What does ARP do?

Then **First Technical Round** started with Tell me about your self. It was a white board discussion. Then the following questions :

1. What is Secure Neighbor Discovery? How it works?
2. Explain in detail how a packet from external, does ARP and reaches the relevant host.
3. How does DHCP work?
4. What is raw socket?
5. What are the various scopes in IPv6 and explain where they are employed.
6. Write the TCP socket client server architecture and explain it. (I drew it)
7. What is little and big endian. Give examples of little and big endian machines. Why did all agree on having big endian as network byte order?

Then I was asked to write a program to find the endianess of a machine. I told the logic. But the interviewer gave me a paper and a pen and asked me to write a full

program that will work if typed in system.

Then he asked program to find the size of a structure without using sizeof () operator. Again had to write full program for it. I wrote it as a function, interviewer said that he had expected it to be written as a macro, but accepted my answer.

Then another program to implement my own version memcpy using void pointers. I made mistakes by accessing void pointer directly. The interviewer was kind enough to guide me by pointing out my mistakes.

Then **Second Technical Round** was there. Again started with my project experience. The interviewer was very soft spoken and prompted whenever I was trying to bring out something. And also, he gave enough time to think and answer.

8. How do you implement timer in C coding?
9. Who manages timers? Kernel or User?
10. What is the maximum number of timers that a process can have?
11. What is PIM sparse mode? Explain in detail.
12. What is the use of a Rendez-vous point? What does its function?
13. What are mutex and semaphores? What is the difference between them?
14. What is multi-threading?
15. Have you written any tools in scripting?
16. What is a tree? Why is that data structure used? Applications.
17. Compare a tree and a Linked List.

Then **Third Technical Round** was very short and it was like rapid fire round to judge your technical strength.

18. What is routing? Give some examples of routing protocol.
19. What is STL? Give me some applications of it.
20. What is timer? How do you implement it?
21. How is one clock tick measured in kernel?
22. What is difference between IPv4 and IPv6?
23. Give me some applications of raw socket.
24. What is new in DHCP6, that was not there in DHCP.
25. Difference between TCP and UDP.
26. What is dynamic casting?
27. When is memory allocated from stack and heap?
28. How does Valgrind work to find memory leaks? Tell with respect to internal working of Valgrind.

Finally he asked "Are you a hard worker?" I was really shocked with this question, as I had not heard it before.

Then finally **managerial round**. It was also like an extension of technical round.

29. How does IPv6 resolve address? Is it resolved in kernel space or user space?
30. What is a routing table? What data structure will you use for it?
31. Tell me about your rapport with your TL. How do you interact with your tech lead?
32. What is your ambition? Where do you see yourself in 5,10,15 years?
33. You got into software as a fresher. What were your expectations vs reality? Are you disappointed with anything?
34. How many lines of code have you written in your career so far?
35. What was your ambition when you were in school?
36. Why did you do Engineering?
37. Has any of your code/fix that you gave come back to you as faulty/with issues?

Then finally I had HR round. It was very short.

38. Why are you looking for job change?
39. How long have you been looking for job change?
40. Do you have any plans for doing higher studies?
41. What is your expected CTC?
42. Do you have any references within our company?

Those who attended with me also said they had questions from their resumes only and relevant to their profiles. Some of their questions are :

1. How do you find and eliminate loops in linked lists?
2. Given n, what is the probability that n is a twin prime?
3. What are function pointers? Applications of function pointers.
4. Scheduling mechanisms in Linux. How it happens?

5. How does RTOS work? And related questions.
6. Write a program to reverse words in an input sentence.
7. Another program to print the sentence in reverse order with words intact, after removing spaces.

CONCLUSION:

Finally the interview process was over. It started at 10am and went on till 04 pm. All the interviewers were very easy to move with and friendly. They provided tea/biscuits/water bottle throughout the day and also gave us all lunch. They also provided paper and pen for the tests, but the interviews were mainly whiteboard for me. The office was in MG road, and it was easy to find via Google Maps itself.

In all rounds, I went ahead and asked the interviewer for feedback and about their expectations. They were approachable and answered affably. I asked them questions, at the end of interview to interact with them. I asked them if I had made any mistakes during the interview, and tried to learn from them. Being my first ever interview, it was not like a very scary process for me.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Infinera

Interview experience at “Infinera Bangalore India”

Interview process took 3 to 4 hours and it was done.

It was good interview.

It was on Java, Data structures and algorithm.

1st round was written round

Given a square image write a code to rotate this image by 90 degree.

2nd round

Questions on Java Threading, what is static synchronization and normal synchronization on method.

Gave one problem and asked to solve that

I have been given with library called add.jar, which does addition job. This jar has many other methods too. All these methods are used at various places in our applications. This library has exposed some interfaces to client.

If I want to print the time taken by all the methods used in my application.

How can we do that??

3rd round

Explain how Collections.synchronizedMap() method works.

Write some Restfull apis for telephone functionality

and some questions on my project.

4th round

Director took the interview.

Simple behavioural questions and some java questions.

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Thanks and Regards

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Infinera

Salesfoce Interview Experience |Set 2 (On-Campus For SDE)

Recently salesforce visited our campus and took the following rounds for the final selection.

Round 1:

Written aptitude round containing basic questions on C and C++ programming. The questions were easy.

Around 10 students were selected for second round.

Round 2(Online coding at ideone.com):

1. Write a program to find the number of valid parenthesis in a given expression.

For eg:

((()) contains 3 valid parenthesis and hj()(i()) contain 2 valid parenthesis.

I solved it using stack.

2. Write a program to print the output solution for the rat so that he can reach his hole assuming that there is a unique path possible.(1 represents that path is possible and 0 means that path is not possible).

input :

```
(1,0,0,0)
(1,1,0,1)
(0,1,1,1)
(0,0,0,1)
```

Output:

```
(1,0,0,0)
(1,1,0,0)
(0,1,1,1)
(0,0,0,1)
```

It was a simple question and solved it using two nested for loops.

Around 6 students were selected after this round.

Round 3(Technical):

He asked me two tough questions:

1. You are given an integer . You have to print all the possible valid parenthesis for this integer.

For eg for n=2, we have o/p= ()() .(().etc

I solved it using this approach. I first print all the possible permutations for a string possible using that integer and then finally check if it is a valid parenthesis, then print it.

2. Find the angle between hour and minute hand when time is 3:15 assuming an analog clock.

I was not selected after this round but I want to thank GeeksforGeeks for helping me in this interview.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Salesforce

Salesforce Interview Experience | Set 1 (For SDE-1)

I have recently attended an interview with Salesforce Hyderabad, for SDE-I position. There are 5 rounds in total, all are technical.

I. Programming Round:

1. Find the diameter of a binary tree. Here the diameter is maximum number of nodes possible in the tree, formed by two leaf nodes.
It can pass through the root or need not be.

2. Rotate an m by m matrix by 90 degrees.

```
i/p: {[1, 2, 3, 4],
       {5, 6, 7, 8},
       {9, 10, 11, 12},
       {13, 14, 15, 16}}
o/p: {[1, 5, 9, 13],
       {2, 6, 10, 14},
       {3, 7, 11, 15},
       {4, 8, 12, 16}}
```

3. Given an array containing positive and negative numbers, find all the sub arrays in it, whose sum is equal to zero.

Solution: Maintain hashmap and insert the sum till now for every element and its index position → HashMap

For each element, check the following 3 cases:

- a) whether the element is "zero" => start and end indices both are "current index"
- b) whether the sum is "zero" => start index is 0 and end index is "current index"
- c) whether the sum is already present => start index is "map.get(sum)+1", end index is "current index"

II. Technical Round 1:

1. Given a time in hours and minutes, find the angle between hours and minutes pointers in analog clock.

2. Given two arrays of equal size. First Array represents the arrival timings of trains and second array represents the departure timings of the same trains.

Now with the above two arrays data, give the number of platforms required to accommodate the trains.

3. Given an array containing integers, in which the elements are repeated multiple times.

Now sort the array wrt the frequency of numbers.

```
eg: i/p: 2, 4, 5, 2, 1, 9, 3, 2, 2, 5, 1, 5
    o/p: 2, 2, 2, 2, 5, 5, 1, 1, 4, 3, 9
```

4. Write code for Deadlock in Multi Threading.

III. Technical Round 2:

Given a url containing the domain name and product id, like: www.amazon.in/pid=1234

By passing this url to utility functions, you can get all information about it.

getProductName(url) → Gives you the product name

getProductPrice(url) → Gives you the price of the product

getRelatedProducts(url) → Other products related to the current product, in which also user might be interested.

Now given a product url, print the information about it completely, including all its related products.

What is the data structure that you will consider to represent the above product data and write class structure for the same.

IV. Presentation Round:

A technical topic will be given and you have to speak on it in front of a group of 5-6 people. You will be given 1 hour of time to prepare, a system with internet.

You can present the topic either on board or with ppt also.

The aim of this round is to check the candidates learning capability on a new topic, his presentation skills.

The topic given to me is "Apache Flink"

Since I got mixed response for this round, they conducted another technical round.

V. Technical Round 3:

1. Design an LRU(Least Recently Used) Cache.

What is Cache and define LRU Cache?

What data structure do you use and what is the time complexity?

Solution: Take one hashmap and linked list

HashMap contains the key as data and value as its address in the linked list

Linked list will maintain the elements in their usage order, with the last used item at the start of the list.

This way the least recently used is at the end of the list always.

2. Explain about HashMap internal implementation and write code for the same.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Salesforce

Calsoft Interview Experience | Set 1 (On-Campus)

Interview Experience of Calsoft Pune:-

First of all they gave PPT

After that there was an online Exam that was pure coding exam. There were three questions :

It was 2 hours exam.

Questions were fairly easy

Q1: Two strings are given S1 and S2 , replace all character in S1 with '+' those are not there in string S2.

example S1 = MOHIT and S2 = ROHIT, answer = +OHIT.

Q2: An integer array is given, we have to tell in which case it lies, cases are:-

Case 1. array[5] = {4, 5, 6, 7, 8} ie series of natural number.

Case 2. array[5] = {2, 3, 5, 8, 13} ie fibonacci series.

case 3: array[5] = {9, 16, 25, 36, 49} ie square of natural number's.

example: given input array[7] = {10, 11, 12, 13, 14, 15, 16}, ans = case 1.

given input array[5] = {1, 1, 2, 3, 5}, ans = case 2.

given input array[5] = {1, 4, 9, 16, 25}, ans = case 3.

Q3. Given an input array and a integer n, we have two tell in how many ways we can get number n by summing the numbers of given array, we can use a number only once.

example: array[5] = {1,3,7,9,10,11} and n = 12 then

possible cases are 1+11, 9+3. so ans = 2.

I did all the questions and got first name in list.

After this exam they shortlisted 12 candidates for PI, I was.

They called me for PI, Some of the questions they asked were:-

First of all Interviewer saw my online exam's code and ask me about toughness of paper.

Then we discussed about my Projects and Internship for a while after that he asked me:-

What is difference between process and thread.

What happen when we type 'www.google.com'.

What is Kernel.

What is dynamic memory and how to allocate it in C.

What is pass by reference and pass by value in C.

What is static and public variables and methods in java.

Is there any difference between Static and public Variables in java.

and some more...

In between he asked me some HR questions like what are your hobbies, did you go through our website and what did u see there and some more.

Questions were straightforward and requires basic understanding of OS, Networking, C and JAVA.

After first interview they called me and said your first interview gone very well so no need of further round but for some people they have taken HR round as well.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Calsoft

HP R&D Interview Experience | Set 5 (On-Campus)

HP recently visited our campus on for campus recruitments.

Profile offered: R&D engineer.

Location: Bangalore.

Round 1: Online Round 75min.

20 Aptitude Questions,

20 Technical Questions and

8 OOPS Questions(CPP or Java).

Level of Aptitude was a bit tough, and technical questions were also

From among 1100+ students, they shortlisted 38.

Round 2: Technical Interview (45 mins)

Firstly, he asked me why we need different data structures for different applications. Explain with examples.

then he asked me to explain how do we calculate shortest path in a graph (dijkstra's algo) and kruskal's algo.

then he asked me do I know OS and asked about virtual memory, paging, logical to physical address mapping, TLB use.

then he asked questions about how transactions works in DBMS, redo log in oracle, ACID properties. Locking mechanisms in transaction.

sliding window protocol in computer networks.

asked about my projects.

Round 3: Managerial and Technical Round(30 min)

why do u want to work for HP

then he gave me some conditions one of which is, if I m assigned a task by my boss to complete it within a week and I have no idea what is the task about! He asked me what will I do!

he asked me about my areas of interest, then he asked me to write a php program to reverse my name and how to define constant in php.

when a source program is compiled, what happens in background.

Round 4: HR round:

He asked me about my family background,

What are my failures?

What are my weaknesses?

Any plan for higher studies?

The very next day, the results were out and I was selected.

Hope this helps.

All the best!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
HP

HP R&D Interview Experience | Set 4 (R&D Lab Bangalore)

First round:

- 20 Aptitude Questions
- 22 Technical Questions and
- 8 OOPS Questions(CPP or Java).

NO CODING QUESTIONS.

Level of both Aptitude and Technical was tough.

Second Round:TECHNICAL (Lasted about 45 mins-1 hour)

- Storage classes; SET bits in a number; puzzles on tanks; pointers; OSI MODEL; Linked list coding; fork(); vfork(); semaphore; mutex;
- Talk about project and resume'

Third Round:HR (Lasted about 15 mins.)

- Simple , tell me about yourself questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
HP

HP R&D Interview Experience | Set 3 (R&D Lab Bangalore)

I had an interview recently with HP R&D Lab Bangalore for 2+ years Java Developer position. There were 5 rounds. Anyway I sharing my interview experience so other can prepare themselves accordingly.

I got call from HR directly and it was big kind of pool drive for 2-10 years experience candidates.

Round 1 (Technical F2F about 1 hour):

OOPs concepts with real word examples. Collection hierarchy. HashTable vs ConcurrentHashMap. ConcurrentHashMap internal working. What is Fail Fast and Fail Safe. Concept of Load factor in ArrayList. Generics in Java i.e. Raw type, Bounded and Unbounded wild cards. Some puzzles.

Round 2 (Technical F2F about 30 minutes):

When to use Arrays and when to Linked list. How Java equalsIgnoreCase works. Class loaders i.e. Bootstrap, Application and Extension. Difference between nested class and inner class

Round 3 (Technical F2F about 45 minutes):

Write neat and working code for Stack of 20 size having all requires methods i.e. push, pop, isEmpty and all. Given a collection of Employee class object, write code to sort this collection based on salary (I had to write Comparator).

Round 4 (Manager about 30 minutes):

Formal Discussion. Discussed about their project and technologies. Discussed about Agile methodology.

Round 5 (HR about 15 minutes):

Formal Intro. Directly discussed about notice period and expectation.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
HP

HP R&D Interview Experience | Set 2 (On-Campus)

Round 1:

Online test. There were 3 sections

1) Aptitude : 20 Questions in 30 minutes. Level was moderate but needs good practice to even solve 12-15 in 30 mins. No negative marking. Choosing questions to solve is the key here.

Indiabix is good for refreshing your basics.

2) Technical : 22 questions in 30 Mins. Computer Science typical questions basics from CN,OS,DS and Algorithms, DBMS .C /C++ output questions. Easy level.

3) OOP concept test: 8 questions in 15 minutes. Needs to choose either C++ or Java. Easy and typical

Indiabix and Geeksforgeeks are good source to revise.

I cleared this round.

More you score here, better the chances for you. They might make list of interviewees based on marks you get on 1st round.Though it is not official.

Round 2 (Technical Interview) : 30 Mins

He went through my CV thoroughly and started with a project.

We had discussion on my project. Then he asked my favorite subjects.

Few questions about processes and thread, System calls etc.

Then few questions on linked list,few functions.

Optimizing the code and correctness of function.

Round 3(Technical Interview) : 1 hour

Started with projects (Different than already discussed projects), some projects discussions for few few minutes and then he asked about UMLs. I said I am not very good at Software Engineering Concepts .

He then switched to OOPs ,asked which language I chose for test. C++ Classes, constructors and typical C++ questions.

He made me write data structure program as classes and all ADT functions as member functions. He then asked DBMS questions,given a relations, table decomposition, Normal forms etc.

Round 4 (Technical interview) : 1 hours

All others ,except me, had two rounds of technical.No idea why.

Started discussion with projects (Different than already discussed projects), and rigorous discussion on it.

Computer networking, All application layer protocols, and questions were more inclined towards practical applications.

Web services,DNS,How a website request works, How to block website on computers(Linux and Windows) etc. Prepare computer network with practical perspective,if you

are doing it.

Then switched to Python as I mentioned it in resume.

long discussion on python. All fundamentals, programming tricks etc. Most were inclined towards Lists and Dictionaries.

After waiting 2-3 hours, we were given an employment form to fill in. NOT OFFER letter, only employment form. HR round was still pending.

Round 5 : HR(15-20 mins)

More of a discussion round than QA round. All of below questions were more of discussion.

Why did you make this mistake twice, Master degree after bachelor degree? ☺ ☺

What the most challenging situation you have been into?

Why engineering and that too, particular CSE?

Why HP R&D?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
HP

HP R&D Interview Experience (On-Campus, full time)

Recently, HP R&D visited our campus as part of recruitment drive. There was a CGPA cut off of 7.75

Profile offered: R&D engineer.

Location: Bangalore.

Round 1: Online Round 75min.

20 Aptitude Questions,

22 Technical Questions and

8 OOPS Questions(CPP or Java).

NO CODING QUESTIONS.

Level of both Aptitude and Technical was tough.

From among 200+ students, they shortlisted 40.

Round 2: Technical Interview(~ 1 hr)

First of all he asked me to Introduce myself.

Then series of questions,

*) He asked me which was my favorite programming language C/CPP/JAVA. I said C but he started asking questions from Java?, explain Hashing in Java, and said me to design a hash function to store name, value pair for a scenario consisting of petabyte of data.

*) Print Lowest Common Ancestor in BST and its complexity.

*) Calculate no of set bits for a given integer.

*) Few unix questions like, what is system call, what is fork() system call, and relationship among child and parent, what is meant by address space, what resources are shared bw child and parent, what is meant by address space, memory layout of C program.

*) Few C programming questions like, what is meant by de-referencing, indirection operator, and few concepts related to Pointers in C.

*) Few questions on OS like why virtual memory is need, need of paging, concept of semaphores etc.

*) And finally, discussion on Projects mentioned on Resume.

and we were done!

Round 3: Managerial and Technical Round(~30 min)

He started off, with few questions about my background then followed series of questions.

*) First up, he asked me my favorite subject I said Data Structures, Algorithms. He asked me whether I knew OS,

I said scheduling algorithms, he then asked different scheduling algorithms and which is best scheduling algorithms(among those I mentioned) and then he gave me a scenario of single core processor, and asked to explain scheduling on those processors.

Next up,

*) What is meant by file system, explain linux file system, why is it in tree like structure.

*) He then asked me which operating system have I worked on, I said windows primarily and ubuntu 14.04 on virtual box(VMware), he then asked me how virtual OS works on Parent OS, what kind of communication takes place bw them, how are packets from internet passed to virtual OS browsers etc(just a discussion, he was much interested in my approach).

*) And few questions on Interrupts, what are kernel and user Interrupts, different kinds of interrupt levels etc.

*) Difference bw pen-drive and hard-disk in terms of memory access and kinds of memory they use(flash memory,concept of magnetic tape),how does system identify them.

The interviewer was very friendly and helpful, and we spoke in native language(Kannada)?.

Round 4: HR round:

He asked me about my family background, why computer science? and few other normal HR questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences

Aspiring Minds Interview Experience | Set 1 (On Campus)

I was interviewed for the Product Engineer role on campus recently. The process consisted of AMCAT test followed by 2 Tech Interviews and 1 HR round.

Round 1 – MCQs – Logical, Verbal, Computer Science (OS, DBMS, Networks) and 2 coding questions.

Coding Questions (120 mins)

1. Reverse a linked list from the middle.
2. Implement a round robin scheduler and calculate the average waiting time. The inputs were the arrival time, burst time, Time quantum, no of processes.

Then around 15 students were shortlisted for the telephonic interviews and live coding (google docs)

Tech Interview 1 (90 mins)

Thorough discussion about the projects. My major work was on LAMP stack and since the projects were live, so the interviewer kept on grilling me. Questions on the database, challenges faced, control flow were asked. He even asked the implementation of few modules on Google Docs. The interview ended with some questions on OOP concepts.

Tech Interview 2 (45 mins)

This was again a live coding round. Simple coding questions and few SQL queries were asked.

1. Code a general series where the next element is the sum of last k terms.
2. On clicking a node in a tree, all the adjacent edges are turned on. Calculate min of clicks such that all the edges are turned on.
3. SQL queries on Self Join and Inner join
4. Select distinct records without using the DISTINCT keyword. Both using a subquery and without it.
5. Few more SQL queries.

Luckily, I was shortlisted after my tech rounds and did not go through the HR round.

I am thankful to GeeksforGeeks for my preparation.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Aspiring Minds

Bidgely Interview experience | Set 2 (Software Engineer)

Aptitude and Coding Round

This round consisted of 12 questions including 10 general aptitude and 2 coding questions. The aptitude part comprised of questions on speed, distance & time, permutation & combination, probability, and other general mathematical concepts. The 2 coding questions were based on digit sum of a number and decimal to binary conversion of a string. The aptitude questions were multiple choice type with a marking of +2 and -1. I could solve 7 aptitude and 1 coding question after which i was selected for the interviews.

Interview Round 1

The interviews took place at Bidgely's office which is located at the outer ring road near Bellandur. This round started off with the customary question: " Tell me about yourself ? ". I introduced myself to the interviewer and told him about the various academic projects i undertook.

- He took specific interest in my DBMS project which I thoroughly explained to him using an E-R diagram.
- Further, this round was mostly about data structures, specially trees.
- I was asked few simple concepts such as DFS, BFS, tree traversals and their respective pseudo codes.
- There were questions on conversion for pre-order to post-order given the inorder, level order traversal of a tree using a queue.
- The last question for the round was on the Dijkstra's algorithm and its modification.

Interview Round 2

The level of difficulty of questions increased in this round.

- The first question that the interviewer asked me was to divide a given array into 3 variable stacks and the generalize the code for 'n' stacks. I used n+1 arrays, one for keeping the track of empty places in the array (array coloring), and the rest 'n' for keeping a track for previous stack tops.
- Next question was to store a tree in a database. Basically, i had to explain him the structure of the database table.

Interview Round 3

This was a short round with just one question: " How do you find the number of unique users visiting a web page within a bracket of one hour ? ". I used queues to count the users and the concept of cookies to keep a track of uniqueness. After this, I was selected for the profile of Software Engineer.

Sources Referred

- www.hackerrank.com
- www.geeksforgeeks.org

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bidgely

Bidgely Interview experience | Set 1 (On-Campus for Internship)

Interview was for both Bangalore and US profile.

Round 1- Online Round 45 min

Part 1-(15 min)

6 objective questions and time is very less.

1-In a leap year, probability to have 53 Saturdays and 53 Sundays.

2-Sum of integers b/w 100 and 1000 divisible by 16.

3-no. of open areas formed outside an ellipse by 12 nonparallel tangents.

4-given 3 sides of quadrilateral, find the fourth side given that quadrilateral formed by joining the midpoints is rectangle.

5-number of permutations of 1,2,3...10 such that any number displaces from its position by almost 1 unit e.g. 2 can come at positions 1, 2 and 3.

Hint- Use Fibonacci

6-Given 10 bags containing infinite no. of coins. One bag contains coins heavier than other 9. Find ratio of the minimum no. of comparisons required to identify the heavier bag in case 1- a digital balance is given & case 2 – Beam balance is given.

Ans is 1:3

Part2-(30 min 2 coding questions)

1-Given a string, count number of all palindromic subarrays.(O(n3) also worked).

2-Given string of comma-separated integers find out smallest no. that can't be formed via subset of integers present in given string.

<http://www.geeksforgeeks.org/find-smallest-value-represented-sum-subset-given-array/>

You have to solve atleast one coding question to go to the next round. It doesn't matter how many MCQs you have solved.

After this round 8 candidates were shortlisted.

Round 2 (Skype)

Asked about projects in detail. Then following questions:

1- You are walking on a road. The probability that a person sitting there sees you in 20 min time is 0.9. What is the probability that he will see you in 5 min time.

2- Given thousands of points lying on a line with some error(some points do not lie on line) find equation of line.

3-Two trains are 100km apart and moving towards each other at a speed of 50 km/h. Now, from train 1 a man starts running at speed of 100km/h, reaches train 2 and then again comes back and goes again and continues till trains collide. Find the distance travelled by the man.

4- An extremely simple question – In least possible comparison, how to check whether a string is palindrome.

5- Print all possible permutations of a string.

Round 3 (Skype)-

only two questions were asked

1. Given 9 balls out of which 1 is lighter than other 8. Find out the minimum number of times you have to use a weighing machine to detect the lighter ball.

2- Data structure used for storing contacts in mobile phone.

After this round I was selected for US profile interview and 2 candidates were selected for Bangalore (one for software engineering and one for Data science).

Round 4(Skype call from US)

1- why you want to join Bidgely.

2-Tell about any software you have made.

I had worked on a project of software engineering course. So he asked about it in-depth.

3- Some questions regarding my Internship at the end of 2nd year.

4-Given an integer n, print square of all integers from 1 to n ($1^2, 2^2, \dots, n^2$). At architecture level multiplication is an exorbitant process so do something else .

Then after this question he went through my CV and asked some questions about my academic achievements for ex. I have secured international rank 1 in IOS(International Olympiad of Science), so asked in which class, the organisation and some other relevant questions.

All thanks to geeksforgeeks for helping me with my preparation.

It really enhances your thought process.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bidgely

Mahindra Comviva Interview Experience | Set 4 (On-Campus)

The placement process was as follows

1) **Online Coding Test** on HackerEarth consisting of 3 questions which were relatively easy once you could understand the question language on be completed in 80 minutes. 44 students were shortlisted after the 1st round.

2) **Online Test consisting of 4 sections** : quant, logical, analytic and technical questions. Each section consisted of 25 questions(total 100) to be done in 100 minutes. 17

students were shortlisted after this round. The questions were easy with simple logic.

3) Technical Interviews : There was a panel of 3 people (1 Hr and 2 Technical). Each of us was called one by one for the technical interview. As I entered the room, the interviewer greeted me and asked for my resume. He asked me to give a brief introduction of me and asked my questions on the projects I had done on Web Development. Then he asked me what subjects have I learnt so far.

He covered almost all the subjects be it Data-Structures, Algorithms, Computer Networks, DBMS, Operating System. He asked me to explain OSI model and its layers. After he was satisfied with my answer, he asked me what is normalization, anomalies, types and normal forms. He then asked me how I rated myself in C/C++. After I told him, he asked me what are dangling pointers and how to remove this error. He gave me a simple string manipulation question and asked me the time and space complexity of it.

Five were shortlisted after the technical round and I was one of them.

4) HR round : HR greeted me and asked me questions about my resume, discussed my projects and asked me what was my contribution in the projects, what were the pressures I faced during the projects. He asked me about my attitude, how would I work in an hypothetical environment of long working hours, about my religious beliefs, family. He asked my few puzzles as well. He also asked me whether I am okay with relocation or not.

At last, 3 were selected and I was one of them.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Mahindra Comviva

Mahindra Comviva Interview Experience | Set 3 (On-Campus)

Recently Mahindra Comviva visited our campus for hiring students for the profile of "Product Development Engineer". It was a 2-day long process.

DAY 1:

Round 1: Online Coding Round

There were 3 questions to be done in 120 minutes on HackerEarth.

Out of a total 150 students (MCA,ECE,CSE students) 80 made it to the next round. Those who could do 2 out of 3 cleared this round.

Round 2: Online Aptitude+Technical Round

This round had 4 sections each consisting of 25 questions. Quantitative, logical reasoning, verbal ability and technical were the 4 sections. 100 minutes was the maximum time allotted for this round. Technical section had mainly questions from C, data structures, Java. Quantitative and logical reasoning were fairly tough. Mettl conducted this round.

28 students were shortlisted after this round.

DAY 2:

Round 3: Technical Interview-1

After the usual "Tell me about yourself?" the interviewer wanted to know about my projects.

(1) My first project was on DBMS.

He asked me to draw ER diagram for the same. Also what all tables I created in implementing it. He asked me how could I improve by minimising the number of tables I had created (he wanted to know about normalisation and foreign key concepts). After 10-15 discussion on the same he asked me about 3NF and BCNF.

Next he asked me to tell him about all kinds of joins. Difference between primary key, candidate key and foreign key.

(2) Second project was on Networking (Socket programming).

He asked me to write down the code for client and server. He wanted it at first to be one way communication and then a 2-way communication program. Next he asked about the client server architecture. Asked about the differences between TCP and UDP. Since I had also mentioned my favourite subject to be Computer Network (along with Operating System) the discussion went on for quite some time. He made me explain all the layers of OSI model.

(3) Next, he asked questions about Operating System.

What is thread? Draw the life cycle of a process. What is a deadlock? Avoidance and prevention of deadlock? What is paging? All the types of paging and their explanation.

What is segmentation?

(4) OOPS and Algorithm

What is Inheritance and write the code implementation of the same? Kinds of inheritance?

Write the code for quicksort. Implement doubly linked list.

This round lasted for around 80-90 minutes.

Round 4: Technical Interview-2

This round was with the team lead engineer. The guy was quite friendly and made you comfortable at first before proceeding to any discussion.

Asked me to explain 3-way handshaking protocol. Asked about deadlock and its prevention and recovery techniques. Asked about the software development life cycle.

Told me to write the code to insert a node with some data in the middle of a double linked list.

This round lasted for just 20-25 minutes.

Round 5: HR Interview

This round had regular questions including your hobbies, strengths, weaknesses, where do you see yourself in 5 years, Why Mahindra Comviva? Why don't you go for higher studies? and some random puzzles.

The round lasted for about 25-30 minutes.

A total of 9 students were selected. (5 from CSE, 3 from MCA, 1 from ECE)

I would like to thank geeksforgeeks for helping me in my placement preparation.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Mahindra Comviva

Mahindra Comviva Interview Experience | Set 2 (On-Campus)

Round 1 (Written Round: AMCAT Test): Online Test Consisted Of 5 Sections. Everyone Got Different Sets.

1. Computer Programming Section (Only Pseudo Code Type Simple Questions)
2. English (Sentences, Paragraphs, Antonyms, Synonyms, Fill In The Blanks, Error Detection & Jumbled Up Sentences)
3. Quantitative Aptitude
4. Analytical & Logical Reasoning
5. Operating Systems, Data Structures & DBMS Section

Total 45 (22 From MCA) Shortlisted In Written Round

Round 2 (Technical Interview 1): F2F Interview

1. Tell me about yourself – **Answered**
2. What is your Area of Interests? I told Java & Data Structures – **Answered**
3. Implement Linked List in Java – **Answered**
4. 'this' pointer in Java – **Answered**
5. Use of 'protected' access modifier in Java – **Answered**
6. What is Byte Code in Java – **Answered**
7. What is JVM – **Answered**
8. Exception Handling in Java – **Answered**
9. Two ways to implement Threads in Java – **Answered**
10. Abstract classes and Interfaces in Java – **Answered**
11. Difference between Overloading Overriding in Java – **Answered**
12. Inheritance in Java. Does Java support multiple Inheritances – **Answered**
13. Is Java a pure Object Oriented Programming language – **Answered**
14. Aggregation & Association in Java – **Answered**
15. Delete a node from the Linked List – **Answered**
16. Insert a node in Linked List – **Answered**
17. How to detect loop in Linked List – **Answered**
18. Reverse a Linked List – **Answered**

3-4 Questions I didn't remember and also I didn't understand these questions in Interview. I directly replied "Sorry Sir! I don't know the answer".

Round 3 (Technical Interview 2): F2F Interview

1. Are you from IGNOU?
2. Then he asks me about my Year Gap.
3. In which programming languages you can write code? I replied C, C++ & Java.
4. Then he asks me to write a program (any program) in C++ without any Syntax Error.
5. This program was the Termination Condition for me. He said that if you write the program without any Syntax Error then you OK, otherwise you OUT.
6. I write "Hello world" program in C++.
7. I wrote the program without any Syntax Error.

Round 4 (HR Round): F2F Interview

1. Only family background related questions.

Finally 24 Placed (13 From MCA + 4 From CSE + 5 From ECE + 2 From IT)

All The Best!!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Mahindra Comviva

Mahindra Comviva Interview Experience | Set 1 (On-Campus)

Recently Mahindra comviva visited our campus for its placement drive.

Round1: Online Aptitude (Quantitative Ability based questions/Technical including C, OS, DBMS, OOPS concepts/English included antonyms, synonyms and Comprehension) round taken by AMCAT.

Note: R.S. Agrawal can be preferred for preparation of this round.

Round 2: 1st Technical round questions:

UNIX/LINUX + DS + OOPS

1. Do you know about Linux/Unix. I said yes. So he said write 10-unix commands.
2. Then he asked me command to see the "version" of your kernel.
3. Command to see the name of your system/kernel/version
4. Write the for loop syntax in SS.
5. Write the if-then-else statement in SS.
6. Implement the string reverse function in C-language.
7. Data structure: Then he gave me a LL based question to delete/remove a node from the middle of a singly Linked List.
8. Then he asked about a few OOPs questions:

What is Polymorphism, over-loading, over-riding ?

Java:

What is Finally class (which should have been final class)

Implement exception-handling

Implement construct destructor in java

C++:

What is Polymorphism.(I answered in the most typical way i.e. by explaining that poly-morphism is composed of 2 words... bla bla blah!!)

What is virtual function?

What is static Binding (I explained him binding first then nailed the question.)

DBMS:

(i)What are DBMS collections?

(ii)After getting answers to the above questions he then said let's see the DBMS part.

So he asked me to create a table by giving the description of the table like

id (numeric, primary key)

name (100 characters long)

dob (date type)

(iii) What is RDBMS (he meant difference bet DBMS & RDBMS)

(iv)Give an example of the two (I gave DBMS as FOXPRO and RDBMS as ORACLE)

Then he asked me to create a table (he meant to modify a pre-existing table) to add the primary key attribute to a column.

I answered this question as:

"MODIFY TABLE CUSTOMER ID AS PRIMARY KEY"

Finally, he said to me that "Okay Akash, it was nice meeting you."

So that was the end of 1st tech round.

Round 3: 2nd Technical round:

I was waiting for the interviewer. He came in and greeted me.

Then he sat next to me and then he asked me to design the "IRCTC's" website.

Design the layout.

Implement "Insert.php"

Implement "Validate.php"

And write 20 unix commands... all in 10 minutes (+2 MINUTES WHEN HE SAW ME STILL BUSY).

That was the end of 2nd tech round.

Round 4: HR round:

This round had only a couple of questions as:

Tell me why do you want to join the IT sector and what do you want?

What is your family background?

Tips:

Apti:

Practice questions from Indiabix, RS agrawal,etc.

Interviews:

Keep patience in yourself and answer only as much it is asked for (keeping your answer short & crisp)

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Mahindra Comviva

National Instruments Interview Experience | Set 5 (On-Campus – Internship)

Round 1(Written):

Eligibility: All circuit branches.

This was a written round consisting of both aptitude and technical questions. There were only 10 questions, 90 minutes duration.

1 question was on time complexity of **searching an unsorted array**.

2 questions were on **recursion**, ie, number of recursive calls.

1 question on analysing given function on string.

1 question was on **probability** (Two hotels, say A and B. Probability of moving from A to B is 2/3, staying at A is 1/3. Probability of moving from B to A and staying at B is 1/2. If they make decisions each hour, and if they were at A at 7:00 pm, what is the probability that they will be at B at 10:00 pm).

If a **set** has elements {1,2,3,4 n}. Then what is the sum of elements of its power set. (Ex: S = {1,2}. Then power set is {},{1},{2},{1,2}). The sum is 6.

If a set has elements {1,2,3,4,5,6,7,8,9,10}. Then how many subsets of 3 elements has no consecutive elements.

1 question was on **designing a DFA for a string** starting with a and ending with c and has at least b in it.

1 question had **machine instructions**. We had to find out minimum number of cycles needed to execute the given set of instructions. (a) If the instructions are executed in the given order. (b) If the instructions are executed in random order.

1 puzzle

In this round they not only see the answer. They also verify how you approached (So, give correct explanation to your answers. You will have ample amount of time.)
32 were shortlisted among 350. I was one among them.

2nd round(Coding round):

Two questions were there. 3 hours duration.

1. Long question, I don't remember fully. I'll just give input/output examples. It was basically on string decoding. If jon2snow3 is there the decoded string will be jonjonsnowjonjonsnowjonjonsnow. Given a string and an integer k we have print the kth character in the decoded string

Input:

jon2snow3

8

Output:

n

2. Given an array and an integer k return the number of contiguous **sub arrays whose sum is divisible by k**.

input format:

n k

input:

4 5

10 0 4 5

output:

4

explanation: {10}, {0}, {10,0}, {5} are the sub arrays with sum divisible by 5.

Remember here also they review each individual's code. I passed all 10 test cases of first questions and 11 test cases of 2nd question (3 cases exceeded the time limit).

One case failed)

8 were shortlisted in this round.

3rd round(Technical + HR interview):

Tell me about yourself.

Then they asked about one of my projects. About the module I had used it's features).

They asked me optimise the code I had written for the first question(I had created the new string as specified in the question) and write code for that.

Given a binary tree, find out the maximum sum path from root to leaf. This problem, but they said tree has only positive integers.This is given [here](#) at GeeksforGeeks. To store the path I had used global array. They asked me alternative to global array, I said passing array as parameter. Then they asked me about disadvantages of using global variables.

Given a list of words. Given three operations find out the minimum steps to reach from source string to destination string. Basically, this is some modification of [this](#) problem. For this question I said I will use graph traversal techniques. So, they started asking about [BFS](#) and [DFS](#), when to use them.

Then they asked if I had any questions. Interviewer was an alumni of our college, who got offer from internship in NI. So, I asked him what was his internship experience. What did he work on. He said he worked on the development of new language for image processing. Then I asked him what he is currently working on. He said he is working on LabView. Then the other interviewer asked if I know about LabView. I said I know, but haven't used it.

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GATE CS Corner Company Wise Coding Practice

Internship
National Instruments

National Instruments Interview Experience | Set 4 (On-Campus)

Round 1: Written Test

Duration: 75 minutes

Around 250 students attended the written test. There were 9 descriptive questions; we have to write the answer on sheet. No negative marking.

3 C language questions: All are finding the output of given code; 1 array based question, 1 linked list and 1 recurrence function.

1 Network question: Finding the number of bytes transferred from source machine to destination machine having 2 intermediate routers which are having different maximum segment size (MSS).A detailed explanation was given how to do fragmentation if MSS is lesser than the size of receiving packet.

2 Recurrence questions: For the given picture, we need to formulate the recurrence equation, and solve it for given input n.

1 Computer architecture question: Count the number of clock cycles required to execute the given instructions with and without reordering. Here also, a detailed procedure was given how to count number of cycles if instruction is dependent of previous instruction and so on.

1 Probability question.

1 Aptitude question: Based on the area of square and circle, we need to find the probability.

All the questions were very easy. Try to score more in this round.

53 students cleared the first round.

Round 2: Programming Round

Duration: 3 hours

Total number of questions: 3

Question 1:

You are given a set of pair of integers (a,b) (a,b>0). The pair represents the floor number of a building which is present in left and right side of the street. Now, count the number of intersecting points if line is drawn between each pair of integers.

Sample input 1:

1 1
2 2
3 4

Output 1:

0

There is no intersection between the pairs (1,1) and (2,2) and (3,4)

Sample input 2:

1 3
2 2
3 4

Output 2:

1

Here, the line between (1,3) will cross the line (2,2). So output is 1 in this case.

Sample input 3:

1 1
2 2
3 3
1 3

Output 3:

3

Here the line between (1,3) will cross the lines (1,1), (2,2) and (3,3). So the number of intersecting points is 3.

Question 2:

Count the number of redundant parenthesis in a given expression.

Sample input 1:

(A+B)

Output 1:

0

Sample input 2:

((A+B))

Output 2:

1

Sample input 3:

(A)+(B)

Output 3:

2

Question 3:

Given a set of words, count minimum number of steps required to convert one word into another word satisfying the following conditions,

1. At any time, we are allowed only to change or insert or remove a single character in the word.

2. The resultant word obtained in step 1 should also be present in the given set of words.

Return -1 if not possible to convert.

Sample input 1:

pit, kate, pat, kit, kat, kite

Convert pit into kite

Output 1:

2

Solution: pit → kit → kite

Another possible solution: pit → pat → kat → kate → kite, this yields number of steps as 4 which is not better than the previous solution as we need minimum steps.

Sample input 2:

pit, kate, pat, kit

Convert pit into kate

Output 1:

-1

Solution: Not possible.

Hint: Construct a graph having each word as a node and draw an edge iff those two words are derivable from each other satisfying the above two conditions. Now, apply shortest path algorithm to find the minimum length to reach from a given word to another word.

6 people cleared this round.

Round 3: Technical Interview

Duration : 2 hours

They were two people in each panel. One guy asked questions while the other was taking notes about how I was giving interview. The following are the questions I faced in interview round.

- How I solved the coding questions in previous round and logic behind that questions. As I didn't solve the third question by using graph approach, I struggled a lot to derive the logic. The interviewer helped much to derive the logic and he gave enough time to think. We spent more than 45 minutes in the third question of previous round as he asked each and every step of the logic starting from construction of graph to BFS algorithm to find the minimum step to reach the destination word.
- Given an array of n integers (n is relatively too high), find k largest elements (k)
- Given a valid binary expression tree, evaluate it and return the result. I am asked to code the logic. I solved this question by using recursive approach. Complexity was also asked for my approach.
- Project details.

Round 4: Technical Interview

Duration : 10 minutes

- Again, questions about my project.
- How will you debug the code?
- What is the maximum time you spent to debug and why?
- Are you having interest in doing internship at NI?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
National Instruments

National Instruments Interview Experience | Set 3 (Programming Test)

There were two questions.

Q 1. Given N and N elements Find the number of distinct sums. For example:

3

1, 2, 3

Possible sums of all subarrays: 1, 2, 3, 3, 5, 6. Return Value: 5 (Distinct sums are: 1, 2, 3, 5, 6)

Q 2. Given a string S, and a matrix M of characters. find if S exist in M or not.

Test case:

abc

3 3

a v f

g b e

c b e

Answer: (0, 0) (1, 1) (2, 0)

All 8 neighbors considered.

Solved 1st with 100% success, and in 2nd 14/16 cases were passing.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
National Instruments
NI

National Instruments Interview Experience | Set 2

Interplanetary trade:

Hober Mallow wants to setup an inter-galactic trade which would allow trade between different planets. Each planet has its own set of currencies in which they trade. As there are too many currencies, Hober decided to declare a set of M currencies (numbered from 1 to M) as the official currencies that can be used to trade between planets. Two planets can trade if and only if they have a common official currency or if there is another planet with which each of these planets share a common official currency. For example, let's say planet A has currencies – 1, 3, 4, planet B has currencies 5, 6 and planet C has 6, 4. It is still possible for planet A and B to trade via planet C (planet A -> C via currency 4 and then planet C ->B via currency 6 and vice versa). This type of trade can be done with more than one planets acting as intermediary as well (i.e. planet X and Y can trade via A, B, C if XA share a common currency, AB share a common currency, BC share a common currency and finally CY share some common currency). Hober observes that even with these rules there are planets which have no official currencies or planet groups which do not share any currency with other planet groups. To enable trade among all the planets he has to implement system of new currency for each of such planets which have no official or common official currencies. Implementing a new currency system costs him 1 platinum unit per planet. You have to help Hober minimize the cost for enabling trade between all the planets.

You will be given N ($2 \leq N \leq 50$) which indicates number of planets that want to be part of the inter-galactic trade. You will be given M ($2 \leq M \leq 50$) which indicates the number of official currency numbered from 1 to M. This will be followed by N lines, each consisting of a number C_i , the number of official currencies supported by planet i, followed by C currencies which are in trade for the ith planet. You have to output the number of platinum units required to enable trade across all planets.

Example Inputs

5 5

1 2

2 2 3

2 3 4

2 4 5

1 5

5 5

0

3 4 1 5

2 3 4

0

1 2

Expected Outputs

0

Planets #1 and #2 can trade through currency 2. Planets #2 and #3 can trade through currency 3. Planets #3 and #4 can trade using 4. Planets #4 and #5 can trade using currency 5. This makes it possible to trade between any two planets via zero or more intermediary planets. Thus there is no need to setup a new currency and hence the cost is 0.

3

Planet #2 and #3 can trade through currency 4, but planets #1, #4 and #5 do not share any currency with one another or with #2 and #3 and hence can not trade with anyone else. One of currencies from planets #2 or #3 can be set up in planets #1, #4 and #5 which would make trade possible among all the planets. As currency will have to be setup on 3 difference planets, the cost is 3.

Example Inputs and Outputs

Testcase Input Output Download Link Run Link(Also saves the code)

1

5 5

1 2

2 2 3

2 3 4

2 4 5

1 5

0

Download Input File Run against code

2
5 5
0
3 4 1 5
2 3 4
0
1 2
3

Download Input File Run against code

Time limit per test case:

2 second(s)

If you have a machine with GCC/G++ and want to work offline, download the template here and submit

Code templates:

C Template: Trade.c

C++ Template: Trade.cpp

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
National Instruments

National Instruments Interview Experience | Set 1 (Written Test)

Hi, Recently i have taken written test from "National Instruments", Please check the following questions.

Question 1

Brand, Coop and Murph are scientists and are conducting n distinct experiments of various difficulties. All three want to do the experiments in the order of the difficulty of the experiment but there's a catch. They are currently in different time dimensions but are connected by one thing – gravity! If at least two of them end up doing the experiment in the same order then due to gravitational anomaly all the experiment will fail.

Now given the number n and a list of difficulties di for each experiment, is there a way to order the experiments such that:

All 3 do the experiments in the order of difficulty from least difficult (denote by a lesser difficulty value) to most difficult.

The order of these experiments should be unique i.e no two scientists can do the experiments in the same order.

Input

1 Question 2)

Skynet has grown to become the dominant force on earth and has almost completely wiped out the human race. Skynet has been building robots ever since it's inception and has been updating it's models every year while making them better. Skynet wants to annihilate humanity completely. It plans to remove one last band of humans lead by John Connor. Skynet thinks it can destroy these humans using only two of it's robots. But Skynet doesn't want to send two robots with the same model number lest John Connor finds out a weakness in that model and easily destroy both of them.

Skynet has at its disposal N robots and to save space Skynet has stored information about pairs of robots belonging to the same model. If it doesn't have any info stored for a particular robot then it is implied that the robot is the only one in that model.

Given these constraints, in how many ways can Skynet pick two robots to destroy John Connor and his rag tag group of humans.

Inputs

N – Total number of robots. Each robot is assigned a number from 0 to N-1

P – Number of pairs for which Skynet has information

This is followed by P pairs. Each pair has two numbers P1 and P2 each where 0

GATE CS Corner Company Wise Coding Practice

Interview Experiences
National Instruments

Why I didn't go for lucrative offers of Ibibo/ZoomCar and decided to go for an entrepreneurial journey in the current Startup I am working for

ZoomCar Interview experience:

Few weeks ago, I got a mail from Zoomcar HR saying that the CTO of the company wanted to have In-person interview with me.I was a bit shocked and confused, Since Zoomcar is now mid-size startup ,having a tech-team of 50+ people.But since the CTO directly called me for the interview so I decided to go and visit him.

First Round with CTO

Duration : 1 hour 30 min

1. General Questions about the key roles which I am playing currently like leading tech team in the current startup i am working for, advising startups and advising students on programming.
2. How I built the Bi-directional syncing architecture in my current startup, then he put some constraints to improve it to make scalable and reliable.
3. How I build the Multi-tenant server architecture in current working startup.

4. We discussed on haproxy,Master-Slave configuration,Replication and redundancy.
5. Basic Questions on Rails architecture and REST .
6. Basic Algo Questions :
 - a.Implement queue using two stacks ,in the most optimized way possible.
 - b.Remove duplicates from linked list .
7. Basic questions from Ruby about block , proc and lambda.

Second Round with Technical Lead

Duration : 1 hour

TL entered into the conference room and went through my resume .

1. He asked me about my Google interview experience.
2. We discussed about my college project Search engine. He asked about the data structure to store index and algorithms involved in building search index , he also asked me about how google stores their index on multiple machines .
3. He asked me how to build a spell correction if there were no dictionary, then he asked me to implement Trie . Finally we discussed on how Google spell correction works , discussion went on bayes theorem and NLP.
4. He also asked me a few more data structures question on hashmap,stacks,Linkedlist,Heap,B-tree etc.
5. We also had a discussion about Zoomcar server-side architecture .
6. He also asked me some advance ruby concepts like metaprogramming , modules , etc

Finally, CTO entered the conference room and asked me about my expectation, since I hadn't prepared my mind to go and crack the interview, so I roughly gave them one BIG number, next day I got a call from HR saying that they are ready to hire me for the same.

BOOM!

IBIBO Interview experience :

All interviews were taken by Tech Head of the product team.

First Round :

1. Which is more secure get or post.
2. Discussion on REST architecture.
3. What are the different dynamic ways to call a function.
4. How modules and Class store in memory.
5. Discussion on meta-programming in ruby.
6. Find the missing and repetition number in an array.
7. Discussion on Bi-directional sync architecture apps and server.

Second Round :

1. Asynchronous function call in ruby.
2. Threads in ruby.
3. Modules and Classes in ruby.
4. Symbol and variable in ruby and python.
5. How Zookeeper works.
6. How to delete nodes in a heap.

Third Round :

1. Closures in javascript.
2. Basic Jquery questions.
3. Single and Multi-column index in mysql
4. How prototype works in javascript.
5. Active Record and Action controller in Rails.
6. Discussion on my college project Search Engine.
7. The Interviewer also told me about work culture at ibibo office .

Fourth Round :

Build a Rails app for authentication of users which consumes Rest api and oauth2 implementation. There were some other constraints also in terms of UI like page should refresh and UI should be attractive etc.

After being interviewed and getting feedbacks from HR of both the companies, I was bit confused whether I should go for these companies or I should work for growing startup , So I had a talk with my founder over drinks that I really wanted to groom myself as an entrepreneur , but if i join any of them , I will grow as a developer.

So my founder gave me an opportunity to groom as co-founder and lead in tech, Operations and represent the company to investors for fund raising.

So I recommend all the students that you should invest early stage of your career working amongst passionate people in a small companies where you will be have more responsibilities and you will be able to prove yourself that will help you in grooming more compare to other big tech companies.

You can know more about me at www.codedoctor.in, Happy Coding

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GATE CS Corner Company Wise Coding Practice

Zoomcar Interview Experience

There were six rounds.

Short Story-

First – online (10 MCQ and 5 coding questions, 90 min)

Second – Algorithms

Third – Technical

Fourth – Data structure and Algorithm

Fifth – Data structure and Algorithm

Sixth – Project, Algorithm and Puzzle.

Long Story-

The **first round was online coding**. It consisted of 10 mcq which were based on data structures, complexities, sql queries, operating system, aptitude, c and c++. It also consisted of 5 coding questions. Out of which two were pretty straight forward, one was medium and other two were tough. I was only able to solve 3 problems and half solved fourth. In one of the problems you had to implement a binary search tree. I don't remember the exact questions, if you read [geeksforgeeks](#) then you can clear this round.

The **second round was telephonic**. I was asked two coding questions. Given a 2 dimensional array in which the rows and columns are sorted find a given element. You can find an O(m+n) solution here [Search in row wise and column wise sorted matrix](#). The other question was given a 2 dimensional array in which the elements are either 'x' or 'o'. Replace all 'o' with 'x' if the top, bottom, right and left elements are 'x'. I did it using two traversals. In first traversal I replaced 'o' which satisfy the constraint with some arbitrary value 'y' and then replaced all 'y' with 'x' in the second traversal. I was asked if I was aware of any version control software's. I said, I knew about git and svn. He asked me to tell the difference between git merge and rebase. He asked me how would you implement your own version control software. I told him I would implement it using MD5 algorithm. I would see if hash values are different and then point accordingly that there have been some changes in the local repository. He did not want me to tell the entire design, he was satisfied with my answer and time was up for the interview.

The **third round was theoretical**. He asked me about system calls, fork, difference between nfa and dfa, rsa algorithm, virtual function, inheritance, polymorphism, inode in unix file structure. He was testing my concepts. You need to know the basics of operating system and theory of computation to ace this interview.

In the **fourth round was mainly data structures and algorithm based**. He asked me to tell the difference between binary search tree and binary tree. Tell the difference between binary tree and heap. How to delete a node in a binary search tree. Given two arrays of same size containing randomly arranged values. You need to rearrange the values such that if the two arrays are a and b then sum of product of corresponding values i.e. $a_1*b_1 + a_2*b_2 + a_3*b_3 + \dots + a_n*b_n$ where a_1, b_1 are the first elements of array a and b respectively of size n. I gave an answer for this question that I will simply sort one array in ascending order and the other array in descending order and do the corresponding operations and it will give me the required result.

I was called onsite for the next rounds.

In the **fifth round which was a f2f round**, there was a discussion about my college projects and intern ship projects. He then moved on to ask again algorithm related questions. [Given a number find the next greatest palindrome](#). Given a ternary search tree how will you insert, find and delete elements. The ternary search tree is implemented in such a fashion that each element has three childs left,middle and right. The left value is less than the parents value, middle value is equal to parents value (middle will be present only in case of duplicate elements) and right value is greater than the parents value. The tree should be height balanced considering middle values.

In the **sixth round which was also a f2f round**, there was a discussion about my projects and whether I had any previous web development experience or not. He asked to tell me what happens when I enter a url in my browser, explain each step in detail. Then asked me [search an element in sorted pivoted array without duplicates](#) and then extended the question to [search an element in sorted pivoted array with duplicates](#). I was asked a puzzle next which was, you have 10 bottles each bottle has 10 tablets. A tablet usually weighs one gram. One of the bottles has tablets weighing 2 grams find the bottle number when you have an weighing machine which tells you the weight you put on it and you can use it only once. I gave him the straight forward answer that I will take 1 tablet from first bottle, 2 tablets from second bottle and 3 from third bottle etc and it would tell me uniquely which bottle has 2 grams weighing tablets. Then he extended the question if there are two such bottles then how can you find them. I was not able to solve this question as the constraint was 10 tablets in each bottle. If this constraint was not present I would have taken 2 from first, 4 from second, 8 from third and then I could uniquely identify the two bottles with different weight tablets.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zoomcar

EXL Analytics Interview Experience | Set 2 (On-Campus)

Company : EXL Data Analytics

profile Offered : Report Analyst (Intern), Business Analyst (Full Time Job)

SELECTION PROCESS

- 1) Shortlist from Resumes: Yes
- 2) Written Test : Online Test (Conducted by third party –"CoCubes", 40 questions, 45 Minutes)
- 3) Two F2F Interview

1st round : Online Test (Conducted on : CoCubes)

Test is divided into three sections (each section has its own cut off)

- a) English: Paragraph Formation (Re-arrangement), Idioms & Phrases, Selecting Words, Completing Statements, Comprehension(Time taking).
 - b) Reasoning: Figure matrix, Pattern Completion, Sitting Arrangement, Venn diagram, Data Sufficiency.
 - c) Aptitude: Time & Work, Problems on Trains, Height & Distance, Ratio Proportion, Alligation or mixture, Percentage, Logarithm, Permutation & Combination, Probability, Data Interpretation (Most Important Topic)
- { To counter the DI problems, Read Directions carefully. Don't get confused in 'change in the value of variable' and 'percentage change in the variable', both are different. Use approximate values during calculations.}

Result : Selected for Interview

2nd round : Technical interview

1) Tell me something about yourself.
2) What differences you found in Kurukshetra and Indore?
3) He asked me about the approaches which I used to counter the DI problems.
4) He asked me about my projects apart from the ones which I mentioned in my resume.
5) Then he asked me to explain my project (mini project) and why I didn't use RDBMS as Database.
6) What is the difference between RDBMS and Graph Database?
7) Why did you prefer this graph database (Neo4j) not any other?
8) He again moved towards my projects and as we already had discussion about my all projects, he asked me to implement one of my project(Online Gaming) in real life, also he told me to write the steps of planning through which I can get maximum participation.
After giving him solutions for this, he modified the situation and ask me to provide him the number of person (approximate) required to implement my planning and how much participation will I get.(he searched the web and told me the population of a city and also told me to do all calculations related to this digits.)
He gave me 3 minutes to solve this problem. After 3 minutes he was happy with the solution provided by me.
9) Then he asked some DBMS questions (Joins, Normalization).
10) He asked me some SQL queries
find the total number of rows which have branch as 'MCA'
Implement left join, right join
is it possible to join two tables without using where clause
11) He asked me about pre-defined functions of sql?
12) Difference Between aggregate functions and scalar functions
13) Asked me to write queries which uses sql functions like UCASE, LEN, AVG, LAST
implement a case insensitive search

Then he asked me 2 puzzles
1) How will you cut an equilateral triangle into 4 equal equilateral triangles. (Easy one)
2) How many squares are there on a chess board?
14) Where do you see yourself after 5 years?
15) At the last he asked me, Do you have any question? To which I replied yes, and asked few questions related to companies clients,
That's all about my technical interview.

3rd round(final round) : HR + Technical)

(F2F interview with the VP)

Tell me something about yourself .

Describe yourself in one line.

He asked about my experience at NITKRR.

He asked why do you want to join this company.

Few questions based on my mini project.

he asked about my favorite languages, I replied C & C++.

Then he asked me to design a class which will have fields related to clients data, implement functions to read input and display formatted output (in tabular form). At the last he told me to do all these in JAVA not in C++ (which was an easy task for me to do).

Then he asked me some questions based on java.

Then he gave me 2 tables & asked me to apply different types of joins over them, after each correct answer he changes the condition of Queries.

Then he asked one puzzle (easy):

1) Given two buckets of 4 liter and 7 liter capacity respectively and you are having unlimited supply of water. Measure 5 Liter of water using these two buckets.

The last and the obvious question from his side was – Any question you want to ask? And then I asked him some questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Ex-Analytics

EXL Analytics Interview Experience | Set 1 (On-Campus)

Hello everyone, Exl Analytics recently visited our college for their campus recruitment. So I would like to share my experience as it might be helpful for your preparation.

1st Round : Online Written Test (on CoCubes)

20 Questions Aptitude (Data interpretation, Numbers, HCF LCM , probability and other common topics from Quant most from Data interpretation)

10 Question from Reasoning like sitting arrangement etc.

10 Questions from Verbal English

So total 40 Questions to be done in 45 minutes

Difficulty level was high

2nd Round : Technical Round

Question basically from resume u hav prepared languages u hav mentioned in that and Project discussion and your role in that.
(Not so difficult to crack)

3rd Round : HR

Basic HR questions sometimes puzzles may be asked .The main focus on your approach to solve the question not on result. Good communication will be an advantage.

That's it. Most difficult round in my opinion is Written round. Best of luck guys.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Exl-Analytics

Chargebee Interview Experience | Set 2 (On Campus)

1. Given an array and a set of operations on it, perform those in sequence to the array.

Example : given array : 12345

Operations to be performed in order : L1,R2,R1,L3

L1 : shift left once,R2 : shift right twice...etc

2. Given an array of size n of integer type containing the integers from 1 to n (both including), print how many times each integer is repeated. There is no rule that every integer in the range 1 to n will be present in the array. Solve the problem using only one additional variable.

Example : n= 5

Array : 12341

Answer : 1 – 2 times

2 – 1 time

3 – 1 time

4 – 1 time

3. Print this pattern

```
*****
 ***
 *
 ***
 ****
```

4. A code is given which prints the sum of even and odd numbers in the given set of numbers. Identify the error and rectify it.

5. Given two integers m and n, write code for $m^{\text{power } n}$ without using exponent operation.

6. Doubly linked list insertion and deletion.

7. Measure 9 min using two 4 min and 7 min sand glass.

8. <http://www.geeksforgeeks.org/the-celebrity-problem/>

9. 2 DBMS queries.(don't remember)

10. <http://www.mathsisfun.com/puzzles/the-fly-and-the-trains-solution.html>

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
ChargeBee

ChargeBee Interview Experience (On-Campus)

Chargebee the Hot Startup came to our campus recently.. Here is my Interview Experience

Round 1 : (1.5 hrs)

*there were few c based output questions.

*programs with blanks were given and we were asked to fill .

*Error identification in a program .

Round 2 :(Written code)

1)To check whether a hour glass is fully filled or not. Function must return 1 if full and 0 if not where n >=5 (n is the number of lines)

```
* _ _ _ *
* _ *
*
***
****
```

Fully filled in bottom half.. So return True .

2)Given a Word

To find all the anagrams of the word in a given sentence .

3)Given a sentence . To increment the count for each character , if that character is coming in a word (from the given sentence) more than once .

Eg:

Given sentence : mississippi River
result : the counter array
i=1;
p=1;
r=1;
s=1;

Round 3:(coding)

Was asked to code all questions from the previous round(r2)

-was eliminated from this round

followed by a long coding round and then 3 rounds of technical interviews .

4 people were selected finally as ChargeBeEs :P:P

Though got eliminated pretty early.. This was a great interview experience..

Thanks to geeksforgeeks..:)

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
ChargeBee

Kronos Incorporated Interview | Set 3 (On Campus)

Kronos came to our campus to hire intern.I am describing the process.

Location : Noida

C.G.P.A criteria- 7.0+

Round 1: Online Round of 2 hours

Around 140 students appeared for the the online exam.The question was divided into 2 set,

- One set was aptitude and the other was c++ basic question.
- Aptitude section was easy and for the c++ section the basic knowledge of language,object oriented programming,output based question. The questions were easy with speed and confidence as the key to crack the round.

Round 2: H.R Round

The H.R Round was chill and it aimed at just checking the communication skill of the person and whether the person could adapt to the working environment of the company or not.

Puzzles were asked in the interview along with some common H.R question.

Round 3: Technical Round

The Technical Round aimed at checking the proficiency of the students in their area.

Question from class, implementation, sorting, programming,pseudocode,algorithms were asked in this.

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GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
Kronos

Kronos Incorporated Interview | Set 2

1st Round: (2 Hours maximum 1+1)

There were two individual sections with 30 MCQs each(single choice), no negative marking. One section was based on aptitude, and the other purely on C++ questions, no choice in language was provided here. The C++ questions included questions from templates, strings, inheritance and other OOPS concepts output etc.

We were given a maximum of 1 hour for each section. I didn't take up too much time in either section, and overall took around 1 hour 15 minutes or so.

2nd Round:(F2F PI Technical)

The interviewer was very helpful and created a rapport with me. He asked some general questions about me, and my language preferences and I said something about python and how it was so easy to find libraries and modules and just import them, so he asked me what a library was and how to make your own library in C/C++, can you make a library with same name as an existing library. Then he started asking about what memory considerations you should make while creating a program, so I told him about stack overflow and heap overflow possibilities and how virtual memory also has a limited address space.

He asked me the torch bridge problem, where there are 4 people and a maximum of 2 can cross the bridge at a time, and one must always hold the torch as it is dark, the time each one takes is 1,2,5,8 minutes and you have to calculate the minimum time it will take for all of them to cross.

He asked some questions regarding paging and then moved on to ask about compile time and run time errors. After that he asked me to make a code to sort a set of 5 numbers, considering that there were only 5 numbers, I made a simple bubble sort code. He then asked me to add something which will cause a runtime exception, and

asked about methods in which the code could be made more generic (use variable n instead 5 as size, consider more data types etc.)

Finally he discussed a bit about my projects and had some more friendly conversation.

3rd Round(F2F HR):

There were 2 people in the panel.

Here the questions were a bit more direct, they asked 4 things:

1. Tell me something interesting about yourself
2. Why do you want to join Kronos, and not any other company
3. If we ask your 12th class friends to tell us about you, what will they tell us
4. What are your plans for the future
5. Finally they asked if I had any questions, and then I was relieved.

The overall experience was nice, I was given a job offer in the evening. They selected a total of 3 people.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Kronos

Kronos Incorporated Interview | Set 1 (On-Campus)

Round 1:

30 MCQs based on C++ and 30 MCQs based on aptitude.

Aptitude questions were based on Logical reasoning, Data Interpretation, Shape Manipulation and general apti.

No negative marking.

16 candidates were shortlisted out of 120.

Round 2: Technical Interview

Operating system questions:

1. What is paging?
2. What is demand paging and inverted paging?
3. What is virtual Memory?
4. Explain CPU scheduling algorithms.
5. What is kernel?
6. What is Critical Section problem? What are semaphores?
7. What is fork(), vfork() and exec()

DBMS questions:

1. What are triggers?
2. Difference between DDL and DML?
3. Can any operation made by DDL be undone?
4. Difference between having and where clause.
5. What are subqueries?
6. What are types of views? Advantage of view over table.

Coding Questions:

1. Write a program for finding the middle of Linked list.
2. Write a program to compare two linked list.

Then asked me detailed question related to my project, on technologies used etc.

6 candidates were shortlisted.

Round 3: HR interview

1. Tell me 10 points on Kronos based on ppt.

2. Some puzzle questions like:

a. It takes 6 days to travel from city A to city B and a person can carry only 4 days food. A person needs to take medicine from A to B, how many minimum number of person should start from A(some people can return after some day and give their food to another person. But one person can carry at max 4 day food.)

b. How many times does hour hand and minute hand cross each other in 12 hours.

c. Write a code to convert integer to string without using any libraries, functions and ASCII code.

3. What is innovation?

4. General HR questions like why Kronos should hire you?, If you were not an engineer than what would you have been?, Will you go for hire studies?, Is internship necessary? Other than you who is most deserving candidate?

3 candidates were selected.

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GATE CS Corner Company Wise Coding Practice

Goibibo Interview Experience

The interview process in all consisted of 4 rounds, I was applying for Software Developer.

In almost every round there is a bit of about yourself, experience with projects, things you want and like to work on etc. There were 4-5 problem-solving and algorithm questions in each round.

In the first round it started with Dynamic Programming questions , mostly working with sub-array to NP hard/complete questions and questions based on technologies you have worked with.

Second round was again algos around trees, and solving few puzzles around 2 to 3.

The third round was pretty easy. It was mostly about your claims on the resume, about your projects etc and 3 coding questions. One was logic to print a certain kind of pattern of stars, and finding square root without using any builtin functions.

In all out of around 15 questions (algos + puzzles) I gave complete solutions for upto 12 of them and the 3 of them could get half-way to the solution where they basically looked at your approach.

The fourth round was HR.

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GATE CS Corner Company Wise Coding Practice

Carwale Interview Experience | Set 2 (On Campus for SDE 1)

Written Round 1:

Coding test on hacker rank.

There were 4 problems to be solved in 2h.

Q1. Max Sum Path: You are given a 2D array and an initial position in first row. You have to travel down to last row with max sum. Max. sum is calculated by adding current cell value in result. You can visit from a position (i,j) to (i+1,j-1), (i+1,j) and (i+1,j+1).

Round 2 (F2F): (Logical + Technical)

1. You have an array of characters 'a' and 'b'. Sort the array.
2. You have an array of characters 'a', 'b' and 'c'. Sort the array.
3. It takes 30 days to fill a laboratory dish with bacteria. If the size of the bacteria doubles each day, how long did it take for the bacteria to fill one half of dish?
4. Questions related to my project.
5. Questions related to java.
6. Test cases and requirements for Library management system (Design problem).

Round 3 (F2F): (Technical)

1. A function f2x () generate numbers 0 and 1 with equal probability Design a function f4x () that will generate 0,1,2,3 with equal probability.
2. A function f6x () generate numbers 1 to 6 with equal probability Design a function f12x () that will generate 1 to 12 with equal probability.
3. Question related to project.

Round 4 (F2F): (HR)

1. How was your day?
2. Where are you from?
3. Tell me 8 negative points about yourself.
4. 3 things you are passionate about.
5. Some general questions.

I am really thankful to GeeksforGeeks site and team because it helped me a lot.

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GATE CS Corner Company Wise Coding Practice

Carwale Interview Experience (Off-Campus for SDE 1)

Recently I am interviewed for Carwale SDE-1 position in Navi Mumbai.

Written Round 1: (coding test on Hacker Rank)

There were 4 problems to be solved in 2h.

Skype Round 2: (Logical + Technical)

1. You have 100 doors in a row that are all initially closed. You make 100 passes by the doors starting with the first door every time.

The first time through you visit every door and toggle the door (if the door is closed, you open it, if it's open, you close it).

The second time you only visit every 2nd door (door #2, #4, #6). The third time, every 3rd door (door #3, #6, #9), etc.

Until you only visit the 100th door.

Question: what state are the doors in after the last pass? Which are open which are closed?

2. What's the fewest weights you have to measure any weight from 1 to 27?

3. What's the fewest weights you need to balance any weight from 1 to 29?

4. Three boxes labelled as red, blue and mixed. These labels are incorrect. one box contains red balls and another box contains blue balls and remaining one box contains both red and blue balls. Pickup one ball from any box (U should pick up ball only once) and name the correct labels.

5. In an array all numbers are repeated except one. Find it.

F2F Round 3 : (Technical)

1. A function f2x () generate numbers 0 and 1 with equal probability Design a function f4x () that will generate 0,1,2,3 with equal probability.

2. Find the smallest and second smallest element in an array.

3. Given an array A [] and a number x, check for all pair in A [] with sum as x.

4. Given an array A [] and a number x, check for triplet in A [] with sum as x.

5. In Fibonacci series print Fibonacci numbers with divisibility 2 (1,1,2,3,5,8,13,21,34,...INT_MAX o/p -> 2,8,34,...)

F2F Round 4: (Technical)

1. Project and Resume Discussion.

2. Questions about my previous company work.

3. Some General questions.

F2F Round 5: (HR)

1. Tell me about yourself.

2. What is your passion and aspiration?

3. Where do you see yourself 5 years from now?

4. What kind of work motivates you?

5. What was the toughest project you ever received? Problems faced in that. How you solved it.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Carwale

Bloomberg Interview Experience | Set 4 (Entry-Level Software Engineer)

Interview Process : I applied through career page and got reply through mail for scheduling 45 minutes interview (2:1) on hackerrank codepair.

After successfully passing this round, I had to go through video conference interview (2:1) with live coding on hackerrank.

Then, I was called for onsite interview which was 2 hrs interview along with coding on hackerrank.

According to me, unable to give proper response for questions like "Why Bloomberg" caused me rejection so I would suggest to do a background research of the company before the interviews.

Interview questions:

First round:

First question:

```
#include <string.h>
int main(int argc, char *argv[])
{
    char abc[27];
    char *ptr = abc;
    strncpy(abc, "abcdefghijkl", 10);
    /*
     * What are the return types of each expression:
     *
     * 1. abc
     * 2. *abc
     * 3. abc[2]
     * 4. &abc[3]
     * 5. abc+4
     * 6. *(abc+5)
     * 7. abc[10]
     * 8. abc[11]
     * 9. ptr
     * 10. &ptr
    
```

```
*/  
return 0;  
}
```

Second question:

Write a linked list class along with append function(add a node at the end) and destructor function.

Second round:

First question : Write a function that takes two node pointers as argument and gives the lowest common ancestor of them in the binary search tree. Also, I was asked about about space and time complexity.

Second question: Given two numbers in the form of singly linked list in such a way that most significant nbit is at the head, ex. 123 is stored as 1->2->3, write a function that takes arguments as pointers to head of two linked list representing numbers and returns pointer to head of another linked list which represents the number that is result of addition of the two numbers given as arguments.

ex: 1->2->3 , 4->5->6 should return 5->7->9.

I was also asked about time and space complexity of my solution, and how my solution will change if linked list would have been doubly linked list.

Third round (On-site) :

First question: Initially I was given a number that I should consider as terminating number. Given a continuous stream of numbers, write a function that returns the first unique number whenever terminating number is reached. Interviewer wanted an answer that was in O(1) when a terminating number is reached, so basically preprocessing was required.

Through this question, my knowledge on how process works, I mean what is heap, stack, global variables, local variables was also checked. I was also asked how hash map works, its time complexity, how it is calculated, I was also asked in detail about linked list and array and also about iterator dereference.

Apart from this, I was also asked about my most challenging project, most boring project, why I chose Computer Science as my field, why Bloomberg etc.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bloomberg

Bloomberg Interview | Set 3 (For Software Development Programmer)

Interview Process : I applied through career page and got reply through mail for discussion about my internship project and final year project.

After that they scheduled phone interview for 45 mins (1:1) on hackerrank codepair. After successfully passing this round had to go through video conference interview (2:1) with live coding on hackerrank.

Again they scheduled third round as video conference (2:1) , again live coding on hackerrank .

Minor mistake caused me rejection.

Interview Questions :

First round :

1. Some function was there had to find error .
2. Given an array and integer m, had to find average of m groups in O(n).

Ex : A[] = {1, 2, 3, 4, 5}, m = 3
ans : avg(1,2,3), avg(2,3,4), avg(3,4,5)

3. Given an array and target , had to find all pairs whose sum is equal to target.

Second round :

1. given a sorted array, had to find the first occurrence of given number
2. brackets matching.

Third round :

1. two string are given had to find the missing string

Ex - String one - "This is an example"
String two - "is example"
ans - This, an

2. given pair of range had to merge

Ex - (2,3), (5,10), (9,14)
ans - (2,3), (5,14)

In every round they have discussed about my internship and final year project. Be prepared for question like what do u know about bloomberg and why do u want to join

Result : Rejected in third round

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bloomberg

Bloomberg Interview | Set 2 (Video Conference)

Click [here](#) to see the documentation of the first phone interview.

The video conference came after passing the phone interview, it was held on Skype with 2 interviewers from Bloomberg: Freddy and Chad.

The call started by both of them introducing themselves, and so did I, and I was, again, asked to say what I know about bloomberg, and why I want to work there.

The interviewers then jumped to the first question, it was direct, for the following code, answer the given 9 questions.

```
#include <string.h>
int main(int argc, char *argv[])
{
    char abc[27];
    char *ptr = abc;
    strcpy(abc, "abcdefgxyz");
    /*
     * What are the types and values of expressions:
     *
     * 1. abc
     * 2. *abc
     * 3. abc[2]
     * 4. &abc[3] // &abc[3] = abc + 3*sizeof(char)
     * 5. abc+4
     * 6. *(abc+5) + 20000 // long long x = int * 1LL * int
     * 7. abc[10] // ^0'
     * 8. abc[12] // memset()
     * 9. &ptr // char**
     */
    return 0;
}
```

The second question was as follows:

The shown code is built to print out the current date, but for some reason, it doesn't.

You are required to figure out the reason.

```
#include <stdio.h>
#include <string.h>
#include <time.h>

char *get_date()
{
    char buf[80];
    time_t now = time(0);
    strcpy(buf, ctime(&now));
    return buf;
}

int main(int argc, char *argv[])
{
    char *date = get_date();
    printf("date=%s\n", date);
    return 0;
}
```

At the beginning the code looked fine to me, the only thing I thought would be the problem, is the declaration of the char array buf on the stack instead of the heap.

So, I suggested that dynamic allocation should solve the problem and that we should use malloc(80*sizeof(char)) instead of buf[80]

The interviewers said it was the correct step, but he still needs a reason.

The interviewers gave a hint, that in case a breakpoint was set just before the printf if, the debugger shows that date does hold the correct result, so the problem is in printf.

After I had enough time, the interviewer decided to give me the answer to move next.

The problem was that when printf is called, it needs a part of the stack, and this may affect the stack-reserved array of characters buf.

The next question was a follows:

Given an integer n, return the number of ways it can be represented as a sum of 1s and 2s, order matters.

I suggested we use a recursive function to compute it.

And then suggested to use some sort of memoization.

The code was as follows:

```
#####
//
// number of ways
// n = 3
// 3 = 1,2
// 1,1,1,
// 2,1

int memo[1000000]; // memset(memo, -1, sizeof(memo));
int ways_of_sum_up(int n)
{
    if (n == 0)
        return 1;
    if (n < 0)
        return 0;
    if (memo[n] != -1)
        return memo[n];
    memo[n] = ways_of_sum_up(n-1) + ways_of_sum_up(n-2);
    return memo[n];
}
```

```

int ans = ways_of_sum_up(n-1) + ways_of_sum_up(n-2);
return memo[n] = ans;
}

```

I then realized the problem forms linear recurrence, where $f(n) = f(n-1) + f(n-2)$, so it can be solved using matrix exponentiation.

I spend around 15 minutes explaining the solution to the interviewers, and they didn't seem to understand a word of it.

```

f(0) = 1
f(1) = 1

f(n) = f(n-1) + f(n-2)

[1 1][f(n)]      [f(n)+f(n-1)]
[1 0][f(n-1)]    [f(n)]

[1 1]^m
[1 0]

x^y = x^(y/2) * x^(y/2) = x^(y/4) * x^(y/4) * x^(y/4) * x^(y/4)
= ..... = x^1 ..... x^1

x^5 = x^2 * x^2 * x

[1 1]^2  [1 1]^1  x*x
[1 0]     [1 0]

```

The running time complexity of the solution is $O(\log(n))$, same as the memory complexity.

There was another solution that I didn't have time to say, which has a time complexity of $O(n)$ and a memory complexity of $O(1)$, which models this problem to the fibonacci problem.

The last question was so trivial, I was asked to reverse a string in place, I used the 2 pointers, here was the code:

```

///////
// "hello world" -> "dlrow olleh"

void reverse_word(char* str, int size)
{
    int p1, p2;
    p1 = 0;
    p2 = size-1;

    while (p1 < p2){
        char tmp = str[p1];
        str[p1] = str[p2];
        str[p2] = tmp;
        p1++;
        p2--;
    }
}

```

Finally I was asked to use this code to reverse words within a sentence, in place, here was the code:

```

// "hello world" -> "world hello"
// "hello world" -> "dlrow olleh"
// "hello there everyone" -> "everyone there hello"

// "hello" -> ?

void reverse_sentence(char* str, int size)
{
    int p1;
    p1 = 0;

    // "hello world"
    reverse_word(str, size); //linear
    // "dlrow olleh"

    // "world olleh"
    // "world hello"

    for (int i=0;i<size;i++){
        p1 = i;
        while (p1 < size && str[p1] != ' ')
            p1++;
        reverse_word(str + i*sizeof(char), p1-i);
        i = p1;
    }
}

```

Result: Rejected.

Summary: The interviewers are not so good with problem solving, they are good implementers just it, so type neat and clean code, use the obvious ideas, don't do complicated solutions, because they most probably won't get it.

If I made one mistake in this interview, I would say it was using matrix exponentiation rather than the easier linear-time constant-memory solution.

Good Luck with that, passing this video conference means you are going to London for an onsite, final interview, so you have another reason to do your best.

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Bloomberg Interview | Set 1 (Phone Interview)

Click [here](#) to see the documentation of the video conference.

Before proceeding to reading this, make sure you read a little about bloomberg, and most importantly its R&D center in London, you will be given a good portion of time to tell the interviewer what you know about bloomberg, the interviewer said he worked for more than 11 years in bloomberg, so it won't be good if you just made up some answers, just have a little read about it.

The interview, Ian, started an hour earlier, and the interviewer gave me some time to prepare my machine, if it happened to you, just don't panic, and of course you can tell him you prefer to have the interview on time.

The interviewer started by introducing himself, and the technology he has been using in bloomberg.

Next, I was asked to introduce myself, and we had a talk about my resume, my education and projects.

The interviewer then jumped to the technical question, by pasting the body of the code, in order to fill in the functions:

```
#include <map>
#include <set>
#include <list>
#include <cmath>
#include <ctime>
#include <deque>
#include <queue>
#include <stack>
#include <bitset>
#include <cstdio>
#include <limits>
#include <vector>
#include <cstdlib>
#include <numeric>
#include <iostream>
#include <sstream>
#include <iomanip>
#include <algorithm>
using namespace std;

//1234
//1,234

// 104450 -> 104,450
// 123123123 -> 123,123,123

// 1000000 -> 10,00,000
// 00010100

string formatNum(int num) {

}

int main() {
    string res;
    int _num;
    cin >> _num;

    res = formatNum(_num);
    cout << res;

    return 0;
}
```

//This was a part of bloomberg's first phone interview

The question was rather easy, I was asked to implement a function that given an integer number num, it returns the a string representation of the number, comma separated.

i.e. f(1234) = "1,234"

My implementation was as follows:

```
string formatNum(int num) {

    int total_processed = 0;
    string ret = "";

    while (num > 0){
        if (total_processed != 0 && total_processed %3 == 0)
            ret += ",";
        ret += (char)(num %10 + '0');
        total_processed++;
        num /= 10;
    }
    reverse (ret.begin(), ret.end());

    return ret;
}
```

The interviewer then asked that the function should support different comma styles, i.e. the US vs Indian style

//Indian 1000000 > 10,00,000

//US 1000000 > 1,000,000

I suggested that a certain style should be passed to the function, either as an integer mask or a vector of integers, representing the positions at which a comma is needed. He asked if only a string abbreviation can be sent to the function instead of a vector, so I suggested using a map, which stores for each style code the corresponding vector of integers.

My implementation was as follows:

```
//EN style = {3, 6, 9, 12, 15}
//IN style = {3, 5, 7, 9, 11, 13}

//map <string, vector<int> > style_map

string formatNum(int num, string rec_style) {

    int total_processed = 0;
    string ret = "";
    vector<int> style = style_map[rec_style];
    int n = style.size();
    n--;

    while (num > 0){
        //if(total_processed != 0 && total_processed %3 == 0)
        if (total_processed == style[n]){
            ret += ",";
            n--;
        }
        ret += (char)(num % 10 + '0');
        total_processed++;
        num /= 10;
    }

    reverse (ret.begin(), ret.end());

    return ret;
}
```

We then moved to another question, that's concerned about the OOP.

The interviewer asked what class would I create in order to make this code more usable.

I suggested that I should create a class for the represented integer, to encapsulate its numerical value, its string value, its style, and the functions associated to it.

The code went as follows:

```
class something{
    string num, rec_style;
    something(int n, string style);
    change_style(string new_style);
    bool operator <(something e) const{
    }
}
```

The interviewer then asked me to elaborate the inheritance principle.

I illustrated it using the example of the vehicles (cars, vans, trucks, busesetc)

and then we discussed my design preferences, concerning classes inheritance and polymorphism, and what to do: more inheritance vs more coding.

My answer covered code maintenance and reusability.

I was then given the chance to ask the interviewer whatever I like about the company and his work in bloomberg.

Result: I moved to video conference with the other interviewers.

Summary: The interview is easy, you just have to stay cool, and try to give the answers to the point without any exaggerations, Good Luck!

You can check the documentation of the video conference [here](#).

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Bloomberg

ScaleGrid Interview Experience

Scaledgrid is a start-up providing mongodb as service on cloud. I had a skype interview and below are the questions.

- 1) You have a single core cpu. Your applications does a lot of I/O operations. Can multi-threading used for making the application more efficient ?
- 2) A cluster consists of some finite number of server. A cluster is configured to use a DB(mongo db). Given that you have "n"(which can be large) clusters, give the design for a system for taking the periodic back-ups of these clusters.
 - a) For each cluster, the cluster user would configure the start time to start taking the back-up and how frequently the back-up can be taken
 - b) Assume you have backupservice.takebackup(Cluster cluster) throws BackUpFailedException method available
 - c) Can multi-threading be used ?
 - d) How is timer going to be implemented ?

- e) the takebackup() method can throw exception if backing up fails. How is this handled
 - f) Define required classes with the data and methods
- 3) Write code for pattern matching of regular expression. Only . and * are the special characters in the pattern
boolean isPatternMatched(String inputString, String pattern);

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
ScaleGrid

Akosh Interview Experience

I recently got a call from Akosh Bangalore for on-site interview. This Interview had three round, two technical and one manager round.

Round 1: Written Test : 30 Min

*20 MCQ

*Two programming questions : only one need to attend

1. Find Maximum area in Boolean matrix (0/1).
Solution: <http://www.geeksforgeeks.org/largest-rectangle-under-histogram/>
2. I forgot second one, but it was on List of List (very lame question, I did not like the question so I did not solve it)

Round 2: Technical Interview : 1 hour 30 Min

This round totally focused on technical knowledge including data structure, algorithms, web services, Protocols etc.

*Discussion on recent project in detail

*Role and responsibility in recent project

*Linked list random pointer problem: <http://www.geeksforgeeks.org/a-linked-list-with-next-and-arbit-pointer/>

- * Restful apis discussion, design etc.
- * HTTP protocol discussion
- * GET/POST/PUT/DELETE methods discussion
- * Difference between POST/GET and POST/PUT when to use what
- * (interesting question) You have a rest api for Post method, Suppose you embedded this api in your application and this api usually takes 2 hour to respond back . How will you handle this situation?
 - Lots of discussion were done on timeout, sync call, aysnc call etc

But I was not able to give what he was seeking to.

Round 3: Manager Round: 1 hour 30 Min

* General behavioral questions

* Why you want to leave ur current company so early

* What you liked so far in development

etc

I got the offer from company but they were paying sameas what I'm getting currently. More over HR is very bad, she has no sense of talking.

After few days I reject the offer (due to their bad behavior, they call me 2's in a day(7-8 days) from different sources just to say resign asap)

I would to say thanks to Geeksforgeek for such a wonderful platform for tech guys.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Akosh

Pubmatic Interview Experience

I was interviewed at pubmatic. this was interview experience

Round 1.

1. Print the circumference of the tree
2. given an array as stock prices find the day when should user buy and sell to maximize the profit.
3. Create mirror tree from a given tree.
4. Given a Binary tree of strings. Return the stream of string as char* so that when reverse parsing the same string gives back the same tree.
5. Given a sorted and rotated array, find a given number in that.

Round 2:

1. Signature and return type of malloc.
2. How does free() knows the size of the block to be freed because malloc only returns the starting address.
3. Given a service provider(idea, airtel) design DB schema for storing all the information . (more focused to see how will you create schema normalised and use of indexes)
4. Given a table employee(id, name , manager id) write a query to return employee name and manager name .
5. given a stream of billion numbers find top 100 number at any instant of time,

Round 3.

- Given a stream of 200 billion numbers (each no > 50000) , find the average of numbers.
main focus was how you store the avg.
- Crossword puzzle algorithm. given a dictionary and a a mXn grid. find how many possible words can be formed from the grid.
- Given an array of size m (m Final Round with VP
- why do you want to join pubmatic ?
- where do you see yourself down the line in 5 years.
- Given an array, find the no of triangles that can be formed.
- what do you prefer array or link list?
- what do you prefer between link list and doubly link list.
- what is your unique talent that distinguishes you from others.

Round 5:

Normal HR questions.

Big Thanks to geeks.:)

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Pubmatic

Birst India Interview Experience

Total 5 rounds: Cleared 3 and reached upto 4 round and then got rejected :(.

1st Round : 20 MCQ 45 mins with 1 min/2 min dedicated question wise.

=====

Got 85% correct and selected for Next telephonic round.

2nd Round: Telephonic Interview mostly on Java and use of multi-threading/logical

=====

Q) How will you save Blogs & Comments & Sub-comments in a database?

Q) What is serialVersionUID ? How will you transfer Objects between two different Objects in Java (Answer: Serialization) ?

How will ensure the version of transferred object is same across both the systems?

Q) How Hashmap works in java?

Q) How ArrayList work in java?

Q) You have two large files having GB's of data. How quickly compare them and tell if they have identical data?

3rd Round : Online Test

=====

Q) Design an application which stores millions of key-value pairs and uses commands to create, retrieve, update, delete, retrieve all key-value pairs.

Sample example(CREATE , GET , UPDATE , DELETE, GETALL,QUIT are commands):

Enter Commands:

CREATE FOOD = APPLE

GET FOOD

APPLE

CREATE FOOD = BANANA

Key 'FOOD' already exists

UPDATE WEATHER = RAIN

Key 'WEATHER' does not exist

CREATE WEATHER = SUN

DELETE FOOD

GET FOOD

Key 'FOOD' does not exist

GET WEATHER

SUN

GET ALL

Key 'ALL' does not exist

QUIT

Further add following functionalities/Enhancements if possible:

1) Adding key hierarchy support such as food/meal/dinner & food/snack/midnight etc..

2) Adding Cache mechanism.

3) Reading commands and key value pairs from File instead of console.

Solution : I used Trie DS(and not Tree DS) to accomplish this and the 1st enhancement is very easy with this DS with less memory usage. [Here](#) is the code for reference in [test.zip](#)

Q) Given an array in ascending followed by descending order. Find out the max from the array?

4th round: Call from US , Online Live whiteboard test

=====

Q) Given an array in ascending followed by descending order. Find out the max from the array in less than O(N) complexity.

Could not complete this and got rejected

This article is contributed by Mayank Mukherjee. If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Birst India

Vizury Interactive Solutions Interview Experience

No written test for me.

F2F1:

- 1) Next greater number with same set of digits.
- 2) Find a number in a sorted array rotated left. Ex: 5 6 7 8 9 1 2 3 4, Find 9

F2F2:

- 1) Level order traversal code. Also solve this problem without using null pointer
- 2) Find the shortest path between two elements in a matrix with some Null elements. Means you cannot choose XY path since some location are not traversable (Dijkstra's Shortest Path algorithm)

Round 3:

- 1) Project Specific questions
- 2) Implement DB copy from one system to another taking foreign key constraints into consideration (Table B is having a foreign key constraint to table A. So B can't be copied before A. Imagine the I/P as a list of list i.e. adjacency list of graph. Now devise a way to copy the DB)

Got eliminated here. Never felt so bad over losing something in last few years. Good company. Try on LinkedIn and apply.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Vizury Interactive Solutions

AXIO-NET Interview Experience | Set 1 (Off-Campus)

Hello guys, I am sharing the recruitment process experience of Axio-Net.

I got a call from Axio-Net by email. After that, I had appeared for their first round.

First round was a aptitude round. Their are bunch of simple basic numerical questions, 1 Sudoku problem and few basic technical questions. I had selected in the first round and was waiting for the second round.

After 7 days from the 1st round, they again called me for the 2nd round. In that 2nd round, the interviewer was the director of axio-net, he is a nice guy. He asked me few basic numerical and few basic programming questions. That's it. They told me that if I'll be selected by them, they'll call me.

If any fresher will appear for axio-net recruitment process, then prepare well your aptitude skills and basics of the technical. If possible try to solve the Sudoku problem.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
AXIO-NET

Monotype Solutions Interview Experience

Hello friends, I am sharing my placement experience at Monotype Solutions India Pvt Ltd whose recruitment process was conducted in my college. The process consisted of a written (online)test followed by technical and HR interviews.

Online Test: NO negative marking (1.5 hrs. Test)

The test was conducted on Mettl and consisted of C (about 20 questions), C++(5 questions), Aptitude questions(about 10 questions) and programming problems.

1.

```
char *str1 = "monotype";
char *str2 = "monotype";
if (str1==str2)
    puts ("Same");
else
    puts("Not same.");
```

2. One of them was something regarding scope of variables.

3. From Linked lists quiz on geeksquiz: Q2 and Q4. GATE questions.

C++ questions were purely conceptual. Aptitude questions were of mixed difficulty level. 3 programming problems and we had to do 2 (randomly assigned to us).

a) Find and delete all occurrence of pattern ab ba (something like that) from a given string.

b) Given a linked list and two integers M and N. Traverse the linked list such that you retain M nodes then delete next N nodes, continue the same till end of the linked list.

<http://www.geeksforgeeks.org/delete-n-nodes-after-m-nodes-of-a-linked-list/>

c) One problem based on concept of finding "Next greater element". (given on geeksforgeeks). Out of these, 1st and 3rd had to be run and compiled while 2nd to be submitted as plain text. They were manually checking it.

Technical interview (1.5-2 hrs approx., mine was 2.5 hrs. Long)

It began with formal introduction.

Questions asked were:

1. Given a character string containing "How are you" and char*a = "Monotype". Store "Monotype, How are you" in single statement. I suggested doing it by for loop but he was not satisfied by this and asked to do it using "sprintf" function.

2. What is the use of pointers? How are 2D arrays stored in memory? Simulate 2D array using double pointers. I explained him $*(a+2)+2$ for $a[2][2]$ but he was not satisfied with my answer. I finally did it by allocating memory for each 1D array using malloc and then creating an array of pointers to store the address of each such 1D array. This was correct.

3. Discussion about Big and Little Endian pcs, how to find which PC is which, interconversion using bitwise operators.

4. Coding problem to find how many times a number continuously appears in an array. Eg: 123333345, 3 appears five times in O(n).

5. Searching algorithm: binary search concept.

6. Check if binary pattern of a number forms a palindrome using Bitwise operators.

7. Memory map of a C program, heap memory.

8. Definition vs declaration. You have two .c files each containing a function having only one statement of static variable declaration. Include those files in a new .c file and compile the project. Now he asked various questions based on this that were based on storage classes' concept. I don't remember the exact questions. ☺

9. Rotation of bit pattern of a number. Edge cases were given like for a 32 bit number, if we have the numbering of bits' index from RHS (opposite to what we generally do in arrays, start index 0,1,...n-1 starting from left) and concerned bits lie from B9 to B0 i.e. Left most 22 bits are random and not required. Rotate so that B9->B8, B8->B7...B0->B9. Use bitwise operators.

10. 25 horses are running in a race. 5 can run at a time. Find min races to find top three.

Some more questions were there which I don't remember. Questions like accessing array in spiral manner was asked from other student too. Logic and not the exact code was his priority.

Logical/Technical Round (approx. 45 minutes)

He asked me about my college, branch and subjects that I know being a non-IT student. He asked me to explain what I know about Fluid mechanics, Heisenberg Principle, Atomic Models etc as I had said that I like Science. He then asked simple puzzles like calculating 15, 30, 45, 60 minutes by burning a rope. Correctly mark the labels on three fruit boxes having either orange, apple or a combination of both. You can pick only one at a time. What do you know about fonts, web fonts. I told him something about fonts family: Sans, Serif etc. (it was hinted in ppt that they will ask such things.) some questions from resume.

HR interview(20-25 minutes)

Common HR questions from resume and as found on indiabix.com.

I would like to thanks geeksforgeeks for being such a good resource for placements preparation. Thank You.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Monotype Solutions

Komli Media Interview Experience

I recently attended Komli media interview and wanted to share the experience.

First Round(Written)

1. Midas has boxes in three sizes: large, medium, and small. He puts 11 large boxes on a table. He leaves some of these boxes empty, and in all the other boxes he puts 8 medium boxes. He leaves some of these medium boxes empty, and in all the other medium boxes he puts 8 (empty) small boxes. Now, 102 of all the boxes on the table are empty. How many boxes has Midas used in total?

See the answer here : <https://www.easycalculation.com/puzzles/hard/boxes.php>

2. You are given a file which contains a very bit sequence of 0 and 1 and it is sorted. Hence all the zeros are in front of the ones. One needs to find the first occurrence of 1 in the file(return the position).

The only method to access the file is through a method whose signature is — int getBitAtPosition(int position) — which returns the bit at the specified position in the file.

3. Given a string find the short version of the string depending on the given parameter.

method signature : shortenString(String s, int n)

ex:

s = aaabbbaa n=2 output = aabbaa

```
s= aaabbaaccc n=1 output = abac
```

Basically truncate the consecutive run of a character if it exceeds n.

4. write a function to divide two numbers upto a precision of 4 decimal places.

One can only use the addition/subtraction operators.

5. Charles walks over a railway-bridge. At the moment that he is just ten meters away from the middle of the bridge, he hears a train coming from behind. At that moment, the train, which travels at a speed of 90 km/h, is exactly as far away from the bridge as the bridge measures in length. Without hesitation, Charles rushes straight towards the train to get off the bridge. In this way, he misses the train by just four meters! If Charles would, however, have rushed exactly as fast in the other direction, the train would have hit him eight meters before the end of the bridge.

Answer : <http://dailybrainteaser.blogspot.in/2011/08/train-puzzle.html>

Second Round :

Discussion on the problems in the first round and optimization.

Lot of discussion on the projects mentioned in the CV.

Third round :

1. Given an array of integers, for each position find out the product of the remaining elements in the array.

You are not allowed to use the division operator.

Calculate the same thing for all the positions and out in a different array.

```
ex: input = {4,3,2,4}  
output = {24,32,48,24}
```

2. Give a number n, find the all the possible sets of number whose sum will be n. A number can repeated within a set.

```
ex : input n=4  
output : {1,1,1,1},{1,1,2},{1,3},{2,2},{4}
```

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Komli Media

Zycus Interview Experience

ROUND 1: First round was aptitude round, 10 question in 30 minute. Level of difficulty: easy. For each correct answer 2 marks will be awarded and for each wrong one 1 marks will be deducted.

They had already announced the cut-off for the next round, it was 14.

I solved 9 all of them where correct.

Out of 150+ approx. 70-80 cleared the round 1.

ROUND 2: Written coding round: In this round we have to write code on paper.

There were two section (A and B) we have to solve either of the section in 45minute.

Section A: <http://www.geeksforgeeks.org/backtracking-set-2-rat-in-a-maze/>

Section B: It contain two questions:

1. <http://www.geeksforgeeks.org/two-elements-whose-sum-is-closest-to-zero/>

2. <http://www.geeksforgeeks.org/sort-elements-by-frequency/>

ROUND 3: 44 were sort listed for the interview.

My name was called after waiting for the whole night around 7a.m.

Only one interviewer he was very friendly He asked to explain my solution I explained and he looks satisfied. Then he asked me two puzzle.

Puzzle 1: You have two candles. Each burn for 60 minutes. How can you measure 45 minutes using this?

Puzzle 2: https://en.wikipedia.org/wiki/Bridge_and_torch_problem (data was different)

Then he asked me three coding question one by one and also I have to code them on paper.

Q1: Two array of size n and n+m. First array is completely filled and sorted, Second array is containing m element in sorted order. Now the question is to sort the second array such that it will contain the element of first array with the following condition.

Conditions:

1. 2nd array should remain sorted always.

2. Can't use any auxiliary array.

3. Can't use any shorting algorithm (like copy the element in 2nd array then sort it).

I solved it in second attempt.

Q2: There is an array (1-D) of size 2m containing some random number and there is also a 2-D array of size m*m you have to fill the 2-D array in following manner.

1 st	3 rd	6 th
2 nd	5 th	8 th
4 th	7 th	9 th

1st represent the first element of 1-D array.

Q3: There are two string, first string containing character and two special (*) and (_) e.g.: qw*ty_bc

Second string contain only character e.g.: qwertyabc

Now you have to check if the string is valid or not where '_' can replace only one character and '*' can replace more than one character. In above example string is valid.

Last question was easy although I missed some edge cases which was pointed by my interviewer.

H.R Round:

Normal HR talk

Thank you G4G.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Zycus

PSTakeCare Interview Questions

The interview was mainly resume based no algorithms were asked . My resume consisted mainly of android development so the questions asked were related to that only.

1. What are class Loaders?
2. How you store data in android , and which class is being used for that?
3. What is anonymous class

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
PSTakeCare

Aristocrat Gaming Interview Experience | Set 1 (Off Campus)

Round-1 (Online Coding Test)

There were 10 basic C based Multiple choice questions And 6 Code based in which I have to write code and run.

Coding Questions were :-

- <http://www.geeksforgeeks.org/count-possible-decodings-given-digit-sequence/>
- <http://www.geeksforgeeks.org/program-for-array-rotation-continued-reversal-algorithm/>
- <http://www.geeksforgeeks.org/given-an-array-arr-find-the-maximum-j-i-such-that-arrj-ari/>

There were 3 more Questions of easy(average) difficulty level. All next rounds were in their office at Noida.

Round-2 (Written-C based)

18 C based Multiple choice questions(Mainly Pointers) And 3 easy programming questions like:

- Count No. of set bits in a number
- Reverse the words in a string. Ex.- Str[]-"hello mr X" **Output-** str- "X mr hello"

Round-3 (Written- C++ based)

Mainly STL and Template Based

Round-4 (Face-to-face)

- Discussion on C and C++ Concepts like
- What happens if we return address of a local variable and solution ([Heap or Static](#))
- Difference b/w macro and [inline](#) and how they works
- Difference b/w [New](#) and [Malloc](#)
- What is [Virtual Function](#) And how Virtual table and Virtual pointer Works.
- Famous diamond Problem.
- When Should we write our own [Assignment operator](#) and [Copy Constructor](#). etc
- <http://www.geeksforgeeks.org/find-a-repeating-and-a-missing-number/> discussion and he wanted optimal solution.

Round-5(Face-to-Face)

- Mainly STL and Template Based Discussion.
- Write a program to implement Generic Queue class.
- Apply all [Oops Concepts](#).
- Implement [set](#) STL class etc.

Round-6(With Project Lead)

- What are the various OOPS Concepts .
- Do you know any SDLC Model ? Explain .
- Discussion on Project and what difficulty I have faced etc.
- Do you have any Prior Experience of Gaming.

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Aristocrat Gaming

Barclays Interview Experience | Set 2 (On-Campus)

First Round

First there was an online test.

- It consisted of one coding question and 6 sections including verbal, output questions, [aptitude questions](#) etc. Worst thing about test was you cannot navigate back to the question.

After that they shortlisted 30 candidates.

There were 3 rounds in total out of which first was a group activity. It was a non-elimination round. We were divided into groups of 5 and were asked to build a house of cards. It was fun. But there was an invigilator who was observing each of our activity, how we work in a team etc. Then there was a technical round. My round went on around 60-80 min.

Next Round

- First he asked me in detail about my recent project. He asked which technology I used, what are advantages of this technology, what challenges I faced etc. Here I would suggest you to **deeply study whatever you are putting in your resume because you should be able to answer reasonably whatever is given in your resume.**
- Then he asked me to write a program to find greater of 2 dates with all if else loops without any mistake.
- Then he asked me to give a data structure to store when there are millions of data and we want it to be search efficient. I told hashmap. Then he asked me how hashmap is implemented.
- Then he asked is there a better data structure to handle duplicates. I first answered BST, but he said BST is mainly used when we want our to be in sorted order which was right. I couldn't think of any better data structure which I frankly told him. He only answered this question. Its answer is to use SETS.
- Then he started asking about OOPS.
- First he asked what is inheritance. I answered him with an example. Then he asked about interface and why java doesn't allow multiple inheritance.
- Then he asked the term for redefining the function. I told him it's called overloading.
- Then he asked me what is the difference between overloading and overriding. I answered when we redefine the function in same class it's called overloading but when we redefine the function in derived class it's called overriding.
- He asked what are the constraints on arguments number and datatype in these two cases. In overloading you can redefine the function with different number of arguments and datatype but in overriding you cannot change it.
- He asked can we have function overloading with different return types. I said no as it is not allowed in either c++ or java.
- He asked what is third normal form which is DBMS question. This switch was so sudden. But I answered him and he looked satisfied.

This was all from my technical interview. Then he asked me to wait outside. After half an hour they called me for HR interview.

HR Interview

My HR interview was really good. First he asked me to tell about myself and asked my family background.

Then he asked my how did I change myself after coming to college and how did I improve my communication skills. (This question was because I mentioned that I had my education till 10th in marathi medium).

He asked me about my hobbies and what is my passion.

There are 5 core values of barclays RISES (Respect, Integrity, Service, Intelligence, Stewardship) which they really focus on. So I would suggest you to go through their site before going for the interview.

- He asked me how would you contribute to integrity.
- Then he asked me if I have done some leadership roles.
- He asked me how is my interaction with juniors.
- Finally he asked if I have any questions.

After all interviews were over they announced the result and I was selected. I was really happy. I would suggest everybody that whatever you will tell you should be confident about it. In HR give an example for each of your statement because interviewer seems satisfied if you provide an example showcasing your skills. Before going for the interview go through your resume and be prepared to answer everything you have put in your resume. I would suggest not to put something which you have never worked on or you are not confident about because interviewers are experienced people who can catch such things easily.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Barclays

Barclays Interview Experience | Set 1 (On-Campus Written Test for Software Engg)

This test consisted of SIX SECTIONS.

- 1.General Aptitude
- 2.Technical Comprehension
- 3.Logical Analysis #1
- 4.Logical Analysis #2

5.Program Tracing

6.Programming

General aptitude consisted of quantitative questions .There were 6 questions and suggested time as 10 minutes. Questions were of easy level. Questions based on numbers,distance,time etc..Answers of general aptitude were to be written in textbox. eg ans is 4,write 4. there were no options in quant. Answers were integers an easy.

Technical comprehension involved two paragraphs and questions based on sql.

Logical analysis contained questions of logical deduction mainly.

Program tracing involved finding output of programs(mainly while loop and if else)..

Programming : There was only one question of programming(to be solved in 30 minutes). Code was given and was to be modified.Modification involved like , find out the least salary of employees,... (they used file input output and structures).

Practice basic aptitude.Concepts should be clear.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Barclays

Tismo Interview Experience | Set 1 (On Campus)

The first round was an [aptitude](#) test. It contained two sections, first(compulsory)- 25 questions from general(basics eg. Find effective resistance of a circuit) .There was an option for 2nd section(ECE or CSE). I opted for CSE. It was mainly output questions.

30 were selected for the interview.

TECHNICAL ROUND-1

- Print the pattern—
1
2 2
3 3 3
- Find the sum of upto nth fibonacci number.
eg.n=5 sum=7(0+1+1+2+3)
- string replacing
- overloading and overriding difference.

TECHNICAL ROUND- 2

- asked about garbage collection, virtual classes
- check whether a number is power of 7(all cases should be considered).
- find the cube root of any number (can be floating point also).
- they also asked about compiler design to others.

7 students were selected from college.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Tismo

PwC Interview Experience | Set 1 (On Campus – Technology Consultant)

Eligible Streams

BE- ECE, IT & CSE

M.Tech – CSE & IT

ME- ECE

Criteria

10 & 12 – $\geq 60\%$

Graduation – $\geq 60\%$

CGPA – ≥ 6

CTC

CTC Per Annum (Only for the first year of job)

UG Students

5.5 LPA fixed + Variable Pay

PG Students

6.5 LPA fixed + Variable Pay

Location – Pan India

ROUND 1 (WRITTEN TEST)

A total of around 225 students registered for the test.

The written test was MCQ type. It had the following sections:

1. Verbal Ability
2. Logical Reasoning
3. Data Sufficiency
4. Data Redundancy
5. Data Interpretation
6. Quantitative Aptitude

Total time: 1 hour

Total questions: 40

There was no sectional cut-off.

71 students were shortlisted from Round 1.

ROUND 2 (MANAGERIAL INTERVIEW)

Both technical and HR questions were asked in this round. It lasted for around 15-20 minutes.

1. What is your hobby?
2. Have you written your hobby just for the sake of mentioning it in your resume?
3. Apart from your photography (hobby), what else do you do in your free time?
4. Which genre of music (another hobby) do you like?
5. Which language songs do you listen to?
6. Who is your favorite singer?
7. What is your mother tongue?
8. Where do you live?
9. Where is your native place?
10. How often do you visit your native place in a year?
11. PwC requires team work. Do you like working in a team? Justify.
12. PwC requires leadership qualities. Do you have it? Justify.
13. PwC requires a business mind. Do you have it? Justify.
14. What is Bootstrap?
15. What are the advantages of Bootstrap over CSS?
16. What is AJAX?
17. What is the main advantage of AJAX?
18. What is Javascript?
19. Briefly describe about your summer training.
20. Which is your favorite subject in Computer Science?
21. What is the difference between DBMS and RDBMS?
22. Give few examples of DBMS.
23. Which is your second favorite subject?
24. Explain Computer Networking?
25. What is UI responsiveness?
25. Differentiate between the 2-tier and 3-tier architecture in computer science.
26. What is your coding status and efficiency?
27. Are you comfortable in travelling?
28. Which places have you visited?
29. Among all the places that you have visited in India, which is your favorite place?
30. You have scored over 90% in class 10th and 12th. You have so many national level academic achievements in your school life. Then why is your college CGPA so less?

28 students were shortlisted from Round 2.

ROUND 3 (HR INTERVIEW)

It was a telephonic interview.

Final Selects: 21

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
PwC

Veritas Interview Experience | Set 1 (On Campus)

Veritas visited our college for campus hiring. The selection process included aptitude test, 2 tech interviews and HR interview.

Aptitude test was on hackerrank. It had 20 mcqs based on cs concepts (database:btree, os, html form one que), basic math (no of solutions for $p^2 = n+q^2$),etc and 2 coding questions. There was negative marking for mcqs and solving one coding question was important.

1st tech interview (1Hr):

They asked me which languages I am comfortable with. I chose C and Java.

- Reverse a singly linked list.
- Implementation of strlen function in string.h
- Implementation of strcmp using pointer
- OOPs concepts with explanation and example
- Storage classes in C
- Access specifiers in Java
- Difference between string and char array in c.
- bubble sort code
- Function with variable length arguments
- Function overloading error: what will happen if overloaded functions have same arguments but different return type
- delete a node in linked list given a pointer to the node(node is not tail)
- References in java
- Collection classes
- rval, lval
- Have you done any system level coding. I said assembler program and compiler theory.
- Abstract classes and interface difference.
- Why main is static in java?
- Why main is not private in Java?
- How to give arguments to program while running it?
Ans: cmd line arguments can be accepted as strings
- Puzzle: 10 coins are given. one coin has less weight. find the coin in 3 iterations.

2nd tech interview (1hr 15 min):

They asked my favourite topics. I said Data structures and DBMS.

- basic python questions strcmp
- Function is given string arguments which are names of function of a class call those functions from this function. eg. consider function as fun(method1,method2) and class is c so fun should call method1 of class c.
I didn't know the answer.
- Inorder tree traversal using recursion and iterative.
- Data structures for BFS, DFS.
- Given an array of elements (millions of elements) return the second highest occurring element.
- You are given a string say "this is a book" and reverse function and output should be "book a is this"
Ans: reverse string and then reverse every word.
- Order of compilation, relocation, linking and loading
Examples of polymorphism
- Which data structure can be used to reverse words in file?
`int arr[5]; printf("%u%u",arr+1,&arr+1); output?`
They asked me if I knew perl. I said no.

HR interview:

Background, Areas of interests(technical), Why Veritas?, What do you know about Veritas?

Finally they selected 9 people out of 29 and I was one of them.

Thanks to GeeksforGeeks!!!!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Veritas

Riverbed Interview Experience | Set 1 (On Campus)

Riverbed Technology, Bangalore visited our college for campus hiring. The selection process included One Online MCQ test , One Coding round and three technical interviews.

Online MCQ Test

Online MCQ test which mainly includes Computer Networks, Operating System, C ,C++ and some questions on mathematical aptitude. There were around 45 questions you have to do in 60 min.

Coding Round

After that round they shortlist around 20 students, next day Who selected in written test , they went for coding round. Coding round was offline . You have to code on the system and compile those code and show the execution to the examiner(Company's person). There were two code .They were clearly mention that you have to do code in c or c++.

1. First code was you have to find out intersecting point of two linked lists ,if exists otherwise return -1. The code was easy but the thing was you have to create both the linked lists ,insert nodes and also like proper memory allocation(if something wrong then it give segmentation fault error) and then find the intersecting point. In this question they (Company's person) check for false cases as well .
2. The second question was Create a program to instantiate a bitmap with 800,000 bits and provide setter method to set the nth bit in the bitmap. It was little tricky question. you have to apply some little logic.

I did both the questions and At the end one person from them check my codes and said me "GOOD JOB" . It was + point for me. After this round they shortlist 6 students.

First Tech Round

After Next day Morning 8:00 Am they started interviews.My first tech interview was on c programing . They give me around 7 to 8 c programing question . I have to write codes on papers. Basically questions was on memory allocation, some Dynamic array allocation problems , c stack related problems and some string related problem on memory. Questions were tricky . After that in this round he asked some c basic concepts.He just want to check my c knowledge. This round happened around 1 hour.

Second Tech Round

In second round was on my project and Tree related questions. In this round,He asked me to explain my current project. I explained my project in a very well manner. Then he asked me my previous year project. I explained that project also . Those both project was in Networks so he was more interesting in my both the project .He listen my projects very carefully and at the end he give me some suggestions on my current working project. After project, he asked me two questions on tree.

He said me to code for that tree problem . I did the code and explained him then he increase the complexity of the problem and said me do again the code . I did and same he again give some more condition . I tried but that solution was not too efficient .This round happened around 1 hour. Then It was the end of my second round. He was satisfied from my performance .

Third Tech Round

Then I called for third round . This round was the basic overview of networks and operating system . He asked me the question in general way like I am dummy you have to explain me what is networks,What is routing protocols ,how to can transfer data in general way, how scheduling works, how kernel works and many more questions on networking and os . I have to give answer in smart way to him.

I give so many answer for one question . but he was not fully satisfied my answer. When I give one answer he ask me another question on that problem . The discussion going on around 2 hours. It was very amazing round just a general knowledge checking round.

And at the end they selected 3 students, I was one of them. **Thanks to GeeksforGeeks!!!!**

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Riverbed

Wissen Interview Experience | Set 1 (On-Campus)

Wissen technology part of wissen Infotech came to our college for campus drive.

Website- www.wissen.com

Round 1- written test -1.5 hrs

6 coding questions

1. Find intersection of 2 sorted arrays. Note: required O(n) and no use of data structure.
2. Stock – buy and sell to gain max profit. You have to buy and sell stocks once
Input- 1 2 20 5 6
O/p – 19(20-1)
3. Print Reverse linkedlist without changing linkedlist. Note: required O(n)
4. Find whether number is cube root or not with out using math lib functions. Note: required O(n) (Hint binary search)
5. Replace 3 with 5 in an integer with out converting int to string conversion
Input- 134
Output – 154
6. Check whether 2 strings are anagram of each other.
Eg – abc & back

Output – anagram

Note- required O(n)

(Hint : use map)

Round 2 – tech1

1. Data structure

– detect Loop in linkedlist

– check whether a binary tree is binary search tree or not

2. JAVA

Multithreading and synchronization

3. OS

process, threads, semaphore, mutex, deadlock and starvation

4. DBMS

How will you print all tuples of a table?

What is foreign key and some questions on it.

Round 3- tech2

1.C++

– write struct for generic linkedlist

– dangling pointer and steps to remove

Eg-

```
struct node
{
    void *data;
    node *next;
}
main()
{
    node *p = new node;
    p->data = (int) new int;
    delete p;
}
```

remove dangling pointer caused by void* data.

Ans – overload delete operator

– destructor can be overload or not

If yes or no , why

-Why constructor can be overloaded?

-Explain whole project which is mentioned in ur resume

Which data structure did you used on ur project apart of array

Since I told him I didn't used at specific data structure externally but internally MySQL use B+ and B tree for indexing internally

– what is B+ and B tree (I didnt know abt B+)

2. DBMS

-joins and write below query

Student table

Id | name | deptId

Department table

deptId | HODname

Find the name of HOD who has more number of students

Hint- nested query / join

– Given matrix 2*2 , 2*3 and 3*3

how will u store in single table in database

3. Java

Collection and synchronization

4. Data structure

– create special stack in which you can find min element in O(1)

– Do you have any question?

Some Questions which was asked to others

-quicksort

-arraylist vs linkedlist

-heap memory vs stack memory

-if u have given names of people and their respective countries and I need to access all names of a particular country by O(1)

Ans- map>

Round 4 – HR

Typical HR questions

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Thorogood Interview Experience | Set 1

Company Name: Thorogood

Location: Bangalore

Presence: India, UK, USA

Domain: Business Intelligence and Analytics Consultant

Hello all,

Hope this interview experience will help you..

"Thorogood is all about analyzing your ANALYTICAL SKILLS"

First round:

Online exam (on Campus) — 1 hour

Focus was on your communication skills and analytical skills only.

Round consisted of 2 sections:

1. Communication / Essay writing (Standard questions related to working at Thorogood, opportunities that you think you will get during first year, and what is there in it for you)

2. 20-22 aptitude questions. Focused only on assessing analytical abilities, Data Interpretation, etc

Second Round:

F2F interview. ~45 mins

Dont expect much of Technical questions from entire interview process. I didn't get any of it.

In this round your soft skills will be assessed. How have you behaved and managed in critical situation, what did you do to over come it, etc.

If qualified, you'll be called for "All-Day Assessment" at Thorogood- Bangalore office.

Four rounds @Thorogood office:

Morning 9 – Evening 6

1. Case study presentation (40 mins)- to assess analytical, communicational, and presentation skills
2. Fact finding (40 mins) – Most interesting (Given a short scenario, and a question, you have to prepare a series of questions and ask the interviewer to answer them. You have to ask quality questions, answers to which will lead you towards a solid conclusion)
3. Group activity (~1.5 hours) – To assess your team skills. This will be interesting too. Just don't get carried away in putting your point. It's not GD(fish market). ☺
4. HR (20-30 mins) – This one is just duplication of the on-campus F2F round.

I didn't get the offer. But experience was amazing. So all the best guys. It is a decent company to work for..

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GATE CS Corner Company Wise Coding Practice

Deloitte Interview Experience | Set 3 (On-Campus Data Sciences Profile)

Deloitte visited IIT this placement season to hire consultants in Data Sciences Profile.

Round 1

Firstly, an online test was conducted(120 minutes duration) consisting of questions on Quantitative (30), Aptitude (30), Verbal (30) and Probability and Statistics (30). If you have prepared well, this won't be very difficult. However, make sure you study on topics like Hypothesis testing, ANOVA, and statistical Inference for cracking the last section, in which the focus was on statistics.

Out of 900 students, 35 were shortlisted and they kept a waitlist of 15 students. Then, we had an online PPT in which the interviewers walked us through the various stages of interview

Next, There were 3 rounds of interviews.

HR Interview

My first round of interview was HR only and it was taken by the Director of the Analytics team and Actuaries team and it was more like a conversation. They first introduced themselves and asked me to do the same. Then, they asked me to walk them through the CV.

- What did you do in your third year intern? What is the business aspect of this?
- Explain a little in detail about the different solutions that you went through for this and also tell us why you rejected them?
- What do you want to do in future? Managerial or technical? I told him that I want to be a Data Scientist and not a Data Analyst, he asked me the difference
- I asked him does he still like to do what he does after spending such a long time in the industry? How do priorities change after 15 years?

Technical Interview

The interviewer was a very nice guy and he asked me how can I look so fresh during the placements and I cracked a joke about being naturally good looking.

- Took a look at my CV and asked what a regression forest it? How do you implement it?
- Asked about what kind of data sets we used and how did we obtain them?
- What was the main problem with this data set and how did we overcome it? I answered Dimensionality reduction and walked him through the series of steps I took.

- Given a data set where all the data points look negatively correlated, but actually are sets of points from different sources, which are positively correlated. How do you account for this?
- I told him that's the basis of regression forest. On IID assumption of regression, how to bring stationarity in time series?
- What other ways to bring stationarity? I answered taking log, first order difference, percentage etc.
- To launch a product into the market, which data sets would you like to pull in? Which markets to be analysed?
- On product cannibalization, why did Apple launch iPad to remove iPod?
- On self cannibalization of product.

Technical Interview -2

He was an IIT alum from my department.

- Difference between OLS and MLE.
- Different metrics used for estimating the size of weights.
- Series of steps for dimensionality reduction. I answered the same as before. But then he asked me to come up with a completely different approach for this. I said plotting graphs on artificial Neural networks, how do we find weights, why do we add bias.
- A little talk on backpropagation.
- Is hard-limit function of perceptron, implementable, why ? why not?
- What is the benefit of using a sigmoid function for hard-limit function
- Why don't we use a piecewise slant line if we want to adjust threshold, why use a sigmoid?
- Derive the weights of simple linear regression using one variable only
- Asked preferred language. Write code for implementing a change in size of a matrix in R. I used a subset, apply with a for loop. He used a dplyr package.
- For preparation, take online courses from Coursera (Andrew NG, ML) and edX (Analytics edge). Follow AnalyticsVidhya and r-bloggers and follow their learning curve page.

Finally, they selected 4 people out of the 35 and I was one of them. Last tip, although, Deloitte didn't ask for algorithms, most companies do. So, do some coding and algorithms from geekforgeeks and Hackerrank. Overall, it was a good experience, and a memorable one too!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Deloitte

Deloitte Interview Experience|Set 2 (On-Campus)

Group Discussion

A scenario where you had to merge the data and erp systems of car company located in usa and Canada into common platform. It had some three questions along with it that had to be solved.

The GD was divided into 2 parts

- 1st part was the GD and at the same time you had to prepare a chart in front of a panel. Before this began we had a small chat among the group members. We decided to work as a team and also made sure that no one would dominate. Then the panel arrived and gave away the question sheet. I have to say I didn't understand half of the question. It was all greek and latin to all us. We took some time to go through it. I didn't give the intro. I started immediately after the intro and started discussing about a topic in that problem. After that I started writing some key points in the chart. The same went on till the end of the GD. I spoke up at regular intervals and helped others in completing the chart.
 - 2nd part was you had to present the chart you had prepared to another panel
- We discussed the order of the presentation in 5 min break. I decided to give the summary at the end. So it went pretty well.

People were selected from my panel.

HR

1. Tell me about yourself?
2. About my project?
3. A long discussion about my project?
4. About my swimming achievements?
5. Passion in my life?
6. Things I learned in my college?
7. What are you proud of, that your college is also proud of?
8. What is an OS?
9. What is a semaphore?
10. OOPS concepts.

Finally got placed in Deloitte. Sometimes things can go in your way, you just have to wait for the right moment.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Deloitte

Interview Experience with Deloitte (TTL) US-INDIA FAS Hyderabad |Set 1 (On-Campus)

Deloitte(TTL) visited our Campus for Recruitment this year in August. FAS stands for Financial Advisory Services which handles the consultancy and financial Risk Management department of Deloitte.

There was one Written Round, Group Discussion and Interview(s).

Written Test:

Online written test was conducted by AMCAT. It was very easy as level of questions were elementary. You have ample time to solve if you are already in aptitude and LR. Coding part is not judging criteria as students who had their both codes running efficiently were rejected in written itself. Each Section has cutoff.

It consists of following sections:

Analytical Section: Very easy Aptitude questions on numbers, HCF, LCM, Time and Work , Time and Distance and easy section.

Logical Reasoning: LR was based on Arrangement problems , Data Sufficiency and Moreover it was also easy section.

Verbal Ability: Those who have English as their enemy struggled here but otherwise it was Word Meaning (Synonym and Antonyms) ,Passage reading and Correction.

PL/SQL: One must have knowledge of PL/SQL for this section otherwise only wild guesses will lead you somewhere else from written. Trigger, Cursor ,Procedures and Functions Intended for study . Suggestion would be to learn from simple tutorial as after this there is very less chance that you will be asked SQL if you don't know. But try to go Prepared.

Coding Round: Two Questions for coding .Suggestion would be to write code for both and hope for the best. Even I had both codes non running but logic was Correct.

Out of 400 ,100 people were selected.

Group Discussion Round:

Before GD there was Branding Session which tells what Deloitte Brand is and explains insight of it working. Must attend and ask as many questions as many you can. It can help you in Interview and GD as they prefer dynamic people rather than shy and dumb people.

Group Discussion was a CASE STUDY in which a company had to design a information system and for that how the procedure will work out was to be discussed. There were some questions which needs to be answered on which the whole GD was based. Tips for GD are:

->Try to speak ideas rather than random words. They will target if any random thing is observed.

-> Speaking increases chance of selection.

-> Provide you ideas with great explanation.

->You will be given 30 seconds to speak in that you have to explain your part.

After this 46 people were selected.

Interview: Interviews in Deloitte just check your knowledge about basics of your subjects and these are generally HR interview with very less Technical (In case you are CS/IT student then Expect questions from DBMS and OS).My Questions were:

1) Introduce Yourself. Please go through this very clearly because next question is from this content only. Prepare answer for every possible why.

2) Why don't you want to join Army(As my Father is in Army)?

3) Discussion on Resume, All Projects and Languages must be revised properly.

4) Why do you Love Programming?

5) What are your Interests?

6) Two Puzzles:

— <http://www.programmerinterview.com/index.php/puzzles/3-switches-3-bulbs/>

— A shopkeeper gives a chocolate for Re.1 and a chocolate for wrappers of same chocolate. How many Chocolates you can buy from Rs 75?

Ans::112

7) Some Simple SQL Queries..

8) What is foreign Key and why it is required?

9) What are Views in DBMS?

10) Where do you see yourself after 10 years?

11) What are your Expectations from life?

12) Any Questions for Me??? I asked about his Career and growth at Deloitte.

Thank You...

Tips:

->Speak for Every Question Asked

->Prepare HR questions very nicely ,it helps to boost your confidence.

->Be Confident because if you lose you will lose everything and Regret it Later...

->All the Best for your Interviews ...Wish you Luck All.. Comment if any query!!!

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Shopclues, Gurgaon Interview Experience | Set 1 (On-Campus)

Company: Clues Network Pvt. Ltd Gurgoan

Profile: Software Engineer

Shopclues visited our campus in Mid -October, 2016

First round It was an online round. It had 15 aptitude/reasoning and 15 technical questions (C, Java, OS, DBMS) in 45 minutes.

Level of aptitude questions was average.

18 were shortlisted from over 100 candidates .

Then 3 technical interviews + 1 HR round

Technical Interview -1 FTF

1. Discussion on the projects that I have done. I had done 3 projects.
2. Implementation of Escalator, concept, data structure to be used.
3. Sql joins and types of keys
4. A mathematical puzzle (solved it by divide and conquer approach)
5. Merge two unsorted linked list and also removing duplicates (best approach)
6. OS scheduling.

Lasted for around 35 minutes

16 people went to next round

Technical Interview-2 FTF

1. Tell me about yourself
2. Why do u want to join?
3. Two C code (easy)
4. Java Inheritance, abstract classes, interfaces.
5. How an Http request is processed.
6. How will you make sure only one session is active at a time.
7. What is Kernel? Its functions?
8. Web technologies, open source technologies.

Lasted for around 25 minutes

12 people went to next round

Technical Interview-3 FTF

1. Introduction
2. One code from doubly linked list.
3. Questions from project, Authentication methods used in project

It lasted for around 20 minutes

9 people went for HR round

HR interview

Why do u want to join?

How Shopclues is different from other e-commerce companies.

Recent in news about Shopclues.

Number of petrol pumps in your city? How you got this number?

Finally 4 people were given Job Offer.

Thanks to Geeksforgeeks as it helped me a lot in preparing.

Rockwell Collins Campus Interview Experience

Round 1: Written test containing three sections for Electronics and Communication engineers and 2 sections for Computer Science candidates.

they were general aptitude (25 questions)

c programming (finding errors and outputs (25q))

and technical questions regarding all ece subjects (25q)

no negative marking and 90 minutes for test

Round 2 : an hour technical discussion regarding areas of interest and all fundamentals of electronics like communication, wireless, circuits etc

Round 3: half an hour hr discussion.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Rockwell Collins

Interview Experience at Rockwell Collins

1. Difference between risc and cisc:

Risc more number of registers, what sir said is in risc for instructions like ldm and stm instructions cycles or loops are fixed like 12 or 13 but in cisc it depends, so therefore for industrial purpose risc is preferred when compared to cisc.

2. Which sorting technique is fast

Difference between merge sort and quick sort

3. What is ARM instruction set?

4. Pipeline concept explain using thumb and arm mode

5. IPC MECHANISMS

6. Semaphores and mutexes difference

7. Difference between process and threads

8. Program on preemptive scheduling with medium low and high priorities

9. Embedded C Program in microcontroller i wrote for avr atmega8, manage the speed of fan high or low depending on temperature and make fan switch ON or OFF during night 10 pm to morning 11 am.

10. When a semaphore becomes mutex (he said something at signal0).

11. Difference between assembler, compiler and linker with extensions

12. What are different debugging techniques like gdb and so on.....

13. Debugging effect on compilation

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Rockwell Collins

Inmobi Interview Experience | Set 4

Round 1:

Discussed about projects

Find two elements in BST such that their sum is k

Given an array, find minimum positive integer missing in O(n) time

Round 2:

Write a program for binary search. Discussed if any memory overflow problems occurs and how to resolve them. Left shift an unordered array by k times in O(n) time.

Round 3:

An island is represented in an 2d array of size mxn. If robot moves out of island it gets destroyed and robot is allowed to move top, down, left, right. Given a robot position (x, y) and k steps, what is the probability of robot getting survived in the effort of making k steps.

Given a subroutine which can be called in the flow of multi threaded web application. Track the number of times this subroutine is called without using synchronized keyword.

Best Regards

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Inmobi

Inmobi Interview Experience | Set 3

I had an interview with Inmobi. Their process is written test followed by 3/4 f2f interviews. It was a drive over weekend.

Written test:

They did not expect any code in this round. An algo or pseudo code is fine.

1) You are given 2 vessels with capacity M liters and N liters capacity and infinite supply of water. You need to find the minimum number of steps required to get P liters.

Any of the below action is considered a step

- a) Filling vessel with water
- b) Emptying vessel
- c) Pouring water from one vessel to another vessel.

2) Given n sets each containing m integers. You need to create MinDiff set by picking exactly 1 element from each set. The difference between the maximum and minimum elements in the MinDiff set should be minimum.

eg: for the sets {30, 20, 10, 40}, {22, 33, 44, 99}, {16, 17, 18, 19} min diff set is {19, 20, 22}. Max and min elements in MinDiff set are 22 and 19 and their difference is 3.

Round-I

1) Little discussion on my project

2) Given a chessboard and the initial position of horse. If "n" is the number of steps the horse can make then what is probability that it goes out of board ?

Round-II

1) you will be given the binary representation of the numbers in the form of 2D array.

```
eg: r1- 00001  
r2- 00100  
r3- 01010  
r4- 00110  
r5- 00111
```

This means the elements are 1, 4, 10 , 6 and 7.

A number "n" is given. Let us say that n can be formed by doing bitwise OR operation on rows of given matrix. What is the minimum number of rows that needs to be deleted from the matrix so that "n" can never be formed by doing the OR of the rows.

If n is 14(01110) then it can be formed by doing r2|r3 or r3|r4. You can prevent n formation either by deleting {r2,r4} or {r3}. But {r3} has least number of elements so it is the required set.

2) Find the average of mid 50% of elements in the running stream of integers

I have not cleared round-II so no further questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Inmobi

InMobi Interview Experience | Set 2 (On-Campus)

InMobi visited our campus twice, once for the written round, then for the personal interviews of the shortlisted candidates.

So here is the written + PI experience of mine for InMobi.

Written Round :

Time : 1:30 hours.

25 MCQ's, coding questions.

MCQ's were easy, coding questions –

1) Kth Optimal path in a matrix.

<http://programmers.stackexchange.com/questions/260972/kth-optimal-path-in-a-matrix>

2) Given a string, evaluate it and return the integer answer.

Eg. Input : "1+2+3*(4+5)*9+4-5*2"

Output : 240

Oncampus-

First round of Personal Interview

- * Tell me about yourself
- * Tell about the projects done
- * Find the first repeating element in an array of integers.
- * Discussion on 8-Queen's problem
- * Find if there is a triplet in a Balanced BST that adds to zero.

Second Round of Personal Interview

- * General discussion on BigData, as I have worked on Hadoop.
 - * Add 3 linked lists.
 - * Serialize and Deserialize a Binary Tree
-

Third Round of Personal Interview

- * Wildcard Matching
<https://oj.leetcode.com/problems/wildcard-matching/>
 - * Some bhaukaal question on graph.
 - * Discussion about Trie data structure, T9 dictionary.
-

Finally HR Round

- General HR questions like-
- * Tell me about yourself
 - * What you learned during your summer internship
 - * 3 strengths and 3 weakness (Very tricky Question)
 - * What do you know about InMobi
 - * Why InMobi
 - * Plan for further studies

Then the HR started telling me about the company, its policies, etc.

I follow GeeksforGeeks religiously and it helped me a lot! Hope this experience helps you too

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Inmobi

Inmobi Interview Experience | Set 1 (On-Campus)

Inmobi recently visited my campus and I got hired. I would like to share my experience.

Round 1: 25 MCQ and 2 coding questions.

It was hosted on Hackerrank. MCQ's are all technical questions and also have negative marking (+1,-0.25). We had 20 minutes to do the 25 MCQ's. The coding questions were:

- Given an array of integers and a number, count the total number of subsets of the array with sum equal to the number. (15 minutes)
- Given an array of integers, you need to check if it's an arithmetic progression, geometric progression or fibonacci series. You then need to return the next number in the series or -999 if the given numbers does not follow any of the above series. The fibonacci series need not start with 0. A valid fibonacci series could be 8,9,17 (25 minutes)

11 of us were then selected for personal interviews.

Round 2:

The interviewer started with a discussion about my CV. She asked me about my good and bad experiences with coding. The questions she asked were relatively easy.

- Given a linked list of integers, remove all duplicates.
- She asked me to design a database. 1 table for employees, another for department. Initially 1 employee could be in just 1 department but each department has multiple employees. Then she changed it such that each employee could be in many departments and each department can have multiple employees. Then she asked me to write a simple query to list all the employees that belonged to a specific department.
- Implement a queue using stack

Round 3:

The interviewer again started with a detailed discussion of my CV.

- He asked me to write a simple program which explains all the concepts of multithreading and explain it to him considering him a layman.
- He then asked me to design a class which has two random numbers and a mathematical operation in between them. If the user answers correctly, then a new question comes, otherwise the user tries the answering the same thing again. There is also a timer and a score to keep track of. The timer starts as soon as the user hits the start button button.

After I designed everything, he gave me 10 minutes to find bugs in my own code.

Round 4:

The fourth round was a bit tiring as I had only 5 mins between round 3 and round 4. The interviewer scanned through my CV but didn't ask me anything about it.

- Given two strings, you need to transform one into the other. You can only transform 1 character at a time. The string formed after each character change should be a recognised word in the English language. If it's not, that change is not allowed and you need to go back. A function to check if a word is present in the English language was provided to me.
- Given a matrix of n*n, print all the paths from 0,0 to n,n. You can either increase the x-coordinate one at a time or the y coordinate. Decreasing coordinates or going diagonally is not allowed.

Round 5.

This was an HR interview. He asked me various questions trying to make it awkward. The key here is to stay calm and confident.

Tips: Be frank, be honest with your interviewer. If you are not comfortable in 1 topic, tell your interviewer honestly. Do well in other areas. Look for hints from the interviewer if you get stuck. They want to see how you approach a problem.

I would like to thank Geeksforgeeks to help me prepare and land this awesome job.

If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Inmobi

Sandisk Corporation Interview | Set 1 (On-Campus for Software Developer)

ROUND-1

Written test-including 10 basic aptitude questions, 10 questions of C and 2 Coding Questions.

- Design data structure to implement sparse matrix.
- One bit manipulation ques.

Top 8 students were shortlisted from CS

ROUND-2

Technical Interview

1. Ask about written test,about questions in written test -how you had solve them.
2. Ask me about the projects you have made.
3. Which language you like the most and why?
4. Other basic questions...

Top 3 students were shortlisted in this round

ROUND-3

Technical Interview

All 3 students were asked to sit in one big room.

Then 2 coding questions were given to write on paper in 45 min.

- 1..Implement strtok functions of strings.

eg char a[]="ab,cd,e"

Output should be 3 strings—"ab", "cd" and "e" if we consider the delimiter as ','

2..People are sitting on round table and we have knock out each of one in alternate order eg 1 2 3 4 5 6. These 6 people are sitting in circular table. If we knock out 2 first.

Output should be 2 4 6 3 1 5

ROUND-4

HR Round

1. Tell me about yourself?
2. Why you want to join sandisk?
3. What if any other company offer more than what they offer?
4. Working environment or high salary??

I would like to thank geeksforgeeks.org which helped me lot throughout my placement process.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Sandisk-Corporation

MAQ Software Interview Experience | Set 16 (On-Campus FTE+Internship)

MAQ Software Interview Experience (On-Campus FTE+Internship)

There were four rounds.

Round 1:

This round was an offline written round.It consisted of 30 aptitude questions and the given time was 30 mins.

Topics:

- Time and work
- Pipes and Cisterns
- Calendar Dates
- Common puzzles
- Speed and Distances
- Simple and Compund Interest
- Profit and Loss
- Area

There was negative marking for wrong answers.

Round 2:

This round was an offline coding round. It consisted of two questions. Time allotted was 30 mins.

Q1. Print matrix in a spiral order.

<http://www.geeksforgeeks.org/print-a-given-matrix-in-spiral-form/>

Q2. Snake-Ladder problem.

<http://www.geeksforgeeks.org/snake-ladder-problem-2/>

One could write pseudo code/algorithm/full code.

Around 18 people were selected for the interview rounds based on the previous two rounds (but the weightage of the first round was more).

There were total 2 interview/technical rounds.

Technical interview round 1:(40 mins)

1. Tell me about yourself.

2. About the family background.

3. Rate yourself in data structures (array, string, binary tree, BST etc).

4. What is indexing in DBMS? Types of indexing? How you can implement indexing using B-tree and B+ tree? Lot of discussion on B-tree and B+ tree-insertion and deletion.

5. What is BST? Give a real-life example.

6. What are the types of link list? How to detect and remove a loop in link list?

7. Lot of questions were asked based on my projects (Machine Learning and neural network).

8. Given a range, count the no of times the 7th digit will occur. Implement in both recursive and iterative form.

Eg: if range is 1-20, count=2

9. Reverse a string in one pass.

Eg: if input string is "my name is mohan"

output is : "mohan is name my".

<http://stackoverflow.com/questions/1009160/reverse-the-ordering-of-words-in-a-string>.

There were some HR questions like:

1. What is your future goal.

2. Preferred location (Mumbai/Hyderabad).

3. Questions related to team management.

7 students were selected for 2nd technical round.

Technical interview round 2:(1 hr)

1. Wap to print all permutations of a given string

eg. Input string is "ABC"

output will be:

ABC

ACB

BAC

BCA

CBA

CAB

<http://www.geeksforgeeks.org/write-a-c-program-to-print-all-permutations-of-a-given-string/>

2. Serialize and Deserialize a Binary Tree

<http://www.geeksforgeeks.org/serialize-deserialize-binary-tree/>

Write the full code with all base cases.

3. Apple puzzle.

<https://www.youtube.com/watch?v=o6nbg69MI4c>

4. How many squares in a chessboard.

Total 4 students were selected from our campus.

I thank GeeksforGeeks as it helped me a lot to prepare for interviews.

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 15 (On-Campus)

Recently MAQ Software visited our campus. A panel of two members arrived.

There was a pen and paper round. The round consisted of aptitude questions like

Round 1:

- Time and work
- Pipes and Cisterns

- Calendar Dates
- Common puzzles
- Speed and Distances

There were 30 questions to be solved in 30 mins. Each question was provided with four choices out of which one was correct. There was negative marking for wrong answers.

Next there was a round where two coding questions were given. Time allotted for this round was again 30 mins. The questions were

- <http://www.geeksforgeeks.org/sort-an-array-of-0s-1s-and-2s/> (Problem statement was not exactly the same but similar logic had to be used)
- N-queen problem for 8 queens (I gave this solution using Backtracking <http://www.geeksforgeeks.org/backtracking-set-3-n-queen-problem/>)

Technical 1: FTF

- 1) Discussion on project
- 2) Reverse a string wordwise. (Let the input string be "i like this program very much". The function should change the string to "much very program this like i").
- 3) Questions on Android (Project related)
- 4) SQL queries
- 5) Java concepts
- 6) Asked me to explain backtracking and both of the codes of the written round.

[35 mins]

Technical 2: Skype

1) Maximum area of a histogram. (<http://www.geeksforgeeks.org/largest-rectangle-under-histogram/>)

2) key and lock problem(<http://www.geeksforgeeks.org/nuts-bolts-problem-lock-key-problem/>)

3) Puzzle: make 120 with any number of 0s using any arithmetic operators.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 14 (On-Campus)

Recently MAQ Software visited our campus. A panel of two members arrived.

There was a pen and paper round. The round consisted of aptitude questions like

- Time and work
- Pipes and Cisterns
- Calender Dates
- Common puzzles
- Speed and Distances

There were 30 questions to be solved in 30 mins. Each question was provided with four choices out of which one was correct. There was negative marking for wrong answers.

Next there was a round where two coding questions were given. Time allotted for this round was again 30 mins. The questions were

- <http://www.geeksforgeeks.org/sort-an-array-of-0s-1s-and-2s/> (Problem statement was not exactly the same but similar logic had to be used)
- N-queen problem for 8 queens (I gave this solution using Backtracking <http://www.geeksforgeeks.org/backtracking-set-3-n-queen-problem/>)

Around 36 people were called for the next rounds. There were two rounds of face to face interview. Each candidate was interviewed by both the members in the panel.

Interview Round 1

1. Start with a brief introduction about yourself.
2. Tell me about your project.
3. An easy question like calculate the factorial of a number. However edge cases had to be considered. <http://quiz.geeksforgeeks.org/c-program-factorial-number/>
4. Given a number, generate all prime numbers till that number. <http://www.geeksforgeeks.org/sieve-of-eratosthenes/>
5. Explain how can you count the number of 1's that appear between 0 to 20
(Gave a Brute force solution)
6. How can you reverse a string in place. <http://www.geeksforgeeks.org/write-a-program-to-reverse-an-array-or-string/>
7. Reverse individual words in a given string. <http://www.geeksforgeeks.org/reverse-words-in-a-given-string/>

After that I was asked if I have any question or not. I asked about the location and that if I would be given any option to choose my preferred location.

Interview Round 2

1. Write a program to detect if there is a loop in a linked list or not. If there is then find the starting point of the loop. <http://www.geeksforgeeks.org/write-a-c-function-to-detect-loop-in-a-linked-list/> (Note: This algorithm only detects the presence of a loop. It does not find the starting point.)
2. I was asked in which subject I was comfortable among the courses taught in curriculum. I said it was DBMS. I was asked what is de-normalisation.
3. Why do you want to join MAQ?
4. Asked me some Basic concepts of OOPs like inheritance, polymorphism.

I thank geeksforgeeks as it helped me a lot to prepare for campus interviews.

If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 13 (On-Campus)

Recently MAQ came to our campus for internship and placement offers. The whole process for interns were divided into three rounds.

First round was aptitude.Questions came from:

- Time and Work
- Calendars
- Mixtures

and other classic questions like the horse racing puzzle

Second Round was coding.Questions:

- N Queen
- Dutch National Flag

Third round was group discussion. Topic was should courses like npTEL be encouraged or not as they tend to lower the attendance of students.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 12 (Written Test)

I got interviewed by MAQ via Skype and they asked me below three question and the duration was 20 min :-

1. Write a program to print number pad from mobile

Output:

```
1 2 3
4 5 6
7 8 9
0
```

2. Print individual digits as words without using if or switch

3. Write a program to find the closest prime number to a given input

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 11 (On-Campus Written Test)

Written Test:

3 Coding Questions, test duration 30 min, and pen-and-paper test.

Lovely Professional University, Phagwara, Punjab. 05 February 2016.

Q1) Write a program to compute the following:

$1+(2*3)+(4*5*6)+\dots$ up to n times. Where n is the given input.

Q2) Write a program to find a loop in a linked list.

Q3) For a given number, find the nearest prime number.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 10 (On-Campus)

1. Written Round :

- 1) 30 Aptitude questions(30 min).
 - 2) 2-Coding questions(30 min).
 - 2-a) Write an algorithm for dutch national flag problem
 - 2-b) Write an algorithm for n-queens problem
- Total 40 people were selected for second round.

2.Techical Round 1 (around 1Hr 15min):-

- 1) What is web technology.
- 2) Write some Basic syntax of HTML.
- 3) Given 2 tables of employee containing employee_id,employee_name and department containing employee_id(foreign key), dept_id find the name of the employee who worked in maximum no. of departments.
- 4) Discussion about projects which I had written in resume.
- 5) What is inheritance, overloading and over-riding.
- 6) Difference between Encapsulation and abstraction.
- 7) What is indexing in databases.
- 8) What are clustered and non-clustered indexes.
- 9) Real life application of Data Structures.
- 10) Which Data structure used in printer.
- 11) Which Data structure used for maintaining Dictionary.(Trie)
- 12) What is the searching and space complexity of your Trie for maintaining Dictionary.
- 13) 2 simple puzzle.
- 14) Add 2 numbers a and b without using ?+? operator.
- 15) find nth Fibonacci number. (Gave O(logn) solution)

3.Techical Round 2 (around 1 Hr):-

- 1) How many square in (8*8) chess board.
- 2) Give general formula for square in (n*n) board and prove it.
- 3) Write code for Sudoku Game Problem and discuss time complexity of the code which was written by me. Discuss many things about that code he said to optimise the code then I optimise some portion of code then we move on to the next question.
- 4) puzzle:- 2 jars one contain 4 red and other one 4 blue randomly select any jar maximize the probability of selecting red ball by rearranging the balls. Puzzles#6
<http://www.crazyforcode.com/probability-puzzles-interview/>
- 5) Write code for calculating factorial of big number (Array).
- 6) Puzzle:- Given a pastry. someone eat it from one side how you divide it into 2 equal parts.
- 7) Egg dropping Puzzles. I give solution of 2 egg 100 floor puzzle but then said to give the generalized formula for it then I solve it using DP.

4. HR+Techincal Round(around 1 Hr) :-

Q1-Tell me about yourself?

Q2-Family background?

Q3-Discussion about projects which I had written in resume.

Q4-Write code for making Queue using 2 stack. Discuss about time complexity and space complexity and he said optimise the code.

Q5-Write code for Water Jug problem (check condition are we able to make any given number in any of the jug or not).

Q6-Puzzle:- Given a rectangle and a circle and a point lie on circle and center lie on line $y=x$ and 1 point of rectangle lie on origin. circle put into rectangle find the radius of circle.

A total of 3 students were offered the job(I was one of them). 2 students were offered the intern.

Thank you so much geeksforgeeks team.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 9 (On-Campus for SE-1)

First Round :

- 1) 30 Aptitude questions.
 - 2) 2-Coding questions
- 2-a) <http://www.geeksforgeeks.org/find-a-repeating-and-a-missing-number/>
- 2-b) <http://www.geeksforgeeks.org/dynamic-programming-set-32-word-break-problem/>
- 32 people were selected for second round.

Second Round :

- 1) Given a table of employees containing employee_id, manager_id and employee_name, find the topmost manager and second topmost manager.
 - 2) What is inheritance, overloading and over-riding.
 - 3) Difference between interfaces and abstraction.
 - 4) Add 2 numbers a and b without using '+' operator. I told him about half adder method, he asked to think of some other method. Gave the solution of adding 1 'b' times to 'a'. (in binary).
 - 5) Asked about the codes which was written in First round.
 - 6) 25 horses puzzle.
 - 7) Discussion about projects which I had written in resume.
- 14 people were selected for further rounds.

Third Round:

- 1) What is recursion. Space complexity, time complexities, system overheads etc.
- 2) find nth Fibonacci number. (Gave O(logn) solution)
- 3) What is difference between encapsulation and abstraction.
- 4) What is indexing in databases.
- 5) What are clustered and non-clustered indexes.
- 6) Why should not we use indexes? (Told about extra spaces) When do we use B-trees and hash-table during indexing?
- 7) Difference between WHERE and HAVING in SQL.
- 8) Constructor and Destructor in C++.
- 9) Discussion on projects which I had written about resume.

HR Round :

Q1-Tell me about yourself?

Q2-Tell me your strength and weakness.

Q3-Family background?

Q4-why do you want to join?

A total of 5 students were offered the job. 5 students were offered the intern.

Thanks geeksforgeeks team.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 8 (Off Campus for Software Engineer-1)

First Round (Technical Round on Skype (45 minutes)

Q1-some Questions from my resume.

Q2-Program for Factorial and how to calculate factorials of large numbers.

Q3-Detect a loop in linked list and find the middle node in linked list.

Q4-Given a stream of number which are added to the array A[]. find the middle element of the stream.

Q5-What is indexing and hashing in DBMS.

Q6-Interface in Java.

Q7-Difference between Abstraction and Encapsulation.

Q8-Multithreading in Java.

Second Round Technical on Skype (1:30 Hour)

Q1-Find the common element in three sorted arrays. optimized approach.

Q2-Project Discussion and limitations of the project(First Project).and how you will handle the limitations.

Q3-Given 100 balls in which one ball is defective.you also have a balance tell minimum number of steps to find the defective ball.

Q4- Write the complexity of the Above puzzle & generalize it for n balls.

Q5-Given an linked list find the nth element from the last node.

Q6-What is deadlock.what are the conditions for occurring deadlock.

Q7-What is Semaphore? Types of semaphore.

Q8-What are joins in SQL.Difference between left outer join and right outer join?

Q9-write Three commands for DDL,DML,DCL?

Q10-What is Transaction in DBMS and also tell the ACID properties?

Q11-What is RollBack & savepoint in Transactions.

Q12-you have given an employee table in which you have their salary and employee name.

Write a query to find the nth highest salary and the employee name.

Third Round Skype (1:30 Hour)

Q1-Project Discussion Summary Generator using probabilistic model in depth.What was your role in the project.What are the advantages of the project.

Q2-Why did you use probabilistic model? why did you not use Vector space model.

Q3-On Which technology you have worked till now?

Q4-Given a series (6+6*4+6*4*4+6*4*4*4+....so on). write a code to find the nth term of the series.

Q5-Tower of Hanoi Problem & time complexity.

Q6-What is polymorphism? type of polymorphism.

Q7-Static Keyword in c++.

Q8-Final keyword in java.

Q9-What is constructor and types of constructor.

Q10-Life Cycle of a Applet in Java because I had used java applets in my project GUI.

Q11-what is Function Overloading & function overriding and virtual functions.

Fourth Round Skype (30 minutes)

Q1-Tell me about yourself?

Q2-Tell me your strength and weakness.

Q3-Family background?

Q4-why do you want to join?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 7

Round 1: written

Apti, C, C++, OS, DS

Round 2: coding 2 questions, 30 mins

1. Serialize and deserialize a given n-ary tree.

Ans: solved by storing preorder traversal and marker in a file.

2. Snake and ladder problem

Ans: breadth first search on graph using queue.

Round 3: Skype

1. Resume, projects, OS, SQL, DS and OOP concepts.

2. Asked to find fibonacci series in $O(\log n)$ method.

Ans: use matrix method

3. Add two nos without + operator.

Ans. used half adder method

Round 4: skype

1. Resume, projects, OS, SQL, DS and OOP concepts.

2. Puzzles: 2 eggs puzzle, 20 horses race puzzle(give the data-structure too).

Round 5: Skype Rech + HR

Gave his own coding pad

1. Rotate array around pivot.

2. Given a BST and a number. Find the no, in BST closest to the given no.

Tell about urself, why MAQ, plan for higher studies etc.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 6 (On-Campus)

I recently sat in on-campus interview for MAQ Software. The whole interview process comprised of the following rounds.

Round 1:

It comprised of general aptitude questions and two coding questions. It was an offline test. The coding questions were:

1. Given an array A[] consisting of 0's, 1's and 2's, give an algorithm for sorting A.

2. N-Queen Problem.

After this round around 40 students were shortlisted from around 150 students.

After this there were three more rounds and each round was an elimination one.

Round 2:

1. The interviewer started by having a look at my CV. He asked for a firm technical introduction.

2. He asked question about my projects. As I have had my intern from a very good place, he appeared impressed from the very start.

3. After having a technical discussion about my CV. He gave me two questions to code as following:

a.) Given a linked list find whether loop exists or not. Find the starting point of loop.

b.) Given a very big string, find whether the given substring exists or not in minimum time and space complexity.

After this round around 15 students were shortlisted.

Round 3:

1. The interviewer was a young guy. He too had a look at my CV and appeared impressed.

2. He discussed in detail about the two major projects done during my internship.

3. He sat smiling at me with a friendly look and said that yes you have had actually done a lot of work. In the end for formality sake he gave me one question to code. The question was to find the in-order successor in a binary tree. He later told me that the tree is BST.

After this round around 5 students were shortlisted.

Round 4:

This was supposed to be the HR round but out of surprise the interviewer started by giving me a question to code. The question was to print all the combinations of balanced parenthesis for a given value n. For example if $n=2$, we will have $((), ()$ as two balanced pairs possible.

After I approached this question with the right solution he just asked about my family. After that he said to wait.

After half an hour the results were announced. A total of three students were hired and I was amongst one of them.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 5

1st round – 30 min, 30 MCQs (IQ test)

2nd round – Coding test(30 min)

Q1-> Insertion sort

Q2-> Reverse a number using recursion

Q3-> Didn't remember

3rd round-1 hour

Q1->Some questions from resume

Q2->print x to y using recursion.

Q3->Check whether a given BT is BST or not?

Q4->Code for merge sort of a singly link list.

Q6->Discussion on Encapsulation, Virtual functions.

Q7->Questions on normalization.

Q8->Order of execution for sample queries.

Q9->Given two candles. Each can burn for 60 minutes. Both candles can burn from both sides.

How will you measure 45 minutes?

4th round-45 minutes

Q1->Deep discussion on resume.

Q2->A trick question on mysql queries.

Q3->Given 2 jars, 4 red balls and 4 blue balls. You can put any number of balls in any jar.

You have two select one ball out of any jar. How will you make sure that probability of getting a red ball is maximum?

Q4->Why MAQ?

5th round-30 minutes-manager round

Q1->solve $1+2X3+3X4X5+4X5X6X7\dots\dots$ using recursion for an input 'n'.

Q2-><http://www.programmerinterview.com/index.php/puzzles/25-horses-3-fastest-5-races-puzzle/>

Q3->Questions on resume.

Thank you geeksforgeeks for your help

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Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 3

1) IQ Test:

30 ques in 30 mins consisting of difficult quantitative aptitude questions.

2) Algorithm Test:

2 question, either write the code or pseudo code

1. Write an algorithm for dutch national flag problem

2. Write an algorithm for n-queens problem

3) Technical Round 1:

1. Horse Race puzzle

2. A circle is inscribed in a square(coordinates top left corner (0,0)). Coordinates of a point on the circle is given . Calculate the area of circle

3. Write a code to reverse the sequence of words in a sentence . For eg: Input Array: I_AM_A_BOY Output Array: BOY_A_AM_I , you can't use extra array . Input array is the only array that can be used.

4. Write a code for Expression Evaluation (BODMAS)

4) Technical Round 2:

1. Write a code to add two numbers without using '+' operator.

2. Write a code to find the given linked list is Circular or not ? Then find the node where it is getting circular

Other random questions like on: new technologies like clouding , knowledge about different languages , data structures and algorithms etc.

5) Communication Test

1. Tell me about your self, your family background
2. What is your dream company.
3. Why do you want to join MAQ
4. What skills of yours makes you suitable for this job.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience | Set 2

1) Written Test: 30 ques in 30 mins consisting of simple quantitative aptitude, 2-3 puzzles.

2) Algorithm Round: 2 question, either write the code or pseudo code

- a) Write a code to print a matrix spirally
- b) Write an algorithm for snake and ladder problem

3) Technical Round 1:

15 mins coding test: write a working code to print first non repetitive character in a string.

explain the code, optimize it. General questions on dbms like transactions, 3-4 simple sql queries, 2 puzzles, basic oops concepts like inheritance, polymorphism.

Few simple codes were asked like factorial of a number with and without recursion

4) Technical Round 2:

15 mins coding test: working code to sort a matrix, so that the rows are sorted in ascending order and columns are sorted in descending order.

I was asked to optimize the code. question on data structure like find the common ancestor of given two nodes of a BST both with and without recursion, finding loop in a linked list, finding middle element in a linked list, whether a linked list is circular or not, Y node problem in a linked list, 1 question based on clock, 2 eggs puzzle

I was asked to explain the components of my project in detail

5) Communication Test (15 mins)

q1) Why do you want to join MAQ

q2) What skills of yours makes u suitable for this job

6) HR Round

Tell me about your self, your family background

Tell me something which is not mentioned in your resume

What you found most interesting about the company

What type of work you want to do at company

Any experiments you have done in your life

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

MAQ Software Interview Experience

30 Multiple Choice Questions ranging from quantitative aptitude and puzzles has to be done in 30 minutes, 25% negative marking was there.

Algorithm round

There were 2 questions, for 1st question we have to write the working code and for 2nd question we can write algorithm

(i)Print matrix in spiral form

(ii)Snake and Ladder problem

Coding round 1

There was 15 minute coding round

Find first non-repeatable character from an array.

Technical round 1

Tell me about yourself, then they asked me to explain the code i have write in coding round, snake ladder algorithm, give a program to write (sum of factorial series of n terms) and then asked me to optimise that code and about my projects.

Coding round 2

Again 15 minute coding round

Sort a matrix such that rows in ascending order and columns should be in descending order.

Technical round 2

Start from project, asked about the role in project, i handle database so he asked SQL queries. Also asked puzzle (from two dice make calendar), virtual function, function overloading, function overriding, program to find nth prime number and then optimise the code.

Communication test

There were two questions we have to write in 15 minutes.

(i) Why do want to join MAQ Softwares?

(ii) What skills or background makes you suitable for this job?

HR Interview

Tell me about yourself, family background, questions from what i have written in Communication test.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MAQ Software

Tower Research LLC Interview Experience | Set 1 (Telephonic Round for Internship)

1. Brief explanation of a research project done in summers.

2. Algorithmic:

An infinite stream of numbers is given. The stream is stopped at an arbitrary point. Return any number of the stream read till now with equal probability, using O(1) space.

3. Knowledge based:

(It was determined whether the candidate has done a course on Data Structures and Algorithms.)

A weighted, undirected graph is given, in which two vertices are specified. The objective to determine the shortest path between the two vertices. It was asked whether there exist any algorithms for this.

(It was observed by the candidate that the Dijkstra's algorithm is a suitable algorithm for this question.)

The interviewer proceeded to demand a detailed explanation of the algorithm and the time complexity.

4. Probability Theory:

Given an array of size n, return the maximum element.

(The candidate demonstrated an O(n) time algorithm, in which a variable stores the maximum value. The array is read serially, and the variable is updated whenever an element with a value greater than that of the variable is found.)

An array of size n containing distinct numbers is given. The elements can be in any permutation with equal probability.

In the O(n) algorithm for finding the maximum element explained above, the variable containing the maximum element is updated multiple times over the pass of the array. Find the expected value of the total number of updatations(changes) on the variable, over the pass of the array.

5. Game Theory:

A two-player game is described, in which each player can pick any number from 1 to 10 arbitrarily. The objective is to end at a position where you(a player) pick a number such that the sum of all the numbers picked by you and the opponent till that point(including the number picked at the end by you) is 50.

Find a winning strategy, if it exists.

The strategy should also include the information whether you play first or second.

6. Mathematical Puzzle:

Given a sphere, find the maximum number of points can be placed on the surface of the sphere such that all are equidistant from each other.

Explain the solution.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Tower Research LLC

Athena Health Interview Experience | Set 2

Round 1:

10 Aptitude questions with difficulty level hard.

Round 2:

3 programs given. 1st one mandatory.

1) Replace wild cards with all possible combinations of zeros and ones.

String given: 0?1?

Result:

0010
0011
0110
0111

2) Triplet problem.

Array = {2,3,7,6,8,9} and k=6.

{2,3,6} (2x3 = 6)

{3,2,6} (3x2 = 6)

3) Another one dynamic programming problem. I couldn't remember.

Round 3(F2F):

if n=3 prepare matrix like

```
3 3 3 3 3  
3 2 2 2 3  
3 2 1 2 3  
3 2 2 2 3  
3 3 3 3 3
```

and modify my code to print

```
1 1 1 1 1  
1 2 2 2 1  
1 2 3 2 1  
1 2 2 2 1  
1 1 1 1 1
```

Questions about previous projects done and my roles on it and my leadership capabilities.

Few technical questions from Threads and multi-processing and.

Discussed about triplet problem done in round 2 and how to tweak my algorithm to avoid getting redundant entries.

Search in row wise, column wise sorted matrix

```
{10,20,30,40}  
{15,25,35,45}  
{27,29,37,48}  
{32,33,39,50}
```

Round 4(F2F):

Level order traversal of a tree and discussed about time and space complexity of both techniques(Using Queue and recursive technique)

<http://www.geeksforgeeks.org/level-order-tree-traversal/>

Array of 0's and 1's. Move 0's to left and 1's to right side.

<http://www.geeksforgeeks.org/segregate-0s-and-1s-in-an-array-by-traversing-array-once/>

Given an array of integers, replace every element with the next greatest element (greatest element on the right side) in the array. {16, 17, 4, 3, 5, 2} = {17, 5, 5, 2, -1}

<http://www.geeksforgeeks.org/replace-every-element-with-the-greatest-on-right-side/>

Find loop in Linked list. <http://www.geeksforgeeks.org/write-a-c-function-to-detect-loop-in-a-linked-list/>

Detect and remove loop in a Linked list. <http://www.geeksforgeeks.org/detect-and-remove-loop-in-a-linked-list/>

Difference between Tree and Trie data structure along with implementation of Trie and real time examples.

Questions on data structure for implementing dictionary and its pros and cons.

Questions on implementation of Linux directory structure.

Discussed about logic I used in 2nd round for wild card permutation question and discussed time complexity of it.

Round 5(F2F):

Given 3 points in below triangle, find wheather these 3 points are forming equalaterial triangle?

```
(5,12,14) = true  
(6,18,22) = true  
(2,11,15) = false
```

```
1  
2 3  
4 5 6  
7 8 9 10  
11 12 13 14 15  
16 17 18 19 20 21  
and so on..
```

Questions about previous projects and current one.

Why Athena and shifting from old company in short period?

Aptitude problems from first round and how i understood and approached towards solution

Deep discussion about 8 queens problem and its solution(I used backtracking approach)

Round 6(F2F):

Turing machine problems.(http://en.wikipedia.org/wiki/Turing_machine_examples)

1. There is a sequence of bytes coming. after every instance I need to check wheather that number can be devisible by 3 or not. Need turing machine diagram and approach.

2. Similar turing machine question for prime number.

Tree level order and spiral order traversal and its complexity analysis.

Questions on array split to two halves of equal sum.

Round 7(HR):

Behavioral questions and team skills.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Athena-Health

Athena Health Interview Experience

In Athena Health you can apply for anyone Development or Testing(QA) jobs.

1. The first round is for checking problem solving ability. It will contain some 10 questions and no negative marks.

2. The second round is coding . the questions for coding may differ for developers and testers. I am sharing the questions that have been asked for developers

- a. For the given sudoku find whether it is valid or invalid.

There are three things you have to check.

- i) Check whether every row is valid if anyone is invalid print it as invalid row
- ii)Check whether every column is valid if anyone is invalid print it as invalid
- iii)Check whether every square is valid if anyone is invalid print it as invalid

Otherwise print it as valid.

- b. For the given sentence and 2 words find the distance between 2 words.(i.e words are not present in the sentence then print as -1.

and the values corresponding to that row.
column and the values corresponding to that column.
and the starting and ending position of that square.

number of words between those 2 words in the given sentence). If those words

3. It is technical round, you will be having 2 or 3 members per panel and questions may be from database,object oriented programming,operating systems, linux commands and algorithm may be asked for problems

- a. Maze problem.

b. exchanging the numbers opposite to each other in a clock. Replace 12 by 6, 1 by 7,2 by 8 and so on. The numbers may differ. not only 12 numbers. it should be exchanged depending on the number of elements given in the circular list.

4. Tech 2 contains again questions based on your resume and project.

5. HR about your family.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Athena-Health

Amadeus Labs Interview Experience | Set 3 (On Campus)

Amadeus Labs Bangalore visited our campus. The placement procedure was as follows: an online test on SHL on 8th followed by interviews on 9th.

Online Test – It consisted of two sections: verbal reasoning and numerical reasoning. 19 minutes were given for 30 verbal reasoning questions and 25 minutes for 25 numerical reasoning questions. As it is evident, the time was minimal. Also, one couldn't go back to a previous question. I practised a bit on SHL.

113 students took this test. 24 out of them were shortlisted for interviews.

Round 1 – This round was based purely on technical knowledge and went on for about 45 minutes.

The interview began with a formal introduction.

The interviewer started reading my resume and found one of the projects that I had undertaken to be fascinating. It was a taxi dispatch system and used Dijkstra's shortest path algorithm to accomplish its purpose. He asked me to code the algorithm used. I did it in about 10 minutes and he suggested some improvements thereafter.

He asked me what I knew about sorting. I named a few algorithms used for sorting. He then asked me what merge-sort is. As soon as I started to explain the idea behind the algorithm, he asked me to code it which I did in about 5 minutes. He then performed a dry run of the code.

He then sought to test my knowledge of OOP. He inquired from me what multiple inheritance is. I couldn't recall it at the moment and told him multi-level inheritance instead. He told me that I was not familiar with the concept. He then moved on to ask me about polymorphism. I told him about the types and how they are implemented. He then asked me a problem concerning virtual functions.

A puzzle was given. Spherical balls of given dimensions needed to be fitted into a cube of given dimensions efficiently. I gave a solution and he asked me why it was the most efficient one. I answered that any other configuration would lead to wastage of space and therefore, efficiency would be compromised.

The next topic was DBMS. He asked me to draw an ER diagram for an attendance management system. I took about 10 minutes to come up with it.

The interviewer then encouraged me to ask him something. As I had attended the pre-placement talk the day before, I knew he had worked in Silicon Valley, California for 10 years. I, therefore, asked him what companies he had worked for and differences, if any, he found between the silicon valleys of India and the US.

Round 2 – This round tested overall personality. The interviewer was one of the directors of Amadeus Labs Bangalore under whom about 250 people work.

He began with asking a brief introduction. He proceeded on by asking how many interviews I had previously given and wanted to know if I had learned anything from them.

Rushing to the solution without giving due thought to its every aspect was the answer I gave. He seemed impressed.

The first glances of my CV lead him to ask this: how did you manage to maintain such a high CGPA? I told him being attentive in the classroom was the only thing I followed. I added how doing so significantly reduced the time one had to devote at home to studying. Also, I told him how I used to sit only on the benches of the first three rows. This made him ask another question. "Assuming you were sitting on of the seats of the first three rows in the talk yesterday, can you tell me what I spoke of exactly?" At first, it didn't strike me but as I proceeded, it suddenly dawned upon me. He had told that Amadeus acted as a middle entity between travel agencies and travel providers.

Parsing through my resume, he found that I had been athletic during my yesteryears. He then gave me a task of organising a sports event in the campus. He was interested in the objective which I would keep in mind for the event. Attention to physical fitness with academics seemed like an appropriate response. I went with it. Also, I presented the example of one of my friends who fell on track before even completing one round of it.

He then moved on to technical aspects. He asked the following two questions in series:

1. An application is slow. What can be the possible reasons?
2. How is inter-process communication accomplished?

I was able to give 5 or 6 points for each of the questions.

He then saw that I had cleared JEE Advanced 2013. He inquired why the rank in JEE Main 2013 was high relatively. I told him the weight-age of class 12 marks had had a severe effect on it. I continued by saying that I had scored decently in PCM but Physical Education spoiled the show. He immediately noted down my marks in PCM.

At last, he inquired if I wanted to ask him something. I was waiting for this to happen. I inquired what his work entailed at Amadeus Labs. He told me his focus was to create an environment conducive for innovation. "Is there something you'd like to change in your company?" He thought about it for a second and replied, "many things".

This round went on for about 30 minutes.

Round 3 – This round was the hiring round (HR). The Talent Acquisition Head was the interviewer.

She asked me to tell something about myself.

"Why should we hire you?" I answered by saying that I was always ready to learn. I added, "If I am the smartest person in the room, I wouldn't want to be in that room."

"How did the previous rounds go?" "Good", I replied. Smiling, she said, "very good".

"Why do you want to join Amadeus?" I began by saying that I was impressed by the connection the speakers were able to make with the audience during the talk. None of the talks previously had been able to do it. Every company flaunted their work environment but if I believed anyone, it was Amadeus. She exclaimed, "Really?"

She then inquired about my relocation status. I said I'd be more than happy to do it. As I had been staying at my parents' since birth, I told her I wanted to be independent.

Eventually, she asked me if I had any questions for her. I asked about the particulars of her job. "Do you visit campuses all over India to hire students every year?" She replied she handled all the hiring decisions, on-campus or off-campus. I also asked how it was made sure at Amadeus that an error didn't inadvertently creep in as the accuracy needed to be paramount due to monetary involvement in transactions. The discussion then travelled towards MH370 as Amadeus manages airlines and airports also.

This round took about 15 minutes.

Result: After an excruciating wait of 5 hours for the result, they announced that 10 students were selected: 5 as Dev, 3 as QA and 2 as interns.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Amadeus

Amadeus Labs Interview Experience | Set 2 (On Campus)

Job Location: Bangalore

Company Presence: Global

Domain: Travel Industry

Hello all,

Hope this interview experience will help you..

73 candidates opted for the company..

First round:

Online exam (on Campus)

Part 1 — 19 mins

It was a Verbal Skills tester! You will be given 30 questions to be solved in 19 mins. Get some hands-on experience with SHL platform. That will definitely help. Improve your reading skills, as there are lengthy paragraphs to be scanned in less than a min. Faster you can read and analyze, more questions you will be able to answer.

Part 2 — 25 mins

It was aimed at testing candidates analytical skills. 18 questions to be solved in 25 mins. All of these questions were of DI type. Get familiar with Bar graph, Pie charts, and all sorts of tables.

After this round 7 were shortlisted..

Second Round:

F2F interview. ~1 hour 30 mins

All kind of technical questions will be asked in this round (Based on info in your resume!).

- Projects.
- JAVA.
- Mobile App Dev.
- DB.
- And some puzzles too..

They wan't to check your approach to given problem.

Tip: "Make the best out of this round, as this owns much weightage on your evaluation!" (My observation!)

After this round, 4 of us were left.

Third Round:

As it was mentioned in the previous experience, The person on the other side of table will look most disinterested.

Try and stay as enthusiastic as you can, don't get distracted with his/her expressions. Interviewer is just trying to build some pressure.

So maintain your calm and be yourself! You can expect questions on your projects, scenarios that reflect your abilities, etc.

Fourth Round:

It was HR round. Questions like "What keeps you going?" "What value will you add to our company?" etc can be asked.

Be confident in what you say and rest will be taken care of. (Confidence is different from Arrogance! Make sure you sound like former :P)

I got the offer within 15 mins after lasat candidate was interviewed. That is the best part, they don't keep you hanging! So that's all..

All the best geeks.. May the force be with you!

P.S. : Company is great to work for.. Just look at Glassdoor reviews, you hardly get a company with so many +ve reviews!

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Amadeus

Amadeus Labs Interview Experience

So recently Amadeus Labs visited my college for Campus Placements and finally picked 10 students. It also offered us 6 month training before the job.

The procedure for selection was as follows:

- 1) Online Test- Verbal and Numerical Reasoning.
- 2) Interviews(Technical and HR).

ONLINE TEST: The online test was conducted by SHL and was really tough. you are allowed calculators for numerical reasoning questions(YOU WILL REALLY NEED IT). The questions in maths were pretty long and therefore required quick reading and analysis skills.I would recommend reading the full question first before you proceed. It will surely save your time. Dont crosscheck your answers. You will not get enough time. You need to be really fast. Keep a good track of the time otherwise you will fail to complete the test. The verbal part was comparatively easy and would be easy to crack. Always remember to stick to the paragraph and do not deduce answers from your own. To practice for the test i would recommend you to go to SHL website and try out practice papers only for NUMERICAL AND VERBAL. It will really help you a lot!!!!

15 students out of 200 got shortlisted for the interviews. Thankfully I made it through.

INTERVIEWS: First of all there was a technical interview.I went in and shook hands with the interviewer. I believe its always a good idea to shake hands even if he hasn't offered first. I don't think there is any harm in offering a hand. He asked me about myself and I tried to drive the interview according to my strengths. He was very thorough with my CV and questioned me about my projects. I made a Ticket booking system which clicked with him as Amadeus does the backend for travel industry. He asked me the drawbacks in my system and ways to improve it.He was really pleasant and patient with me. I would really recommend you guys to be very thorough with your projects and know every bit of it. He then asked me how i would make an unmanned Parking lot management system. He gave me various obstacles in that but I turned out just fine. He then asked me about ROWID(sql). Then he asked me about normalization. He asked me how i would delete duplicate entries from a table. I just explained him the logic and the SQL query i wrote down was garbage. He crosschecked it n questioned me if it will work. I honestly told him that it wont but I tried to explain him the logic. He was not at all disappointed by that.He asked me where do i see myself after 5 years. Then he asked me what is multiprogramming, multiprocessing, multithreading (It was purely because my CV said i scored 'A' grade in OS). His aim was to test my knowledge and confidence.If u can justify your answers and make him realize that you are great with ideas he will definitely select you.

Then i was called for the second round of interview(HR). The guy looked kinda unconcerned(I believe he was testing my comfort level). If the interviewer tries to look disinterested don't be bothered at all. Just stay polite and confident. Its their tactics to test u. He asked me about myself then about my projects. He then gave me 3 puzzles to solve-

- 1) A father and a son are in a car. car crashes. father dies. son taken to hospital. doctor refuses to operate saying "That's my son!". How?
- 2) 6 eggs 1 basket. 6 people. each pick one egg. still the basket contains 1 egg. how?
- 3) one mother has 2 sons born at the same hour, same day, same year but they r not twins. how?

I could easily solve all three problems and was then asked to wait outside.

Finally i was called for the final HR round which i believe was more of a formality. He asked me normal questions about myself and what would I do once i m in Amadeus etc etc.

Finally I got thru all the rounds and got selected in Amadeus Labs Bangalore!!!!

All the best guys! If its your day... You will make it Large!

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GATE CS Corner Company Wise Coding Practice

Akamai Interview Experience | Set 1 (For the role of Associate Network Infrastructure Engineer or Associate Network Operations Engineer)

It was of 3 rounds :

1st round was aptitude (written test) which contained 30 general aptitude (which includes 2 analytic, 5 mathematical aptitude, also pie diagrams where 4 questions has to be answered using this diagram. other i don't remember) and 20 technical questions (which includes networks, unix commands, c programs to find out output and DBMS) it was quite easy. You have to get minimum 15 in general apti and minimum 10 in technical apti.

2nd was technical round

They asked most of the questions from networks and linux.

If u go for this post please prepare well with networks basics such as

OSI layers

function of each layer.

device used in each layer.

functions of switches,bridge,router. difference between each.

advantages of c over c++.

questions on linux.

program to find prime numbers.

and still more technical questions

also they asked why should i hire you ?

wt do u know about Akamai ?

but unfortunately i couldn't clear this round .

3rd round was HR round even there some of basic questions on networks and linux was asked to my friends. and communication skill is important in HR round.

finally they selected two candidates out of all.

Guys if they come as tier two company the interview process will be easy. Don't miss the chance.

All the best..!!!!!!

If they come as tier 1 company definitely they'll ask coding.

First was online test for 1 hour after that 45 min of coding.

In coding 3 questions was programs (One was on linked list other was related to pattern matching and one more is related to reverse of string) and one UML diagram.

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GATE CS Corner Company Wise Coding Practice

U2opia Mobile Interview Experience

Applied through Greymeter and received call next day for the recruitment process of Software Enginner(Product Development-C, C++, Java)

Test started with Written Tests

Comprises of 11 Questions Java,20 Questions c++ and 20 Questions Analytical ability

In Java,C++ questions were totally concept based and you have to attempt all of them as there is no negative marking.

Java:

```
String s1 = "Hello";
String s2 = "Hello";
if(s1==s2)
    System.out.println("Yes");
else
    System.out.println("No");

String s1 = "Hello";

if(s1=="Hello")
    System.out.println("Yes");
else
    System.out.println("No");

if(s1.substring(0,3)=="Hel")
    System.out.println("Yes");
else
    System.out.println("No");
```

What interface or class you have to implement or extend to override java's default mechanism : _____

Which one of the following is thread safe

- 1.StringBuffer

2.StringBuilder

What are the ways you can implement threading in java.

C++:

```
int *p=10;  
cout<<*p;
```

```
int *p=10;  
cout<<p;
```

how to get address of float type variable

1. &
2. float (&)

C inherit B and B inherit A, what are the data types of B and A ,C can access

- 1.Protected and Public
- 2.Public and Private
- 3.Private Only
- 4.Protected Only

Aptitude :

Questions were based on following types:

- 1.Speed Distance Time
- 2.Profit and Loss
- 3.Geometry
- 4.Average

Technical Interview (First Round) :

1. Differences between C++ and Java ? How is java platform Independent ?
2. Garbage Collection ? Why java perform its own garbage Collection ? what was the problem with delete and free in C,C++?
3. Thread Implementation ? Daemon threads ? How to implement ? What is the difference between thread and a process ?
4. Abstract class vs Interface ? Give scenarios for which two different concepts are introduced ?
5. Interviewer wrote 5-6 programs based on Strings, Threading, Exception Handling, dynamic method dispatch and ask me to find Errors, Correct them and give the final output.

Technical Interview 2(Second Round):

1. He draw a tree structure on board and ask me to store the structure in a table without disturbing relations.
2. How to implement Automatic Garbage collection in C++?
3. Write a program for queue ?

HR Round :

Discussion about Products company made till date, and what my role will be if I got selected.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
U2opia Mobile

LinkedIn Interview Experience | Set 5 (On-Campus)

Online round (1 hour on hackerrank):

1. There are 'n' ticket windows in the railway station, ith window has ai tickets available. Price of a ticket is equal to the number of tickets remaining in that window at that time. When 'm' tickets have been sold, what's the maximum amount of money the railway station can earn?

e.g.

INPUT: n=2, m=4

a1=2 , a2=5

OUTPUT: 14(2nd window sold 4 tickets so 5+4+3+2).

2. You are given a 2-D matrix with M rows and N columns. You are initially positioned at (0,0) which is the top-left cell in the array. You are allowed to move either right or downwards. The array is filled with 1's and 0's. A 1 indicates that you can move through that cell, a 0 indicates that you cannot move through that cell. Return the number of paths from top-left cell to bottom-right cell.(i.e. (0,0)to(M-1,N-1)). Since answer can be large thus you have to return ans%(10^9+7).

Constraints: Best time and space complexity were required to cover all the test cases for both questions.

INTERVIEW ROUNDS:

Round 1 (40 mins Skype):

One coding question to be done on shared screen.

1. Given a string of characters , parse the numeric values in it ,add all of them and return the result.

Lot of discussion regarding the various test cases around this question(e.g, handing of -ve numbers , decimals , overflow etc).

Main concentration was just to get as many as test cases possible and an efficient solution as well.

And Some common question like why you coding in C++? Advantages of OOP?

Round 2 (45 mins Skype):

Again one coding question to be done on shared screen.

- Given an array of positive integers, find all possible triangle triplets that can be formed from this array.

eg: 9 8 10 7

ans: 9 8 10, 9 8 7, 9 10 7, 7 8 10

Note : array not sorted, there is no limit on the array length.

Again the main concentration was to work around all possible test cases and an efficient solution as well.

Round 3 (50 mins Skype):

Design round basically :

Design a complete system for "Traffic enforcement camera" (http://en.wikipedia.org/wiki/Traffic_enforcement_camera).

He asked to tell as many as test cases possible for the scenario. I managed somehow to 15-20, later he told there can be many more viz. weather conditions, fog etc.
what type of testings should be performed on this system?

Then by going through my resume, he asked details from my first project as it was related to Image processing then some basic stuff about system calls and Unix commands.

Then some other question :

- Do you know about any software testing framework? (like Selenium)
- What is the best protocol to store images?
- How JSON(JavaScript Object Notation) works?
- which database to use and when ? (he was trying to ask about NOSQL databases).

Round 4 (40 mins Telephonic HR+Tech):

This round was with the hiring manager from their head office. He just started with the basic introduction. Asked my area of interest. Then questions accordingly.

Like:

- One liner command to kill all process in the system which were using JAVA?
- Difference between TOP and PS commands? why TOP is called TOP?
- Explain XSS attacks and how to prevent it? and the same for sql? Any experience with them?
- Algorithmic : <http://www.geeksforgeeks.org/find-a-repeating-and-a-missing-number/> gives as many solutions you can? Then ..tell about their time and space complexity?
- Explain your final year project?
- Why should I hire you , not others?
- Experiences with automated and manual testings ?

Then he asked me if I had any questions, I asked some company stuff. That's all !! Hope that helps. Best of luck.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Linkedin

LinkedIn Interview Experience | Set 4 (On-Campus)

ONLINE ROUND:

3 coding Questions in 1 hour :

- Given a binary search tree and a key, if found return 1 else -1.
- Given a string find the number of distinct substrings (should optimise time and space complexity)
- Given a string find the number of distinct palindromic substrings (should optimise time complexity)

INTERVIEW ROUNDS:

Interview 1:

- Given a boolean expression find the number of ways to parenthesise it so that it evaluates to true
- <http://www.geeksforgeeks.org/dynamic-programming-set-31-optimal-strategy-for-a-game/>
- Given n stairs , you climb 1 , 2 or 3 stairs at a time . Find the number of ways to reach the nth step

Interview 2:

- Given the pointer to the root of the tree and two values val1 and val2 . Find the length of path between the values val1 and val2 in the binary tree. { handle corner cases where both the values are on the same path}
- Given a mapping between numbers and alphabets . Find the number of ways to decode a sequence of numbers

eg: a - 21 b - 2 c - 54 d - 5 e - 4 f - 1

2154

1) ac

2) ade

3) bfc

4) bfde

4 ways to decode

Interview 3:

- Given a matrix of 0 s and 1 s Find the number of connected components having 1s

0 0 1 0 1
0 1 1 0 1

0	0	0	1	1
0	0	1	1	0

The above matrix has 2 components

constraints: Time complexity O(N) space complexity O(1)

2) Given a tree check if it is a binary search tree or not constraints: space complexity O(1)

Interview 4: (HR+Technical)

1) Asked questions on my resume and challenges faced in my project

2) Showed me www.amazon.com page and asked me how to design the backend database so that it supports functions like displaying entire information about a product , its average rating and number of customers who gave each rating etc.

Overall the experience was good and the interviewers were friendly. I would like to thank geeksforgeeks.org which helped me throughout my preparation.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Linkedin

LinkedIn Interview Experience | Set 3 (On-Campus)

LinkedIn Interview Experience (On Campus – Day 1)

Online Round :

3 coding Questions in 1 hour :

1. We have to implement int getIntComplement(int N) function , that will give complement (bitwise complement.) of b a given integer . Start unsetting from the left most set bit of the number. 0 Interview Rounds :

Round 1 : Completely Resume based and Design problems

1. Design a work flow model of the entire work done in your internship.

2. Design a workflow model of any one of the projects you did. Grilling session.

3. A design problem of the sorts : You need to present a ppt to say N users who are viewing it live in their browsers. What you have is a web page where the ppt is opened and has say two buttons : next and previous. You need to design basically what will happen / how will pressing of the buttons reflect a change across all the users.(He wanted something as to how the DNS on processing the next request would change the URL and convey it to all connected users)

4. A map based design for implementing a code to check for isomorphic words in a file. Efficient approach.

5. <http://www.geeksforgeeks.org/design-and-implement-special-stack-data-structure/>

Round 2 : Projects and Coding

1. Discussion of the BTP project (especially asked)

2. <http://www.geeksforgeeks.org/connect-leaves-doubly-linked-list/>

3. <http://www.geeksforgeeks.org/dynamic-programming-set-12-longest-palindromic-subsequence/>

4. Given a word , you need to check if any permutation of the word would be a palindrome. eg) BALL : false , HANNA : true

Round 3 : Coding

1. <http://www.geeksforgeeks.org/serialize-deserialize-binary-tree/>

2. <http://spin.atomicobject.com/2014/08/11/fisher-yates-shuffle-randomization-algorithm/>

(Algorithm + mathematical aspects related to equal probability)

3. http://www.wikiwand.com/en/Rolling_hash —> Had used this in my algorithm project and was hence asked

Round 4 :

Don't remember all the questions I was asked. Large set of questions pertaining to DBMS.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Linkedin

LinkedIn Interview Experience | Set 2 (On-Campus)

Online coding 1 hr, 3 Questions.

1. We have to implement getIntComplement() function , that will give complement of an given integer .

2. There are "n" ticket windows in the railway station. ith window has ai tickets available. Price of a ticket is equal to the number of tickets remaining in that window at that time. When "m" tickets have been sold, what's the maximum amount of money the railway station can earn?

exa. n=2, m=4

in 2 window available tickets are : 2 , 5

from 2nd wicket sold 4 tickets so 5+4+3+2=14.

3. There is a particular sequence only uses the numbers 1, 2, 3, 4 and no two adjacent numbers are the same.

Write a program that given n1 1s, n2 2s, n3 3s, n4 4s will output the number of such sequences using all these numbers.

Output your answer modulo 1000000007 ($10^9 + 7$).

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
LinkedIn

LinkedIn Interview Experience | Set 1 (for SDE Internship)

Below is my interview experience with linkedin India for software development intern.

First there was an **online round** on hackerrank where they asked 4 simple coding questions about DP, strings and stacks. In this round the selected 3 candidates.

Then there were **2 telephonic rounds**, both were technical, both simple.

In **first round** they asked me 2 coding questions where he asked me to code as close as possible to the actual one.

First question was you are given a array of string followed by two words. You have to find the minimum distance between the two words in the given array of string. For example:

```
(“the”, “quick”, “brown”, “fox”, “quick”)
distance(“fox”, “the”) == 3
distance(“quick”, “fox”) == 1
```

Second question: Given two sorted array of Strings, Implement a merged sorted array of string

```
A[] = {"good", "person" }
B[] = { "he", "is" }
return { "good", "he", "is", "person" }
After this round they selected all three.
```

Then in the **second round** they asked a little about tree and told me to code 2 codes.

First one : You are supposed to do a level order traversal of a binary tree(not necessarily complete) and have to print a special character(say '\$') after completion of each level.

Second: Given a number print all the combination in which no. can be printed.

for eg.

```
Input:
3
Output:
2 1
1 2
1 1 2
```

After this round they selected 2 candidates including me.

Tips for the interview: Just be relaxed interview will be simple you just need to be calm and do not make small mistakes like ';'. Interviewer's main focus will be on end cases, so keep all end cases in mind while coding. Before start anything keep clear what you are going to code. Finally think out loud. Best of luck.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
LinkedIn

Informatica Interview Experience | Set 4 (On-Campus)

Recently Informatica visited to our Campus for FTE recruitment. Eligibility Criteria CGPA >= 6.50. Here is my experience.

Round 1 (45 Minutes):

There are 30 MCQs (no negative marking) was asked and focus on following topics :

Data Structures

Operating System

Database Management System

Approx 32 students cleared 1st round .

Round 2 (90 Minutes): ? There are 4 Questions asked to code on Cocube.com

1. ? 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) (3 Marks)

2. ? <http://www.geeksforgeeks.org/medianoftwosortedarrays/>? (3 Marks)

3. ? <http://www.geeksforgeeks.org/floorandceilfromabst/>? (5 Marks)

4. ? <http://www.geeksforgeeks.org/findnumberofislands/>? (5 Marks)

Only 8 students cleared this round who solved 3 or 4 questions and i was one of them solved all 4 questions ☺

Round 3 (60 Minutes) Technical interview :

1. Discussion about Project

2. Oops Concept in details (Tips: Explain with Examples)
3. What is virtual function , where it is use and how virtual function is implemented .
<http://www.geeksforgeeks.org/virtualfunctionsandruntimepolymorphismset1introduction/>
4. Implement Vector class in C++ with exception handling .

Round 4 (60 Minutes) Technical interview :

1. Add two large number represented as strings
<http://codereview.stackexchange.com/questions/32954/addingtwobigintegersrepresentedasstrings>
2. AVL Tree , Height of Tree , Max Heap , Minheap , Types of Tree
3. B Tree (I told i don't know), Sql Query
4. He asked me about my electives paper (Tips : Don't tell those elective papers which you don't know about otherwise they will ask questions from that paper)
5. Asked about server side scripting language , i worked on PHP.
6. What do you think about Informatica ?
7. Any Questions about company , i asked 4 or 5 questions about company culture , timing etc.

Round 5 (20 Minutes) HR interview :

1. How was your previous interview ?
2. How was your online coding round and asked about difficulties level of questions ? 3. What did you learn from previous rounds of interview ?
4. Tell me about your family.
5. Do you drink ? I said NO . so he asked me why ?
6. Why should i hire you ?
7. Tell me something about yourself which makes you unique.
8. Why did you not get a job after BCA ?

Round 6 (30 Minutes) Technical interview :

1. <http://www.geeksforgeeks.org/mergingintervals/>
2. Difference between Process and Thread.
3. What is Deadlock and conditions for deadlock ?
4. Difference between Hold and Wait and Circular wait.
5. Producer and Consumer Problem.

** Interviewers were very helpful whenever i stuck while coding then they always help in right direction.

Tips :

1. Be cool and calm while solving coding questions and start with your approach of solving problem and after that write clean code .
2. Always try to engage interviewers with your answer.
3. Whenever you get chance to ask questions then be prepare for that.
4. Always be honest while answering HR questions

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Informatica

Informatica Interview Experience | Set 3 (On-Campus)

Informatica recently visited our campus for Full Time hiring. Here is my experience.

The eligibility criterion was a CGPA of ≥ 6.5 and the stream should be CSE.

Round 1(45 minutes)

MCQ based questions covering the following topics:

- Data Structures
- Operating Systems
- Database Management System

After this round, a shortlist was published that contained only 19 students.

I could not solve all the questions, but was selected for the next round.

Round 2(90 minutes)

This was an online coding round and had 4 questions:

- 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)
- Find ceil value in a BST.
- Given a graph in the form of a matrix having either 0s or 1s, find the number of islands of 1s.
- Given two sorted arrays, find the median of the elements of the two arrays combined. (Can use temporary array)

All those who could solve two or more questions were selected for the next round(8 students were selected).

I solved all of them

Round 3(45 minutes)

This was a technical interview. Questions asked:

- 1) Given a stack, sort it.
- 2) Given two strings, check if they both are anagrams of each other. I began with $O(n^2)$ approach, optimised with $O(n\log n)$ and finally came to $O(n)$ approach(with two temp

arrays). He asked me to do it in just 1 temp array.

3) Merge two sorted arrays without using a temporary array. He wanted a solution of less than $O(m \cdot n)$ complexity. I gave a solution using binary search.

Round 4(45 minutes)

This was also a technical interview.

1) 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.

2) 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.

3) He asked me to write code for LRU cache implementation.

4) A small discussion on AVL trees.

5) Talked about Software Defined Networks, a course I had taken up the previous semester.

Round 5(30 minutes) Technical Interview

1) Given a matrix with 0s and 1s, find the shortest path to reach m,n starting at 0,0. You can only walk on 1 tiles.

2) There is a stream of data coming, and you need to perform searching and sorting on them. You have only 20 MB of RAM.

Round 6(30 minutes) HR interview

General questions on where do I see myself in 5 years, my family background, some intensive discussion about my organisational skills etc.

Thanks a lot GeeksforGeeks for helping me clear up my concepts! You guys are doing a great job 😊

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Informatica

Informatica Interview Experience | Set 2 (On-Campus)

Here is my interview experience.

Round 1:(online MCQs)

MCQs on Data structures, C/C++, DBMS, OS and networking.

CS gate type question.

Round 2:(online subjective)

This round is to just check OOPS concepts. So in test they given only C++/Java. So I choose Java for my subjective round.

20 questions.

We had to write codes, algs, point out mistakes in given code etc.

Ex. Finding a magic index in sorted array.

1 question from big Integer in java.

Round 3:(Interview)

1. Discussion on projects.

2. Level Order traversal and code.

3. Level order with new line.

4. Replace all BST node with sum of their descendants and ask to code it.

5. Modified BST question with some trick.

6. How to design tree in java.

7. Java collections question and implementation.

8. Again Discussion on Projects and ask to design class diagram of Web project.

After this round he was very impressed with me.

Round 4:

1. HashMap implementation in java.

2. OOPS concepts.

3. Tree questions.

4. 1 question on Array. Find the indexes where left sum is equal to the right sum.

First I gave him $O(n^2)$ solution he asked me to improve this.

Then I gave him $O(n)$ space with $O(n)$ time solution. Again he asked me to improve this.

At last I gave him $O(n)$ solution after that he was impressed.

5. Some question on multithreading in java.(notify ,wait applications).

6. Find if two tree inorder traversals are same or not.(without array).

I gave him iterative inorder solution.

Round 5(MR):

1. Puzzles.

2. 1 puzzle on find the numbers from 1 to n such that $a^2=b^2+c^2$

First i gave her O(n3) solution then O(n2) at last o(n) solution she was very happy after that.

3. Some question on Previous Background etc.

Round 7:(HR)

Basic HR questions, relocation questions etc.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences

Informatica

Informatica Internship Interview Experience

Informatica recently visited our campus to hire full time employees and interns. About 70 students appeared out of which 4 were given internship and two were given both internship and full time job offer. I was lucky to get an internship. Here is my interview experience.

Round 1:(online MCQs)

MCQs on Data structures, C/C++, DBMS, OS and networking

Round 2:(online subjective)

20 questions of easy level. Time constraint exists. No one was able to solve all 20 questions. We had to write codes, algos, point out mistakes in given code etc

Round 3:(Interview)

1. Discussion on ethical hacking

2. Discussion on my projects at Microsoft IDC(I was an intern there)

3. Print all nodes at same vertical in a tree.(very tough)

4. Remove all occurrences of a particular value from a linked list

5. Find all root to leaf paths with a given sum

Round 5:

1. Implement insertion sort using stacks. Temporary memory, input, output etc, everything is in stacks.

2. Implement 2-D array in heap segment. This has to be used for page faults and related OS tasks. What modifications will you make?

3. Polymorphism, run time polymorphism and implementational details

4. Find a magic index 'i' in an array in $O(1)$ time, such that $a[i] = i$. The array is already sorted

Round 6:

1. Flatten a multi level linked list

2. Find Next greater element in an array.

3. Check whether an array of strings can form a cycle, i.e., last element of one node can occur anywhere in the first of other

Round 7:(HR)

Basic HR questions, relocation questions, family background etc.

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GATE CS Corner Company Wise Coding Practice

Internship

Interview Experiences

Informatica

Chalk Studio Interview Experience

Hi, chalk studio recently visited my campus. Here is my interview experience.

Round 1: MCQ-31 questions-31 mins

It was a mcq round and test was conducted on facenow.in.

11 questions from web design

And 20 questions from algorithms,data structure ,oops,DBMS and OS.

The best part was we can view our performance after taking the test.

A correct answer carries 1 mark and wrong answer has a penalty of 0.25 marks.

36 people were shortlisted.

Round 2:Coding – 45 mins

There were 5 questions. Most of them solved only one including me,top 18 who showed output in chronological order were shortlisted for third round. For a question, a person can show output 3 times maximum.

1. Find remainder when a number is divided by another number without using modulus operator.
2. Print decimal digits of pi upto 100 digits, 10 per line
3. A cipher was given. We have to write a code to decrypt the cipher alone(no other inputs).

Forgot other two questions.

Round 3: Design and NP Complete – 1 hr

Design a front end for mobile mcq test site. We can use html, css, photoshop, paint etc to design

A tetris game implementation for 9*10 matrix.

– I don't know about tetris but the interviewer allowed us to google, unfortunately net connection was down at the time. So based on the example given, I figured a algo. And finally he asked all of us to implement it for a 3*3 matrix.

– The saddest part of this round was first we started with design ques and when interviewer says switch we have to switch to next question. He said switch in interval of 5-7 mins and we switched between questions for every 5-7 mins.

Finally 7 people were shortlisted from this round, and 2 people were hired.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Chalk Studio

ServiceNow Interview Experience | Set 3 (On-Campus)

1st Round:

MCQ test consisting of 30 questions to be done in 30 minutes with from topics like Trees, Graphs, SQL, Data bases, Computer Architecture, Operating Systems & Computer Networks.

2nd Round: (45 minutes)

1. AVL tree balance checking.
2. Median of 2 sorted arrays in $O(\log N)$ time complexity and $O(1)$ space complexity.
3. Strings Anagram in $O(1)$ space complexity
4. Level order traversal of a tree using Queue.
5. Reverse level order traversal of a tree using Queue.
6. BFS and DFS Difference.
7. OS Concepts – Starvation, Demand Paging, Virtual Memory, Deadlocks

3rd Round: (45 minutes)

1. Find product of each element of an array except that element in $O(N)$ time complexity without using / operation.
2. Recursively deleting linked list.
3. Recursively deleting linked list from end
4. Recursively deleting tree
5. Recursively deleting from end
6. Difference between Floyd Warshall and Djikstra.
7. Shortest path between 2 points in 2-D space in $O(\log N)$ time.

4th Round: (30 minutes)

1. Design a system for putting newspapers using classes and functions taking different aspects into account.
2. SQL commands.
3. Machine learning concepts: Clustering, SVM

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Service Now

My Interview experience of Service Now USA

Service Now visited our campus for both offers at Hyderabad and USA. I sat for the international interview procedure on day 0 of our campus. Here is my interview experience.

1st round (Written) :

MCQ questions were from all core subjects (30 questions : 45 Minute) The questions I remember I updated here <https://docs.google.com/document/d/1L1lxEp4ZS8F72t6QqeT8zEYVVe8c7M5ndQWj3J0K1Q/edit#>

2nd round:

1. Describe internship work.
2. <http://www.geeksforgeeks.org/dynamic-programming-set-11-egg-dropping-puzzle/>

What is the solution to the problem with 100 storeys and 2 eggs?

3. How do we find count of numbers between (a,b) both inclusive with no consecutive ones in the binary representation? They asked me 3 different approaches for this problem.

4. Difference between object oriented programming, functional programming, logic programming ?

5. A question about builder pattern where I had to create a pizza having veg or non-veg crust , different sauce topping , different crust draw the class diagram and write a code calculating total cost?

6. Difference between abstract class and interface what is the problem if I use abstract class when there are no implemented methods?

7. If a variable is protected in parent class and another variable with same name with public is declared in child class is this allowed is the reverse also allowed and how would you access parents variable in child class?

8. Detecting a loop in a singly linked list what are the stopping condition if there is no loop?

9. In a circularly linked list how would you ensure at least one node is left always even if you remove all the nodes ? Ans :insert a dummy node at the start.

3rd round (HR+puzzles) :

1. Given a container and 3 shapes of balls small , medium , large using each type of ball at least once how do you fit these balls so that the space wasted is minimized he was looking for a programmatic way of solving the problem?(I couldn't answer this question)

2. How to reduce the time of booting of the processor where we have no control on hardware devices but can only modify software (he was looking for more points here)?

3. There are 9 balls one ball is lighter out of them and we have a balance how would you find lighter ball in 2 weightings? (I told i knew this question so he moved on)

4. As all of my internship projects are on the back end with no design projects he asked me if I Had done any front end design projects? I said no.

5. General HR questions like Introduce yourself, Why would you want to join Service Now, Where do you see yourself after 5 years?

I would like to thank Geeks for Geeks very much which helped me during the time of preparation for placements.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Service Now

Interview Experience @ Service Now, Hyderabad

Total rounds : 5

1st round: Technical questions were from all core subjects including 5 to 7 quantitative aptitude questions. (30 questions : 30 Minute) (cutoff may be : 25+).

2nd round :

1. Space and time complexity to "Detecting a Loop in a Singly Linked List " .

2. Executable Code to Detect a Loop in a Singly Linked List without any mistake in first time with all boundry cases if any.

3. As I've implemented Floyd's cycle finding algorithm he asked me to drive a mathematical expression in terms of variable why this algorithm works .

3rd round :

1. what is microprocessor ?

2. what is microcontroller ?

3. what is the difference between microprocessor and microcontroller ?

give an example for each and what is intel i7 ?

4. difference between functional and oo approach of problem solving .

why oops is best.

5. The Three Door Puzzle.

6. Program to convert a given number into words

(ex: input -197 ; output : ONE HUNDRED NINETY SEVEN).

4th round :

1. Generate all circular prime numbers from 1 to 10,000 .

(A number is called circular prime if all the numbers formed by using the digits of that number are prime .

ex: 17-71, 13->31 ,)

— > First he told me to write it on paper As I did It in 5 minute he told me to write the code on an online compiler as it is.

5th round : HR

Simple HR questions were asked (kind of formality).

At last but not least something I would like to tell you geeks :

– The most important thing you should have within you is Confidance.

Everybody says yes I am confident but I think not really .

– The second thing is dont bluff in anything what you dont know .

–" BE YOURSELF. "

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GATE CS Corner Company Wise Coding Practice

BrowserStack Interview Experience | Set 7 (Online Coding Questions)

Three questions asked. The test duration was 3 hours and was conducted on hackerearth.

1. Write a sql parser to properly parse queries for a particular table. The input will consist of several lines: the first line is of two values, N and M, separated by a comma. The next line has the names of the columns of the table. The next N lines will contain N rows of the table (each column delimited by a comma). After that, the next M lines will contain where clause of sql query which you are supposed to execute and return their output (one in each line).

Table input will be in the following format:

"ID","Name","Date" 1,"Narendra Moody","2014-10-23 12:21" . . . 100,"Rahul Pandey","2013-11-02 13:01"

Query input will be given in following format: ID > 99 and Name = "Rahul Pandely"

You are supposed to evaluate query and print the number of rows that come under the criteria. For example solution for above query will be 1.

Sample Input (Plaintext Link)

6, 1
"ID","Name","Date","Score"
1,"Aditya Moody","2014-10-23 11:55",20
2,"Utsav Moody","2014-10-24 15:18",21
3,"Jon Doe","2014-10-23 02:51",62
4,"Foo Bar","2014-10-23 12:00",98
5,"Rahul Moody","2014-10-23 12:31",61
6,"Umang JarJar","2014-10-23 11:21",33
Date > "2014-10-23 12:00"

Sample Output (Plaintext Link)

2

Time Limit: 5 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded if any testcase passes.

Allowed languages: C, C++, Clojure, C#, Go, Haskell, Java, JavaScript, Objective-C, Perl, PHP, Python, Ruby

2. Given HTTP request or response headers, write a program that prints the "request" or "response" based on the input.

Also,

In case of a "response", print the following:

- Response code
- Content-Type of the body

In case of a "request", print the following:

- Value of Accept-Language header, if present
- Resource requested

For eg:

Given the input:

GET /index.html HTTP/1.1

Host: www.browserstack.com

The output will be:

request

/index.html

Sample Input (Plaintext Link)

GET /index.html HTTP/1.1
Host: www.browserstack.com

Sample Output (Plaintext Link)

request
/index.html

Time Limit: 5 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded if any testcase passes.

Allowed languages: C, C++, Clojure, C#, Go, Haskell, Java, JavaScript, Objective-C, Perl, PHP, Python, Ruby

3. You will be given lines of a web server log as shown in example below. You are supposed to parse it and for all the HTTP codes that occurred in the file, print in each line the HTTP code that occurred followed by how many times did it occur. Output should be sorted in descending order of occurrences.

Sample Input (Plaintext Link)

185.12.15.89 -- [23/Nov/2014:03:33:03 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.93 -- [23/Nov/2014:03:33:07 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
54.243.188.61 -- [23/Nov/2014:03:33:08 -0500] "GET /ip HTTP/1.1" 503 323 "-" "check_http/v1.4.16 (nagios-plugins 1.4.16)"
87.255.53.44 -- [23/Nov/2014:03:33:52 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.19.7 (universal-apple-darwin10.0) libcurl/7.19.7 OpenSSL/0.9.8r zlib/1.2.3"

87.255.53.45 -- [23/Nov/2014:03:33:54 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.19.7 (universal-apple-darwin10.0) libcurl/7.19.7 OpenSSL/0.9.8r zlib/1.2.3"
208.52.180.116 -- [23/Nov/2014:03:33:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8y zlib/1.2.5"
185.12.15.90 -- [23/Nov/2014:03:33:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
208.52.145.6 -- [23/Nov/2014:03:33:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.78 -- [23/Nov/2014:03:33:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.91 -- [23/Nov/2014:03:33:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
208.52.180.23 -- [23/Nov/2014:03:33:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.80 -- [23/Nov/2014:03:33:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
216.126.44.86 -- [23/Nov/2014:03:33:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.37.1"
185.12.15.94 -- [23/Nov/2014:03:33:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.76 -- [23/Nov/2014:03:33:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
208.52.180.115 -- [23/Nov/2014:03:33:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8y zlib/1.2.5"
185.12.15.72 -- [23/Nov/2014:03:33:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.44.128.160 -- [23/Nov/2014:03:33:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.21.4 (universal-apple-darwin11.0) libcurl/7.21.4 OpenSSL/0.9.8z zlib/1.2.5"
87.255.53.54 -- [23/Nov/2014:03:33:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.21.4 (universal-apple-darwin11.0) libcurl/7.21.4 OpenSSL/0.9.8r zlib/1.2.5"
185.12.15.92 -- [23/Nov/2014:03:33:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
80.77.87.241 -- [23/Nov/2014:03:34:01 -0500] "GET / HTTP/1.1" 200 19606 "-" "curl/7.19.7 (i386-redhat-linux-gnu) libcurl/7.19.7 NSS/3.15.3 zlib/1.2.3 libidn/1.18 libssh2/1.4.2"
37.139.8.235 -- [23/Nov/2014:03:34:01 -0500] "GET / HTTP/1.1" 200 7390 "-" "curl/7.19.7 (i386-redhat-linux-gnu) libcurl/7.19.7 NSS/3.15.3 zlib/1.2.3 libidn/1.18 libssh2/1.4.2"
185.12.15.74 -- [23/Nov/2014:03:34:02 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.89 -- [23/Nov/2014:03:34:03 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.93 -- [23/Nov/2014:03:34:07 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
54.243.188.61 -- [23/Nov/2014:03:34:08 -0500] "GET /ip HTTP/1.1" 503 323 "-" "check_http/v1.4.16 (nagios-plugins 1.4.16)"
198.58.103.36 -- [23/Nov/2014:03:34:36 -0500] "GET /feed/ HTTP/1.1" 304 "-" "Superfeedr bot/2.0 http://superfeedr.com - Make your feeds realtime: get in touch"
46.113.110.244 -- [23/Nov/2014:03:34:41 -0500] "GET /smallpic.jpg HTTP/1.1" 200 7167 "http://www.inoreader.com/folder/Linux" "Mozilla/5.0 (Windows NT 6.3; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/39.0.2171.62 Safari/537.36"
5.45.179.103 -- [23/Nov/2014:03:34:50 -0500] "GET / HTTP/1.1" 200 7396 "-" "Mozilla/5.0 (Windows NT 6.2; WOW64) AppleWebKit/537.4 (KHTML, like Gecko) Chrome/98 Safari/537.4 (StatusCake)"
87.255.53.44 -- [23/Nov/2014:03:34:53 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.19.7 (universal-apple-darwin10.0) libcurl/7.19.7 OpenSSL/0.9.8r zlib/1.2.3"
87.255.53.45 -- [23/Nov/2014:03:34:54 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.19.7 (universal-apple-darwin10.0) libcurl/7.19.7 OpenSSL/0.9.8r zlib/1.2.3"
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216.126.44.86 -- [23/Nov/2014:03:34:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.37.1"
185.44.128.160 -- [23/Nov/2014:03:34:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.21.4 (universal-apple-darwin11.0) libcurl/7.21.4 OpenSSL/0.9.8z zlib/1.2.5"
208.52.180.23 -- [23/Nov/2014:03:34:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "Python-urllib/2.7"
208.52.180.116 -- [23/Nov/2014:03:34:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8y zlib/1.2.5"
216.126.44.86 -- [23/Nov/2014:03:34:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "Python-urllib/2.7"
208.52.180.116 -- [23/Nov/2014:03:34:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "Python-urllib/2.7"
185.12.15.90 -- [23/Nov/2014:03:34:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
208.52.145.6 -- [23/Nov/2014:03:34:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
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185.12.15.91 -- [23/Nov/2014:03:34:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
208.52.180.115 -- [23/Nov/2014:03:34:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8y zlib/1.2.5"
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185.12.15.80 -- [23/Nov/2014:03:34:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.94 -- [23/Nov/2014:03:34:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.76 -- [23/Nov/2014:03:34:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
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87.255.53.54 -- [23/Nov/2014:03:34:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.21.4 (universal-apple-darwin11.0) libcurl/7.21.4 OpenSSL/0.9.8r zlib/1.2.5"
185.12.15.74 -- [23/Nov/2014:03:35:01 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
80.77.87.241 -- [23/Nov/2014:03:35:01 -0500] "GET / HTTP/1.1" 200 7452 "-" "curl/7.19.7 (i386-redhat-linux-gnu) libcurl/7.19.7 NSS/3.15.3 zlib/1.2.3 libidn/1.18 libssh2/1.4.2"
37.139.8.235 -- [23/Nov/2014:03:35:01 -0500] "GET / HTTP/1.1" 200 19606 "-" "curl/7.19.7 (i386-redhat-linux-gnu) libcurl/7.19.7 NSS/3.15.3 zlib/1.2.3 libidn/1.18 libssh2/1.4.2"
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185.12.15.93 -- [23/Nov/2014:03:35:07 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
54.243.188.61 -- [23/Nov/2014:03:35:08 -0500] "GET /ip HTTP/1.1" 503 323 "-" "check_http/v1.4.16 (nagios-plugins 1.4.16)"
133.9.84.100 -- [23/Nov/2014:03:35:47 -0500] "GET /2014/08/flock-2014-prague-day-2/#content HTTP/1.1" 404 10338 "-" "Mozilla/5.0 (compatible; Sonic/1.0; http://www.yama.info.waseda.ac.jp/~crawler/info.html)"
87.255.53.44 -- [23/Nov/2014:03:35:52 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.19.7 (universal-apple-darwin10.0) libcurl/7.19.7 OpenSSL/0.9.8r zlib/1.2.3"
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185.12.15.76 -- [23/Nov/2014:03:35:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
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208.52.180.23 -- [23/Nov/2014:03:35:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
208.52.180.116 -- [23/Nov/2014:03:35:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8y zlib/1.2.5"
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185.12.15.91 -- [23/Nov/2014:03:35:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
208.52.180.115 -- [23/Nov/2014:03:35:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8y zlib/1.2.5"
185.12.15.80 -- [23/Nov/2014:03:35:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
37.139.8.235 -- [23/Nov/2014:03:36:01 -0500] "GET / HTTP/1.1" 200 7428 "-" "curl/7.19.7 (i386-redhat-linux-gnu) libcurl/7.19.7 NSS/3.15.3 zlib/1.2.3 libidn/1.18 libssh2/1.4.2"
185.12.15.74 -- [23/Nov/2014:03:36:01 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
80.77.87.241 -- [23/Nov/2014:03:36:01 -0500] "GET / HTTP/1.1" 200 19606 "-" "curl/7.19.7 (i386-redhat-linux-gnu) libcurl/7.19.7 NSS/3.15.3 zlib/1.2.3 libidn/1.18 libssh2/1.4.2"
185.12.15.89 -- [23/Nov/2014:03:36:03 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.93 -- [23/Nov/2014:03:36:07 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
54.243.188.61 -- [23/Nov/2014:03:36:08 -0500] "GET /ip HTTP/1.1" 503 323 "-" "check_http/v1.4.16 (nagios-plugins 1.4.16)"
88.78.165.55 -- [23/Nov/2014:03:36:46 -0500] "GET /smallpic.jpg HTTP/1.1" 200 7167 "http://planet.fedoraproject.org/" "Mozilla/5.0 (iPad; CPU OS 8_1_1 like Mac OS X) AppleWebKit/600.1.4 (KHTML, like Gecko) Version/8.0 Mobile/12B435 Safari/600.1.4"
87.255.53.44 -- [23/Nov/2014:03:36:53 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.19.7 (universal-apple-darwin10.0) libcurl/7.19.7 OpenSSL/0.9.8r zlib/1.2.3"
87.255.53.45 -- [23/Nov/2014:03:36:54 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.19.7 (universal-apple-darwin10.0) libcurl/7.19.7 OpenSSL/0.9.8r zlib/1.2.3"
185.44.128.160 -- [23/Nov/2014:03:36:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.21.4 (universal-apple-darwin11.0) libcurl/7.21.4 OpenSSL/0.9.8z zlib/1.2.5"
208.52.180.115 -- [23/Nov/2014:03:36:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8y zlib/1.2.5"
208.52.145.6 -- [23/Nov/2014:03:36:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.90 -- [23/Nov/2014:03:36:58 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.92 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
208.52.180.23 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.78 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.91 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
216.126.44.86 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.37.1"
185.12.15.94 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.76 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
208.52.180.116 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8y zlib/1.2.5"
185.12.15.80 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
185.12.15.72 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
87.255.53.54 -- [23/Nov/2014:03:36:59 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.21.4 (universal-apple-darwin11.0) libcurl/7.21.4 OpenSSL/0.9.8r zlib/1.2.5"
185.12.15.74 -- [23/Nov/2014:03:37:01 -0500] "GET /ip HTTP/1.1" 503 323 "-" "curl/7.30.0"
80.77.87.241 -- [23/Nov/2014:03:37:01 -0500] "GET / HTTP/1.1" 200 7368 "-" "curl/7.19.7 (i386-redhat-linux-gnu) libcurl/7.19.7 NSS/3.15.3 zlib/1.2.3 libidn/1.18 libssh2/1.4.2"

EOF

Sample Output (Plaintext Link)

503 88

200 10

404 1

304 1

Explanation

Log file will be given as input over STDIN. You need to write the output over STDOUT.

Input will consist of some lines of web server log given line by line over STDIN. End of input will be given by EOF. In output, print in each line the HTTP code that occurred followed by how many times did they occur (separate two values by space). Output should be sorted in descending order of occurrences.

Time Limit: 5 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded if any testcase passes.

Allowed languages: C, C++, Clojure, C#, Go, Haskell, Java, JavaScript, Objective-C, Perl, PHP, Python, Ruby

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
BrowserStack

BrowserStack Interview Experience | Set 6 (On-Campus)

BrowserStack visited our campus during the placement season of IITs.

Round 1: Online test

There were 2 programs mainly related to app dev which were to be coded in 3 hours.

1. Write a program which takes JSON as input and gives prettified JSON

2. C Comment parser.

Round 2: Online Test

There were 3 problems to be solved in 5 hours.

Problem 1:

Consider the following series:

A := 1

B := A*2 + 2

$C := B^2 + 3$ and so on...

Write a program that:

- outputs the number corresponding to a given letter;
- given a string of letters like 'GREP', computes the sum of the numbers corresponding to all the letters in the string (i.e., G + R + E + P), as given by the above series; and
- given a large number (that would fit into a standard 32-bit integer), finds the shortest string of letters corresponding to it.

You may use a greedy approach for the last part. Compute the values of the numbers corresponding to letters as and when required and DO NOT pre-compute beforehand and store them in a data structure

Problem 2:

The program will be given a folder named (optional, if not passed assume cwd). The program will print something like this:

```
$ tree
.
|-- README.md
|-- closure
|   |-- currencySymbols.js
|   |-- datetimeSymbolsExt.js
|   |-- datetimesymbols.js
|   |-- numberSymbols.js
|   '-- pluralRules.js
`-- e2e
    |-- i18n-e2e.js
    |-- localeTest_cs.html
    |-- localeTest_de.html
    |-- localeTest_en.html
    |-- localeTest_es.html
    |-- localeTest_sk.html
    |-- localeTest_zh.html
    '-- runner.html
|-- generate.sh
|-- run-tests.sh
`-- spec
    |-- closureI18nExtractorSpec.js
    |-- converterSpec.js
    |-- parserSpec.js
    '-- utilSpec.js
`-- src
    |-- closureI18nExtractor.js
    |-- closureSlurper.js
    |-- converter.js
    |-- parser.js
    '-- util.js
`-- update-closure.sh

4 directories, 26 files
```

An optional second parameter supports filtering the tree with grep like filter, only matching nodes. Eg:

```
$ tree . src
.
`-- src
    |-- closureI18nExtractor.js
    |-- closureSlurper.js
    |-- converter.js
    |-- parser.js
    '-- util.js
```

It should be possible to use arbitrary regex expression for filtering.

Problem 3:

In this program you have to consume Twitter.com's REST API.

Write a program that, given a hashtag H and a number N,

- fetches the N most recent images (no duplicates) associated with that hashtag
- and generates a web-page (an HTML file would do) which displays these images as a simple slideshow

You may attempt this problem in any programming language but you may NOT use a third-party library like twitter4j. You may have to create a new Twitter account if you don't already have one. Visit [Twitter App Management](#) to register a new app and obtain an API key. See [Twitter REST API](#) docs for more details.

Problem 3(replacement)*:

Write a library in any programming language, that provides a systematic wrapper around the [BrowserStack REST API](#) (something similar to twitter4j, which is a Java wrapper around Twitter's official REST API).

You will be judged on your choice data structures and methods for your library. You can create a test account at https://www.browserstack.com/users/sign_in. If you then go to your account profile to find your username and authentication key.

Bonus points for packaging the library as a publishable module.

*Due to proxy servers in my college, it was not possible to submit a request to the twitter's server(at that time who would like to waste time configuring his local machine to handle the issue) so I asked them to give another problem, They were nice and gave me a replacement problem.

Round 3: HR Interview.

Most of the questions were related to my projects and internship. He also asked me to rate the knowledge of the programming language I'm most comfortable with and then he asked some very basic but tricky questions from the language.

I'd say BrowserStack is one of the company where you don't work rather you learn exponentially. I'm glad that now I'm a part of it.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
BrowserStack

BrowserStack Interview Experience | Set 5 (Fresher)

First Round(Telephonic)

Two questions of coding. They were easy to program. A link was shared on my email of google docs.

Questions were :-

1. Return an array of fibonacci sequence
2. String to number mapping is given find the smallest mapping of number.

for ex. 1=>a, 2=>b , 3=>c

input is 234

find the smallest corresponding to it

brute force solution was required

Second round of interview(Telephonic)

1. Basic questions on projects and resume.

2. Basic questions on sql and table like find second set of top 10 elements in a table

Third round

Three questions were asked which were tough to handle

1. HTML parser

2. SQL parser

3. forgot but something on parser

HTML parser

A long file was given and we have to find the given html response code and the count of the code in the file

SQL parser

A long file with data about the table formats and the entry in the tables with sql queries to extract the rows count from them that satisfy the criterion

Python language will help you to implement the questions easily. (A suggestion)

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
BrowserStack

BrowserStack Interview Experience | Set 4 (On-Campus)

Online coding 3hrs

2 questions

20 marks each.

Problem 1:

Write a program which takes JSON as input and gives prettified JSON

a) You need to read JSON from STDIN. Input gives one line of uglified JSON.

b) Output should be formatted JSON.

Given two JSON objects, find the values of fields. whose values are different.

Eg. Input

```
{"Geeks":"Test1","Are":"hey","Cool":"yeah"}  
{"Geeks":"Test1","Are":"20","Cool": ["B','C'] }
```

Ans: Are:Cool

Answer shud be in above format ..

Problem 2:

Given a string and a Regular Expression pattern, give the number of the times the pattern occurs in the string. RegEx symbols mean as follows:

. – 2 occurrences of the previous character, + – 4 occurrences of previous character, * – more than 5 occurrences of the previous character

Sample Input (Plaintext Link)

5

aaaaanndnnnnnffffhhgjjjwkkllclc

a.

n+

a*

an.

a.d.

Sample Output (Plaintext Link)

5
3
2
1
0

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
BrowserStack

BrowserStack Interview Experience | Set 3 (Coding Questions)

Following is the written round questions for BrowserStack on campus.

Paper Duration: 2 hours

Number of Questions: 2

Maximum Marks: $2 * 20 = 40$ marks

1. Sum all the digits of n!

Write a program that accepts a number n (in the range 1 to 2000) and outputs the sum of all the digits in the decimal representation of n!. For example: if n is 10, $n! = 10! = 3628800$. The output should be 27 in this case.

Sample Input: 9

Sample Output: 27

2. Regular Expression Match

Given a string and a regular expression pattern, give the number of times the pattern occurs in the string. RegEx example means as follows:

. – 2 occurrences of the previous character

+ – 4 occurrences of the previous character

* – more than 5 occurrences of the previous character

Sample Input:

5

aaaaaannndnnnnnnfffffhfhgjjjwkkklclic

a.

n+

a*

an.

a.d.

Sample Output:

5

3

2

1

0

Explanation:

Input:

First Line: Number of sample test case (N)

Second Line: String

Next all will contain the RegEx.

The string will not contain the special characters that have already been mentioned. The pattern may contain parenthesis, in which case the special symbol has to apply on all the characters inside the parenthesis.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
BrowserStack

BrowserStack Interview Experience | Set 2 (Coding Questions)

PROFILE: SOFTWARE ENGINEER

PAPER DURATION: 3 hours

NO. OF QUESTIONS: 2 (20 marks each)

MAXIMUM MARKS: $20 * 2 = 40$ marks

QUESTION 1:

JSON Prettier:-

Write a program which takes JSON as input and gives prettified JSON

1. You need to read JSON from STDIN. Input gives one line of uglified JSON.
2. Output should be formatted JSON. Check the standard output link.
3. Use 2 white spaces (not '\t') for one indentation.

SAMPLE INPUT:

```
{"group" : {list : [1,2,3]}, "list" : ["a","b","c"]}
```

SAMPLE OUTPUT:

```
{  
  "group" : {  
    List : [1,2,3]  
  },  
  "list" : ["a","b","c"]  
}
```

EXPLANATION: Input will be uglifiedjson in one line and output will be prettified format of that.

QUESTION 2:

XML parse plus series computation

Evaluate an expression given in XML format. Keys will be Expr- contains the entire expression. Elemt - contains the digit, sum, Prod- contains two or more keys whose evaluation needs to be summed or multiplied respectively. Sub will contain 2 keys or more, where the second key onwards will have to be subtracted from the first one. Div- will contain 2 keys in which first key will need to be divided by second.

SAMPLE INPUT:

```
<expr>  
<sum>  
<elem>4</elem>  
<elem>6</elem>  
<elem>7</elem>  
<elem>3</elem>  
</sum>  
</expr>
```

SAMPLE OUTPUT:

20

EXPLANATION:

Input will be xml file through standard input. End of xml file marked by </expr>.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
BrowserStack

BrowserStack Interview Experience | Set 1 (On-Campus)

Hi, BrowserStack recently visited our campus for written test for December placements. The written round was conducted on HackerEarth and was of 3 hours and had 2 coding questions.

1. Comment removal

Given a piece of code, the task was to remove all the comments from the code.

Eg. Input

```
int main(){  
  // this is a comment  
  int i = 1;  
  /*  
   some more  
   comments  
  */
```

```

cout<<i;
cout<<endl; // this is for new line
return 0;
//last one
}

```

Output:

```

int main(){
    int i = 1;
    cout<<i;
    cout<<endl;
    return 0;
}

```

PS : take special care of corner cases, how to deal with string properly.

2. JSON matching

Given two JSON objects, find the values of fields. whose values are different.

Eg. Input

```
{"Geeks":"Test1","Are":"hey","Cool":"yeah"}
{"Geeks":"Test1","Are":"20","Cool":["B','C"]}
```

Output:

```
Are:Cool
```

PS : take special care of input and output format.

The questions were easy but the main task was to read the input correctly and string parsing related stuff.

Hope this will help you all.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
BrowserStack

Nagarro Interview Experience | Set 8 (On-Campus)

Nagarro come to my campus for written test. Interview process conduct in Gurgaon office.

Round 1:

3 written test in college campus.

- a.) Aptitude Round (R.S. Agrawal) (30 question, 40 minute).
- b.) Technical Aptitude (Most from the C language Easy question) (20 question, 20 minute).
- c.) 3 coding question written on paper. (In 75 Minute)

- 1.) string panagram or not. (means all alphabat are present or not in the string)
- 2.) Find square sub matrix of size N from the given square matrix of size M whose sum of element is maximum.

3.) sort the array element based on Dictionary.

Input :- 10,20,30,100,200,300.

output :- 10,100,20,200,30,300.

Round 2:

coding written round in Nagarro Gurgaon office.

There are 3 coding question written on paper in 75 minute.

- 1.) A matrix is given, Rotate a sub matrix at 90 degree of given size.
- 2.) A string is given(paragraph type), count the frequency of each word in string and print it.
- 3.) Given 2 sorted array and a number N, find 2 numbers whose sum is closet to given number N.

Round 3: Technical Interview

Explain your written code of previous round. If any error,find it,correct it. If your code is not optimize and not space efficient then Give optimize & efficient solution of your written code.

Interviewer is very friendly, he only check your explanation process or optimization techniques.

After the written code explanation, he ask 2 coding question:-

- 1.) Merge an array of size n into another array of size m+n
- 2.) Given a text string and a sample string. Find if the characters of the sample string is in the same order in the text string.

Eg:-

TextString: abcnjhgahgjhfhajhjkhrkbhjbevfh

Sample string: nagarro

Round 4: HR Interview

- 1.) Tell me about yourself.
- 2.) your NIMCET rank.
- 3.) Do you know any senior or any person, which are currently working in Nagarro.4.) Strength & Weakness.
- 5.) About current rejection and why?
- 6.) your favourite language. (prefer in coding)

- 7.) Which type of coding plateform you prefer?
- 8.) what are your rank in codechef, hackerrank and geeksforgeeks. Which platform you prefer for coding and why ?
- 9.) Right now, are you working with which technology ?
(Technologies that you have worked on)
- 10.) Tell me about your project. Which tecnology are used in your project?
(My project related to android application, so some basic question also ask from android & java).
- 11.) Tell me something about Nagarro.
- 12.) why do you want to join this company?
- 13.)where do I rank myself in programming among my batch mates and where do I rank myself in academics among my batch mates?
- 14.) Are you Extrovert or Introvert ?

Suggestion:-

- 1.) Attempt all the coding question in written round. If you don't know efficient solution try brute force approach.(if you don't attempt anyone, may be you will reject so try to attempt all the question.)
- 2.) Be confident every time during interview.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Nagarro

Nagarro Interview Experience | Set 7 (For 2 Years Experienced)

The interview was for Software Engineer post – C++ for around 2 years experienced.

First Round

IQ Test – 12 mins 50 Ques (Very Basic IQ questions) (includes negative marking)

It was just meant to test the candidate's presence of mind, and decision making skills.

To crack this round, its not important to attempt all the ques, the trick is to attempt as many ques correctly as u can without wasting even anytime on any ques.

If u can attempt around 30-35 ques correctly, that means u are through with this round.

Online Coding Round – 3 coding ques to be done in 75 mins on HackerRank site.

Average Difficulty Level

1 Qs – Given an unsorted list of repeated elements in an array, Find the element with maximum frequency.

2 Qs- Given a string containing characters and brackets, find if the brackets are paired in the string.

3 Qs- (Little Tricky) Given a set of integers, find the third maximum sum of two elements from the set.

For ex – Array -> 3,6,2,7,8,19,13,5

Max Sum of two elements is – 19 + 13 = 32 , So u need to find the third maximum sum.

Second Round

Face to Face Discussion

It was a general discussion round, Interviewer was very friendly.

The interviewer went through my complete resume, and asked me ques on every thing that was mentioned in the resume.

He discussed my current project in my company thoroughly, asked me a lot of questions on it.

Since i mentioned design patterns while discussing my current project, so he asked about the same briefly.

Then he started discussion on data structures like (Trees, BST, Binary Trees, AVL trees, Real time applications of Stacks and Queues, Hashing (Problems with hashing like Collision, how to handle collision problem efficiently).

It went on for like 1 – 1:30 hr.

Third Round

After waiting for a few days, I got a call from the HR to schedule a telephonic interview round with the Project Manager.

Telephonic Discussion with Project Manager

General Ques about me, my work, my current project.

Then he started asking questions on OOPs concepts and C++, He asked me questions about in and out of C++ like Polymorphism, Virtual Functions, Vtable, Vptrs,

How Vptrs work internally, how does compiler handle its functionality ?

Runtime polymorphism, Constructors, Copy Constructors, why is object's reference passed to the copy constructor instead of the object itself ?

Dangling Pointers, Difference between Structures and classes, types of casting, difference between run time and compile time, how does it affect the program .

Some basic questions on Linux commands, scripting.

a few basic questions on Linked Lists, Circular Linked Lists. (Find middle element efficiently)

The interviewer was very friendly and encouraging.

That's All

Thanks geeksforgeeks for helping me prepare for the interviews, you guys are awesome .

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GATE CS Corner Company Wise Coding Practice

Nagarro Interview Experience | Set 6 (On-Campus)

The overall process was easy but short-list after the first round is key. Only 11 were shortlisted out of 150 appeared for the exam.

First Round : (40min)

40 MCQs – Mathematical aptitude,logical reasoning

included q's from:time and work,logarithms,clocks,calendars,seating arrangement,percentages,letter and symbol sequences,letter coding and decoding,odd one out

20 MCQs – Technical basics – mostly from C (pointers,operators,macros), program complexity,other programming basics.

Second Round (Technical):

1) Given a string ,find the longest sub-string with all distinct characters in it.If there are multiple such strings,print them all.

- $O(n)$ solution was expected.

2) Find all common elements in given 3 sorted arrays.

- $O(n)$ time & no extra space.

3) Print given matrix in a spiral form

-Tested for all corner cases.

4) Few basics like ACID properties,what is normalization, why do we do it? etc.

5) Asked to write a program to print the following pattern , if n=5:

```
5 5 5 5 5  
5 4 4 4 4  
5 4 3 3 3  
5 4 3 2 2  
5 4 3 2 1
```

and generalize it for all n.

HR Round:

-Why Nagarro?

-Relocation Problems?

-Technical areas of interest.

-AIEEE or any other national exam that u appeared and rank

-Technologies that you have worked on.

-Asked to rate out of 5 in various tech and non tech aspects.

and few more.

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GATE CS Corner Company Wise Coding Practice

Nagarro Interview Experience | Set 5 (Pool Campus Drive)

Nagarro Software Pvt. Ltd. came for pool campus drive. There were two rounds.

First round had two sections technical (20 Minute) and aptitude (40 Minute) of one hour.

In Technical Section we have 20 single choice objective programming question from Basics of C Programming Language. Questions are quite easy. Some of them needs to select correct output of given program and some need to select correct program for given output in question.

In aptitude section we have 40 single choice questions. Questions are typical from Math and Logical Reasoning.

Second round had three subjective Programming questions.

Q1. Write a Program to print the given matrix in wave like form.

```
Input Matrix:- 0 1 2 3 4  
      5 6 7 8 9  
      10 11 12 13 14  
      15 16 17 18 19
```

```
Output :-  
0 5 10 15 16 11 6 1 2 7 12 17 18 13 8 3 4 9 14 19
```

Q2. Write a Function to check if the given string contains the given number of unique characters (You should ignore case of character so 'R' & 'r' should be counted as same character.).

```
Input :- String : "NagarroisBestSoftwareCompany".  
N = 17  
Output :- True or False
```

Q3. Write a Function to find the Increasing Subsequence whose sum is highest in which each number is greater than previous by one in the given array. If the difference is less than or greater than one then it is not considered as subsequence. Print the subsequence array and sum of the subsequence array. Time complexity of program must be $O(n)$.

Input array :- 1 , 2 , 3 , 4 , 5 , 3 , 4 , 5 , 6 , 7 , 9 , 10 , 11 , 12 , 8 , 9 , 10 , 21 , 35 , 36 , 37 , 22

Output :- Longest Subsequence : 35,36,37

I think result is not declared yet or I didn't clear because I didn't get any mail from them till date.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Nagarro

Nagarro Interview Experience | Set 4 (Off-Campus)

Written Round:

Paper 1 (20 minutes)

The questions were based on C programming language it consisted of basic output questions. There was 2.5 for correct answer and -1/4 for incorrect answer. Going through test your C skills or any other book is sufficient. This paper was easy.

Paper 2 (40 minutes)

The paper has two sections. The questions were from speed and distance, profit and loss, allegation, ratio and proportion, pipes and cisterns, geometry and mensuration etc. Second section was based on Logical Ability. The questions were based on coding and decoding, clocks, missing number from a pattern etc. This paper was quite difficult.

Subjective Coding Round:

This round was for 75 minutes and there were three questions which have to be coded using any programming language. First question was given an unsorted array find the Fourth largest in it $O(n)$ time complexity. Second was given an array of 0's and 1's sort the array in $O(n)$. Third question was given a string find the longest substring having at most 2 unique characters, if there are multiple longest substrings return them all. Ex: given string "helloworld" then output should contain { "ell", "llo", "wo" }. First two questions were quite easy the last one I did with brute force method and there was no time constraint so I did it in $O(n^2)$ time.

After that there was a lunch break and after that they announced the names of people shortlisted for technical interviews.

Technical Round:

The interviewer asked me to explain each of my code. He started with the sort 0's and 1's and asked me how is it $O(n)$, I explained him. Then he made it complex by saying that if there are numbers from 0 to k in an array of size n then how will you sort them in $O(n)$, I told him the count sort, he agreed with it and then asked me to quickly write down the code, I wrote it down, there was a silly mistake which he pointed out and said that it's good and then moved on to next problem. He saw my code for fourth largest in an array, I did it using heap and time for creating heap is $O(n\log n)$ then he checked the code which was perfectly fine. He then gave me a hint and asked me to do it in $O(n)$ using something from quicksort. I told him that we can do it using partition algorithm of quicksort and explained him that. He then moved on to finding longest substring having at most 2 unique characters, he asked me to improve the time complexity I explained him that I tried doing it using DP but I'm not able to do it for strings having length more than three, I told him that it seemed to be a variation of longest palindromic substring. I explained my code to him he liked the way I used an integer to mark the presence of characters in string. He then pointed some small mistakes and then for finishing interview asked me the difference between `++i` and `i++`. Results were declared and I was selected for the HR round.

HR Round:

He started by introducing himself and then asked for my introduction. Then he asked me about my family. He asked me about the technology I like and where do I rank myself in programming among my batch mates and where do I rank myself in academics among my batch mates. He then asked me how many rejections I faced till now. What do I dream of and what all I know about company. Am I placed somewhere else, I told him that I am placed in Aricent. He then asked me what you will do of multiple offers. He asked me about the clients of the company, who is the co-founder of the company, the company is at what CMM Level, what information I gathered about company etc. etc. The HR asks you such questions that you may contradict yourself so be truthful until and unless you don't have good sense of humor or convincing power. That's all.

I would like to thank Geeksforgeeks for helping me out.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Nagarro
Nagarro-Interview

Nagarro Interview Experience | Set 3 (On-Campus)

Nagarro came to our campus for their placement drive. They took the written test in the campus and called the shortlisted candidates to their Gurgaon office.

Round 1(a): Written test consisted of quant and logical aptitude questions (geometry, trigonometry, pie chart etc). The questions were ranging from easy to average. What really matters in this round is your speed to solve the questions. Very few people were able to solve all the questions. It had negative marking too. Practice from RS Aggarwal.

Round 1(b): C-programming MCQ questions, though most questions were easy, there were few tricky ones as well, macro, pointers, inbuilt functions, errors etc.

Then, there were coding test, followed by technical interview and HR interview.

Round 2: Coding Test-

1. Check if binary conversion of given number is palindrome or not. Ex: 6 (0110) is palindrome.

I used a recursive function for binary conversion and then check for palindrome using a loop. Refrain from using inbuilt functions as they wanna check your logic. $O(n)$ time complexity.

2. Separate 0's and 1's in that order from a array of only 0's and 1's.

I used partition algorithm (Quick Sort) to do the same. O(n) time complexity.

3. One Sentence (string) is given. find out the words, that has length even and greater than equal to 4 (e.g. 4,6,8.. etc.) and separate them with space.

e.g. Given String : "abcd abc abcde abcdef"

Output: "ab cd abc abcde abc def"

I allocated a new string dynamically, and used two for loops to copy one string to another, adding a space at the middle of the word where word length was ≥ 4 and even. O(n^2) time complexity.

It seems easy but it isn't. I got to know that this can be minimized to O(n) time complexity in the next round.

Practice all types of array and string questions.

Round 3: Technical Interview-

He asked me to explain the code I had written in the coding round. Asked to minimize the time and space complexities. Gave extensions to the above programs.

Also, he asked about my projects, discussed my resume.

Round 4: HR interview:

This is a formality. You won't be rejected unless you make a blunder during the interview. The interviewer will mark you on various skills which you filled in the form before the 2nd round and check that you filled the form seriously or not.

All the best.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Nagarro

Nagarro Interview Experience | Set 2

First Round:

1. Aptitude Questions, basically logical aptitude, Not the standard aptitude questions which we get in other companies, it included some questions of geometry, trigonometry, and puzzle type questions, analytical ability,

Question were like – find the measure of an angle in the figure, solve the trigonometric equation, data interpretation-a data table was given and based on that table question were given, find the sum of a given series, arrange in descending order -sruds ka, etc.. Paper was not so easy

Second Round:

Technical ability test: questions on basic C language, like predict the output, find error, then puzzle type question of queues and stacks, then write level order traversal after insertion in a heap, dry run of bubble sort and quicksort, and some very basic question like no of nodes in binary tree and all... Overall this round was very easy.:):)

Third Round:

Coding Round: Three questions

1. You're given a $m \times m$ matrix. Write a function to rotate submatrix within the matrix by 90degree clock wise. Function takes x and y as starting row and column coordinate of matrix and N as size of submatrix as argument. Inplace rotation was required. I gave brute force i.e. With extra memory.

2. You are given a sorted array containing both negative and positive values. Resort the array taking absolute value of negative numbers. Your complexity should be O(n)

Ex. A = {-8,-5,-3,-1,3,6,9}
Output: {-1,3,3,-5,6,-8,9}

3. Wap to find subsets that contains equal sum in an array:

```
for eg{1,2,3,4,2}=>{1,2,3}&&{4,2}
{1,1,3,3,2,8}>{1,3,3,2}&&{1,8}
{1,3,4,7}>no subset
```

Fourth Round:

He started with tell me something about urself. Meanwhile he was going through my coding paper. Then he said lets dry run the first program.. We started, then he was confused in my program, I said should I explain it to u?? He said let me see it.. Then he started asking why this variable, can I use anything else.. Finally, he was done with my first code.. Code was correct. Then he came to second code and again he said lets dry run it.. I used mergesort sort merging technique, so he said ok explain me this, and again why this variable, and can u do any thing else other than this and so on.. Maine third code m kuch nhi likha tha, so he asked the reason. Maine kaha ki mai sol tak nhi pahuch paya tha, toh usne kaha tell me jitna socha tha, then I told him jo maine socha tha.. Then he asked, ki is problem k baare m fir socha ya nhi free time m, I said yes, he said so how it is solved then, I said dynamic programming. He asked nothing..

He gave me a extra question- Given a text string and a sample string. Find if the characters of the sample string is in the same order in the text string.. Give a simple algo..

Eg. TextString: abcNjhgAhGjhfnAljhRkhgRbhjbevhfO
Sample string :NAGARRO

I gave him few solution.. He was done with my interview, and he was happy with my solution.

Fifth Round: HR Round:

Tell me something about urself.

Tell me something about ur family background.

Tell me something about ur educational qualification. Schooling... Graduation... Etc.. Incidentally,

What was ur Rank in MCA enterance??

Tell me about ur all achievements... Scholarshipholder..... second topper graduation.... Second topper matriculation... ranking in technical fests... Maths olmpiad... Etc...

Tell me about ur strength and weakness.. PS: Try to give ur weakness such that it is counted as strength... My strength : Hard Working and dedicated to work. My Weakness : Relationship, relationship is the first priority before any work.. Give me incident when u ranked relationship above any other work.

What do u know about Nagarao? PS:For this question just concentrate in the company ppt.. That will be sufficient Basically Jo ek do line Maine ppt m suni Thi use hi bol Diya Tha Maine.. Kuch lines aur jaise Ki there is small DUCS family there in nagarao, alumni batate hai ki there is time flexibility and a very good working environment..... Outings.... Festivals.... Freshers party.... Headquarters... Etc....

Which area of the computer Science u liked most during this course of MCA? I said programming , data structure, Algorithm i liked the most

Which kind of programming u do, i told him him i usually do contests in codechef, geeksforgeeks questions, and off course the curriculum assignments...

Tell me in which language u r comfortable for programming, I told him JAVA. then he said why not C. I said, basically i also work in C but prefer java. But when language is not specified in assign, i prefer only Java. Then i asked , which language is used in company. She said Java, C plus plus, .net... Then i asked, which language will i get, she said it is decided after training. Are u comfortable in working outside your city, i said yes.. Do you have passport, i said No, she said apply as soon as possible.

GeeksforGeeks helped me a lot Best site to prepare for Technical Interviews..

Big thanks to GeeksforGeeks

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Nagarro

Nagarro Interview Experience | Set 1 (On-Campus)

Nagarro software company visited our campus. I am writing this so that it might hep others around 290 students appear for this.

Round 1:

written round consist of two papers both pen and paper based and answers to be fill in omr. paper 1 consist of analytical questions like profit loss, speed, 10th class geometry problems based questions there were total 25 questions.

Paper2 consist of only coding input/output questions of c there were 20 questions

Round 2:

there were three questions u have to write only pseudo code for that .

1-> given a starting point in a 2d array of size X Y you have to rotate subarray of size N staring from given starting point.

2-> there are a lot of strings like "ab" , "bc","cd","ad" and u have to find the longest string can be made like ab+bc+cd = abcd = 4(answer) but keep in mind that ending character of first string should be first character of next string.

3-> this questions also on array given an array of size m * n .and every row of array is sorted and contains unique element but different rows can contain same element present in other row . u have to sort the array and remove the duplicates and store in 1 1D array .

Technical round:

Cross questions based on pseudo code u have written and on their complexities. and then he asked me another 2 questions

1- given a string consisting of various words . reverse all the string and words by 2 methods.

2- given an sorted array of size n and there is another array of 2n also contain elements in sorted order . merge these sorted arrays and remove duplicates if any .the resultant array should also be in sorted order.

do this by 3 methods.

HR round:

Basic questions like tell about yourself and questions about project.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Nagarro
Nagarro-Interview

MakeMyTrip Interview Experience | Set 13 (On-Campus for Full Time)

I recently got interviewed for MakeMyTrip for the Software Engineer full time position. There were in a total of 5 rounds.

First Round (Online Coding + Aptitude):

Firstly don't expect the online interface to be friendly. There were 3 sections. First section was aptitude which had very very simple questions like addition, subtraction. Second section had a single coding question and the third section had 2 coding questions. All the three coding questions were basic DP and bruteforce. You just had to pass the hidden testcases taking care of the limits.

1. Find the no. of trailing zeros in n factorial.

2. Given an equation

$Cukoo(n) = Cukoo(n-2)*2 + Cukoo(n-1) - 3$ (something like this)

find Cukoo(n) for a given large input.

3. Don't remember.

Second Round (Technical Interview):

The interviewer went through my resume and asked several questions from it. He took one of my projects and had a long discussion over it. Also he asked me to write a

few functions that I had used in it.

Then he asked me several questions:

- Given 2 trees, find if one tree is a subtree of other. Write complete code explaining your approach.
- Given two functions of which one function prints the series of odd numbers (like 1 3 5 7 ...) and the other prints the series of even numbers (like 2 4 6 8...). How will you use these two functions to print a consecutive number series i.e., 1 2 3 4 5 6.... I used monitors(semaphores) and he was convinced.

Third round (Technical Interview):

The interviewer was very friendly.

He asked several questions:

- What is diamond problem? How do you deal with it (both in c++ and java)? Then he discussed about multiple inheritance in c+ and java.
- Questions on polymorphism, virtual class, etc. What is vptr? Again a long discussion over the properties of classes and objects.
- Implement strcpy and strcmp functions of C with all the corner cases covered.

Fourth round (Technical Interview):

- What are ACID properties? How are they implemented? How are all the 4 properties taken care of in the real-time applications?
- What are threads? What is the difference between a thread and a process?
- Find cycle in a graph. Compare different approaches. He was very particular about the DFS approach.
- Given a grid representing a maze, find out if there is only a single path to enter the maze and exit. You can view the problem as to check if there are exactly two points on the outer boundary of the grid and there is exactly one path connecting these two points.

Fifth round (HR):

General questions starting with the traditional "tell me about yourself".

Thanks to geeksforgeeks for helping me in my journey.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience | Set 12

I'd like to share my MakeMyTrip interview experience with GeeksforGeeks. I interviewed with MakeMyTrip in Bangalore in the month of July, 2016.

Round 1

- Given an array of sorted integers, with many of them repeating, and an element x, find the number of occurrences of x. Expected time complexity O(lgn)
- You have a certain amount of money X, which, if you invest in a bank, gets split into these denominations every year – X/2, X/3, X/4. After every year, you are allowed to withdraw any denomination and any number of these three (including all of them). If you withdraw all of it the total money you'll have is $x/2 + x/3 + x/4$, where x is the money in the bank at the time of withdrawing). Say you withdraw X/2, the money left in the bank $x = X/3 + X/4$. Now for the next year, this x gets split into x/2, x/3, x/4. And so on. Find the maximum profit you can make.
- Given two words and a dictionary, find the minimum number of changes to be made to the first word so as to form the second word, if you are only allowed to make one change at a time. For example: Word1 = CAT Word 2 = FAR. Words in the dictionary are = { ACT, CAN, CAR, FAT, FAN, FAR }.

Answer: min number of transformations is 2. CAT -> CAR -> FAR (or CAT -> FAT -> FAR).

Hint: think shortest paths in a graph

Round 2

- Given an array of n digits (from 0 to 9), and an integer k, find the maximum number that can be formed by the array if you are allowed k swaps between adjacent elements.
- Search for a given element x in a sorted and rotated array
- Discussion on projects and work experience

Round 3

- Nuts and Bolts problem. I was asked to write code for it
- Given a string, find out if it is composed of a repeating pattern. For example, String s = "xyzxyzxyz" is xyz * 3 (so the function returns true), and for "abcabcd" it returns false
- Find the median of three sorted arrays, later extended to k sorted arrays

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience | Set 11 (Developer Position)

I recently go interviewed for MakeMyTrip Developer position. I had 5 rounds:

Round 1:

- Reverse a Linked List – You should be able to write code on paper.

2) Find next bigger Number. Example – i/o -123 o/p 132

3) Concatenate array to find biggest possible number. –

Mainly they will see if your solution is correct without much concern about optimized solution.

Round 2:

- 1) Find if a tree is mirror of other tree.
- 2) find shortest path between two nodes in a given graph.
- 3) print cousins of a binary tree
- 4) one more question i forgot

Round 3:

- 1) tell me about your experience and projects
- 2) what design principles you use in your work(ex DRY, SOLID etc)
- 3) write production level code of `int fibonaaci(n)` along with test cases.
- 4) use case of multithreading how to implement them in java
- 5) Javascript – prototype inheritance angular – controllers, \$rootscope

Round 4:

This round was with their CTO.

He explained what is expected from me and what kind of work I will be getting.

Reasons for job change?

What technologies learn outside your work.

Main focus was on cultural fitment.

He did not ask anything technically as previous three rounds feedback was good.

Round 5: HR Round:

Salary expected and nothing much.

Thanks GeeksForGeeks!!!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience | Set 10 (On-Campus)

MakeMyTrip recently visited our campus. There were 5 rounds.

Online Round (1 Hour)

This round consisted of 20 aptitude questions and 3 coding Questions.

Coding Questions:

1. Next smallest palindrome

<http://www.geeksforgeeks.org/given-a-number-find-next-smallest-palindrome-larger-than-this-number/>

2. Given a number find the inverse of it such that $(\text{number} * \text{inverse}) \bmod 10^{9+7} = 1$

input 2

output $5 \cdot 10^{8+3}$

3. Check whether frequency of alphabets on first half of string is equal to frequency on second half.

input: HELHE, HEALE, HEAHAE

Output: Yes, No, Yes

Technical Interview 1

Firstly the interviewer asked me to introduce myself, asked me about my projects.

Then he moved on to coding questions and puzzles

All the questions below were in random order.

1. Coding question :

Full codes to be written

a> Algorithm to check whether sudoku is solved or not

b> Given a list of songs design an algorithm such that random song is selected every time and no song repeats until the list is exhausted. (Optimise space and time complexity)

c> Rotation of an array. (Similar to <http://www.geeksforgeeks.org/turn-an-image-by-90-degree/> but rotation of degree was also a variable. Had to do in O(1) space complexity)

5. Puzzles:

1. 25 horses puzzle

2. http://www.xkcd.com/blue_eyes.html

3. Two containers of 3L and 5L. Get 4L water using them

4. <https://sbjoshi.wordpress.com/2008/06/04/puzzle-burning-ropes/>

5. Bicycle with 2 tyres and 1 spare tyre. Each tyre can cover a distance of 25KM. Find Maximum distance that can be travelled

Technical Interview 2

Coding Questions:

1. Given a number permute the digits to get largest number possible.
2. Print 1

23

456

3. Transpose of a matrix n times.

Puzzles and other questions

1. Things to keep in mind while making a missile.(Software point of view)

2. <http://www.crazyforcode.com/bad-king-wine-bottles-puzzle/>

HR Round

Basic details, family background and why do you want to join this company? Where do you see yourself after 5 years and questions about weakness and strengths.

Guess Estimate Round

- 1) Approximate the number of petrol pumps in India

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience | Set 9 (Off-Campus for Sr. Android developer)

First round (Written) :

1. 4 Android questions:

a) What's Recyclerview? Describe all components of Recyclerview with all callbacks and the benefits of Recyclerview.

b) Difference between thread, async task and service (in tabular format).

c) Callbacks invoked during addition of a fragment to back stack and while popping back from back stack.

d) Scenario in which only onDestroy is called for an activity without onPause() and onStop()

2. Describe a scenario in which deadlock occurs and a solution to overcome it.

3. Given an array, find the maximum difference between two array elements A[m] and A[n], such that n>m.

4. The relation between group of friends is transitive. So if student A is friends with student B, and B is friends with C, A becomes friends with C. They form a circle of friends. Given a matrix N*N and N students, each matrix entry indicating 'Y' or 'N' if they're friends or if they're not friends. We need to determine the number of circles.

Eg – 6 students, A,B,C,D,E,F.

A is friends with B, B with C. D is friends with E. F is friends with none.

Output : 3 circles.

F2F Round 1:

Starting with Java basics :

1. Uses of final, string pool concept, serialization, synchronization (how it can be done)

2. How can you implement thread pool executor.

3. Is it possible to declare final variable in abstract class.

4. What is externalization.

Android :

Lots of basic questions:

You need to provide more area for checking/unchecking checkbox than the default area of checkbox. How would you do it.

How would you implement zoom in zoom out functionality in Android.

How do you implement GCM push notifications.

What things would you do in each lifecycle method of activity?

What is IllegalStateException in Android? Any scenario when you encounter it and how to solve it?

Advantages and disadvantages of using fragment.

How would you implement swipe animation in Android.

How do you detect whether keyboard is open in an Android app.

And some more. But I don't exactly remember.

DS:

Implement queue using 2 stacks.

After this, the interviewer seemed satisfied with my responses.

F2F Round 2 :

Android design questions:

1. You have a textView(3 lines) and a button below it. On clicking the button textView whole content should show. (Content is very large but due to 3 lines initially its not shown completely). You need to add animation while showing the full text of textView. How would you design this.

2. Some question related to showing images (for adult and child, like in flight booking system, we have 2 buttons for adding and removing adults/child). When there is 1 adult and 1 child, it should show as AC where A and C are icons for adult and child. On adding 1 more adult, it should show as AAC instead of ACA. How would you design such a system.

Got stuck in this round, and was rejected.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience | Set 8 (On-Campus)

MakeMyTrip recently visited our campus. There were 4 rounds.

Online Round (1 Hour)

This round consisted of 20 aptitude questions and 3 coding Questions.

Coding Questions:

1. Find 'x' in the equation. The input is in the form of a string. Equation consisted of addition operator only and 2 integers and a variable 'x'.

Sample Input Case: $x+3=5$ output=2

Decoding the string into 2 numbers and an unknown variable took a lot of time.

2. Given two numbers x and y find x^y in log y time.

3. Find the next palindromic number greater than the current number.

Had solved all 3 questions and around 15 questions in aptitude. Was shortlisted for the next round.

Technical Interview 1 (1 Hour 20 mins)

Firstly the interviewer asked me to introduce myself, asked me about my projects.

Then he moved on to coding questions and puzzles and some basic object oriented fundamentals:

All the questions below were in random order.

1. Questions related to collections, interfaces, JBM, JDE, Polymorphism and Abstraction.

2. Coding question :

Full codes to be written

a> Given an array comprising of only 1's and 0's , find the maximum length along with the starting index and ending index which consisted equal number of 1's and 0's. I could not do it, the interviewer gave me another question:

Given an array comprising of any number (both positive and negative), find the maximum length along with starting and ending index which had sum equal to 0. I was able to do this one.

The interviewer told me to solve the previous question now. I told him that replace all the 0's with -1's and the question becomes entirely the same.

b> To Check whether a binary tree is a BST or not?

3. Puzzles:

1. There are 3 switches outside a room. Inside the room there is only 1 bulb. You could go inside the room only once, how will you know with which bulb the switch is associated with.

2. There are 100 coins in a table. 20 coins are heads and others are tails (facing upwards). Find the optimal cut(2 piles) such that both have equal number of heads facing up.

Technical Interview 2 (1 hr)

Coding Questions:

1. Cloning Linked List with every node comprising of next and (random pointer to any other node).

2. Detect Loop in a Linked List and remove it.

3. In-place reversing of a string.

Questions about abstract data type, abstract keyword, difference between C++ and Java, garbage collection in Java and OOPS concepts were asked.

HR Round (20 mins)

Basic details, family background and why do you want to join this company? Where do you see yourself after 5 years and questions about weakness and strengths.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience | Set 7 (On-Campus)

Recently makemytrip visited our Campus and I got selected in recruitment drive.The placement drive consisted of 4 rounds.

Round1: MCQ and coding round

It was an online test of 60 minutes consisting of 20 aptitude question and 3 coding question. Platform used for the test was of makemytrip and slightly difficult to understand.

Question1: Calculate the power of $a^b \bmod c$ using logn approach.The thing that was to be taken care of was that you did not needed to return or print your answer but you had to store it in their predefined global variable. You could easily find the solution on geeksforgeeks site.

Question2: Given a sentence you were supposed to calculate the count of Capital , small letter and number.Question seemed to be quite easy but the pick was that you needed to store the answer in char^* output variable in the form of $c1:c2:c3$ where $c1$ represent count of capital letter $c2$ represent count of small letter and $c3$ represent count of number.

(Hint use sprintf to store your answer in formatted way in the variable

```
sprintf(output,"%d:%d:%d",c1,c2,c3);  
)
```

Question3: Activity Scheduling problem

You are given 2 arrays representing the starting and finishing time of activities . Determine the maximum number of non conflicting activities that you can achieve.

(Hint : make a structure of start and finish time and sort according to finishing interval)

I solved 2 completely and 1 partially

Tip:Since they have only one sample test case so even you are not able to solve the coding question just store the hard coded answer in that variable. I did that in last :P)

Out of 110 students 30 students got selected for Personal Interview round.

Round 2: Personal Interview

Since I was last candidate in that list waiting from 10:30 am My turn came at 10:30 PM.The interviewer was very cool and friendly.He started with asking tell me about yourself and what projects I have done.After half hour rigerous discussion over my project and making schema of databases I used in project He started asking question on ds.

Question1: Sort a linklist consisting of 0,1,2's.

(Hint: I used hashmap of stl in c++ to store the count of 0,1 and 2)

Question 2: Given a stock You need to find the maximum profit you can earn .You are allowed to buy and sell as many number of time you can.)

Question 3:Design a treeSet in java.

(Hint:I told him to use BST but he told to think of more optimized way so I told AVL and wrote functions for insertion in AVL tree)

Question4:Diffrerentiate between method overloading and method overriding.What are static blocks in java.

Question5: Drilling question on deployment descriptor,struts,mysql.

Round3: Personal Interview

The interviewer seemed to be exhausted . He asked me that Since you are the last person so all the question you would have asked. So tell me what all question you have asked. I told him distinct palindromic substring in string, LIS, LCS etc students told that you are asking.He thought for a while and told me to write standard bfs code for graph traversal.

Question2: You have been given a matrix of character and a dictionary.You need to find the valid words that you can obtain from it and print it.

(Hint:I used dfs to find the valid sequence and assumed that all words are stored in a hashmap)

After these He asked 6 puzzles to be solved in a given time.

Puzzle 1 : 1.5 hen give 1.5 egg in 1.5 day. How many hens are required to have 4 dozen of egg in 6 days.

Puzzle 2: 2 ropes and take 1hr to burn. Calculate 45 min

Puzzle 3:10 jar with 10gm marble in each jar.One jar contain 9gm marbles only.Find the defective jar in one turn.

Puzzle4:150 person are standing in a queue in sorted order.A blind person comes

and wants to be at right position in queue.So he asks any person whether he can stand in front of him.He will reply in Yes or No . You have to find the right place after 2Yes.

Give a strategy to find the correct place.

(Hint:This puzzle can be reduced to egg drop puzzle)

Puzzle 5:25 horse having race find top 3

Puzzle 6:A person is riding a car and he sees a milestone A. After 1hr he sees milestone B which has digits reversed of A.After one hour more he finds a milestone C which contains all the digits of A and B . Given that $A < B < C$ find the speed of car.

(Other question that were asked from my friend

1.Distinct Palindrome in string

2.Transaction minimize problem

3.LCS and LIS (dp approach)

4.Diameter of tree

5.Pattern Matching Algorithm (KMP))

HR round:

He asked me about my family background,what I do ,hobbies.What I know about makemytrip.What location I would prefer , whether I am satisfied with package or not,Working environment etc,

It lasted for half hour.

Tip:(Be expressive,Think out loud,Be confident. They need to know your approach not the solution)

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GATE CS Corner Company Wise Coding Practice

MakeMyTrip Interview Experience | Set 6 (Online Coding)

Round-1: Online test

There were 2 sections – Aptitude and Coding

Section A- 20 MCQ's on General Aptitude.

Section B- There were 3 coding questions.

- 1) Given an array and 2 numbers l,r find the number of elements in the array in between l and r;
- 2) Calculate a power b ($b \rightarrow [1,1000000000]$ required a logn approach).
- 3) Let 1 represent 'A', 2 represents 'B', etc. Given a digit sequence, count the number of possible decodings of the given digit sequence.
eg. input – "121" output – 3.

Round-2 : Technical Round (1 hour 10 minutes).

The interviewer was very friendly and was trying to find out how much u can think.

- 1) Given a rotated array around a pivot element find a number x in the array.(write code in log n time).
- 2) Given 50 red and 50 blue balls, arrange them in 2 bags in such a way that the probability of taking out a red ball in 1st attempt is strictly $> 1/2$.
- 3) reverse a linked list.
- 4) The concept behind why a sewage lid on a road is round-shaped.Trying to find out how much u can think. (because the lid wont go inside in any way as a circle is uniform 360 degree.Rest any shape can go inside along the diagonal vertically).
- 5) find the depth of a tree.
- 6) A cake is on table.Another piece is cut from anywhere in the cake.Using a single cut divide the cake into 2 parts.(cut along the line joining the mid-points of the cake and the piece.)
- 7) write full working code for printing a matrix in spiral form.
- 8) Measure 4 litres water using 2 containers of capacity 5 and 3 litres respectively.(infinite supply of water).

Round-2 Technical Round (50 minutes).

A good 10-minutes discussion on my project.

Next I was made to write full code for every question.

- 1) Iterative preorder traversal.
- 2) Iterative inorder traversal.
- 3) Reverse a string wordwise. (Let the input string be "i like this program very much". The function should change the string to "much very program this like i").
- 4) Calculate a^b in logn and find the total number of multiplications.(check binary representation of b and count 1's for the number of multiplications.)

Round-3: HR Round

Some general question on my background and the HR gave a presentation and she finally said SEE U IN MAKEMYTRIP.

I thank geeksforgeeks for my success.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience | Set 5 (Online Coding)

Question 1: Given an array with n elements consisting of numbers between 1 to n-1 with some numbers being repeated multiple times in the array.

Give a result[] array as output containing all the repeated/duplicate elements.

```
Code: package arrays;
=====
import java.util.ArrayList;

public class MultipleDuplicateValues {
    public static void main(String[] args) {
        int arr[] = { 1, 2, 3, 1, 3, 6, 6 };
        int[] result = getDuplicates(arr);
        for (int i = 0; i < result.length; i++) {
            System.out.println(Math.abs(result[i]));
        }
    }

    private static int[] getDuplicates(int[] arr) {
        ArrayList<Integer> l = new ArrayList<Integer>();
```

```

int[] result;
for (int i = 0; i < arr.length; i++) {
    if (arr[Math.abs(arr[i])] >= 0) {
        arr[Math.abs(arr[i])] = -arr[Math.abs(arr[i])];
    } else {
        l.add(arr[i]);
    }
}

result = new int[l.size()];
int i = 0;
while (i < l.size()) {
    result[i] = l.get(i);
    i++;
}

return result;
}
}

```

Question 2: Given an array containing a sequence of numbers , you need to identify whether that sequence is Fibonacci , Arithmetic Expression or Geometric Expression
===== And give it's next term as output.

Total time for the above two questions : 45 Minutes

Mode of interview : Online Coding

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience | Set 4

Round 1 : Written :

Q1. Given a stream of around billion numbers in an array, which has approximately only 1000 unique numbers. Print the unique numbers. Complexity should be less than O(n).

Eg:

Input: 1,1,1,...,2,2,2,...3,4,4,4.....1111,1111,.....

Output : 1,2,3,4,1111

Q2: Write a program to print the frequency of all words in a given paragraph.

Q3: Write a program to reverse the string word wise.

Eg: I/P : "I am a boy"

O/P: "boy a am I"

Q4: Write a program to explain producer consumer program using threads.

Q5: (Only theory) What data structures will you use to design a garbage collector.

Round 2: F2F

Q1: Given an array in which all numbers except two are repeated once. (i.e. we have $2n+2$ numbers and n numbers are occurring twice and remaining two have occurred once). Find those two numbers in the most efficient way

Q 2 : Given a linked list with next and arbitrary pointers, clone it.

Q 3 : A lot of questions around Spring, Hibernate, REST, Dependency Injection, AOP etc.

Q4 : Reverse a linked list in groups of n.

Round 3: F2F

Q1: Vertical level order traversal of a tree.

Q2: Reverse the second half of the linked list in the most efficient way.

Q3: Find the merging point of two linked list.

Q4: Write a function to generate all possible n pairs of balanced parentheses.

For example, if n=1{}

for n=2

{}

{()}

Q5 : Again a lot of drilling questions on Java, Spring, MVC, Singleton, Hibernate, REST.

Round 4 : F2F (Manager/Architect)

This round had questions more around various technology stacks,
Design Patterns (Interceptor, Singleton, Publisher Subscriber, MVC etc etc)
UI Templates

REST
Spring
Java
In memory database
Log appenders

Round 5: F2F (H.R.)

Generic questions like why do you want to join Makemytrip.

What are your career aspirations.

How do you think it aligns with MMT.

Thanks to geeksforgeeks for the awesome database of questions, that helped me clear the interview.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience | Set 3

I recently got selected in Make my trip . Here is my interview experience.

Round 1-(Online MCQs)

There were 2 sections – Aptitude and Logical Reasoning and MCQ based on Java question ,C++, coding for 20 min and 45 min respectively.

Section A- Not very difficult to clear this round although less time was a problem.

Section B- It contains 15 multiple choice question on c/c++,java and 4 simple coding questions like Sorting words in a large file , pseudo code for detect a loop in linked list and remove it.

Round 2-(Online Coding)

It was an online coding test in which 3 coding question were given.Questions were as follows-

1. Find out the subset of an array of continuous positive numbers from a larger array whose sum of the elements is larger in comparision to other subset. eg: {1,2 5 -7, 2 5} .The two subarrays are {1,2,5} {2,5} and the ans is {1,2, 5} as its sum is larger than{2,5}
2. You have a 8*8 chess board and given a starting and final location of a knight.Find the shortest possible path for the knight.
3. You are given two strings s1 and s2.Now, find the smallest substring in s1 containing all characters of s2.

Round 3-(Interview-1)

It started with a discussion on the programs given in coding round.They asked me about my interest field after that they directly jumped into Networking,Linux and Ethical Hacking part looking my interest domain.

They asked me various question on networking and linux.Question were simple like Explain the OSI model with examples,Port numbers of protocols like FTP,SMTP etc,How to send data of file into another file in linux etc.

Then they asked me to code simple c program to reverse a linked list.

Round 4-(Interview-2)

This round was started with two puzzles.I got stuck in the first puzzle itself but in this round the interviewer was checking our approcah,our logical thinking.

Then I was given one program and was asked to optimize it.Question was simple based on hashmap.

Next question was based on ethical hacking.I was asked to explain SQL attack.

The interview ended with some discussions over my project.

Round 5-(HR Round)

It was a simple HR round.Started with the discussion why do you want to join make my trip and then some general HR questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience | Set 2 (On-Campus)

MakeMyTrip recently visited our campus.Below is my interview experience:

Round 1: (Online MCQs)

Section A- There were 20 Aptitude and Logical Reasoning questions which has to be done in 30 minutes.

Section B- Basic C , C++ and Java questions. Moreover there were four coding questions for which you have to write the pseudo code or algorithm. Questions were like finding loop in linked list , finding first non repeating character or remove duplicates etc.

Round 2: (Online Coding)

There were 3 question.

- Find minimum cost path in a Matrix i.e. return the minimum cost path to reach (m, n) from (0, 0). Each cell of the matrix represents a cost to traverse through that cell. It was based on DP.
- Simple question based on logic.
- Based on hashing or you can use map in C++. You have given two sentence A and B. Find the length of smallest substring in A that contains all characters of B.

Round 3: (Interview-1)

It consists of general discussion on the programs given in coding round. Then they asked some set of questions based on Database, Projects, Algorithms. Questions were like

- Merging two linked list . They asked me to write code on paper for merging both sorted and unsorted linked list.
- Add two numbers recursively. I was asked to write the whole code.
- Factorial of large number only concept. Then asked one puzzle and one or two questions from my project.

Round 4: (Interview-2)

Basically in this round interviewer was checking more of your approach and out of box thinking.

- Which data structures will you prefer to make a new language. After that a long discussion took place.
- Find the frequency of each word for a given set of huge data.
- External Sorting concept.

Final was to explain Segment tree and its complexity which was asked from my project. Then general discussion on BST and he asked complexity of AVL and RB tree.

HR Round:

It was a simple HR round. Just be yourself. Moreover he asked about my Research work and my interests.

Just prepare from geeksforgeeks it will be sufficient.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

MakeMyTrip Interview Experience

MakeMyTrip recently visited our campus to hire full time employees. Here's my interview experience:

Round 1: (Online MCQs)

Questions on aptitude, English, logical reasoning, C/C++ and 5 coding ques. (only pseudo code).

Round 2: (Online Coding Round)

- A prisoner broke out from jail. In order to escape, he will have to jump n no. of walls and length of each wall is given. Maximum height to which prisoner can jump is given. Now since it was a rainy day all the walls are wet and when prisoner makes a jump he slips down l units. Calculate total no. of jumps he will have to make in order to escape. (Simple logical question)
- Find smallest substring which contains all characters from a given string?

Input string1: "This is a test string"

Input string2: "list"

Output: "t stri"

- Given a maze. Drop a mouse in the maze randomly, and place a piece of cheese in any cell. The mouse can move 4 directions

up down left right

There are some walls on the way to block certain directions for certain position.

Design an algorithm for the mouse to find the cheese.

Note: the mouse does not know where he is, and where the cheese is. He cannot find x,y for the position he is right now.

for instance

X X B

D X D

A X X

D is the block with walls on 4 sides.

If the mouse reaches the end of row or column, it gets the dead end.

Mouse is A, cheese is B. Return true if mouse can reach the cheese else return false.

Note: if your code doesn't compile, they will not accept it even if your logic is correct.

Round 3: (Technical Interview)

- A brief intro of yourself and discussion on my projects.
- Then he asked me about my fav. subject and language (DS and C++) .
- Questions on OOPS (almost all the concepts were covered like polymorphism, overriding, overloading, inheritance, concept of virtual fns etc.)
- He wrote a C++ code and asked me to write the output.

- Some questions on DS and then he asked me to write algo for reversing a linked list.
- Then he asked me to explain one of the questions that I had attempted in the coding round. (They just want to make sure that you know the logic).

Round 4: (Technical Interview)

- Topics in DS that I am comfortable with and the ones with which I am not.
- Unfortunately this time he asked me questions from the later. They don't want a correct answer but just want to see how you approach in such questions.
- Questions from bit-wise operators
- Then he asked me to explain other one of the two questions I had attempted in coding round.

Round 5: (HR Interview)

A quick intro

Discussion on my projects

What you know about their company apart from ppt. Make sure you study their website inside-out before you go for interviews, this shows your passion to work for their company.

Questions on strengths, weakness and hobbies. Be yourself.

geeksforgeeks.org was of great help throughout my placement process.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
MakeMyTrip

Interview Experience with Indus Valley Partners

Round 1 :

~200 students

Duration 60 minutes

Written round, comprising of aptitude question, logical puzzles, and technical questions.

(basic aptitude + heavy java)

You could clear it smoothly if your basics are clear

Round 2 :

20 students shortlisted and 6 were in waiting list

I was among the shortlisted students, and the fourth one to give the technical round 😊 !

2 interviewers

They started with tell us about yourself, a brief summary of the projects I did.

Then they asked oop concepts and java questions . Questions like threading, diamond problem, virtual destructor, run time polymorphism, compile time polymorphism, operator overloading, operator overriding, searching, sorting, basic algorithms, exception handling, schema, database design, sql queries like finding the second maximum element and joins were the main questions asked .

One of the interviewer gave a table and asked to normalize it. Explain everything you know !

Since I worked with python on a research project they asked questions about it.Then questions about GSoC, GCI and a matlab project . You need to be confident of what you have done and how you have done .

I was also asked a logical puzzle based on the concept of binary search.

I was also asked about the ruby scholarship as I was selected for that and about a technical group for women of whom I am the co founder. One of the interviewer said he felt racial as I made a group only for females 3-4 times (may be he wanted to know how I will react under stress) I explained with an example of the ratio of females working in Indus Valley Partner (females have increased in Ivp according to them)

They were happy at the end as they said it was really nice talking to you

It lasted for 45-50 minutes, within few minutes, I was called for the hr + director round ..

Round 3 :

~10 were called

Duration : 30 minutes

HR + Director round

HR questions like what do you know about ivp, weaknesses, why we should hire you were asked, hobbies

Director asked questions about algorithmns and again projects were asked .

I was asked about sorting techniques, I explained about quick sort, merge sort, insertion sort, selection sort, bucket sort, radix sort, count sort with their complexities and auxiliary space used.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Indus Valley Partners

IBM -ISDL Interview Experience

I recently had interviews with IBM INDIA-ISDL, Bangalore. Here is my Interview Experience.

Round 1 IPAT Online Aptitude Test

This online test is timed, with each question allocated its own time limit of 2.15 minutes. About 18 number series questions and 18 aptitude questions were asked.

[Number series questions were easy. Aptitude was tricky some of them were lengthy too. There was no negative marking]

Round 2: Written Technical

30 Questions to be answered in 40 minutes.

Questions mainly included

- Predict C program output (about 15 questions)?

- Few questions from C++?

- Few question from Operation systems(Numericals+Conceptual), Networking(Numericals + Conceptual)?

- Two questions on design pattern.?

[Prepare predict-C-code output questions. Check out OS and networking GATE questions]

After these two rounds 31 students were shortlisted.

Round 3: Technical face-to-face interview

This round lasted about 45-minutes.

Firstly I was asked to explain my favourite project?

- Secondly he gave me the problem and asked to write the code on paper. The problem was - "You have infinite number of 1,x,y coins. Now you have to make a sum S with minimum number of coins. So find what are the minimum number of coins required to build up the sum S. For e.g. you are given 1,2,5 infinite number of coins, so to make a sum of 10 minimum 2(5,5) coins are required".

- Then he jumped into the concepts of Operating System.

. Inter-process Communications

. Threads

. Critical sections

. Virtual Memory

. Synchronisation

Round 4: HR Round

Tell me something about yourself?

What all programming languages you know ?

- Will you adjust or feel comfortable if you'll be given Bangalore as a job-location ?

- What are your short and long term goals ?

Strengths and weakness ?

Did you attend Pre-placement talk?

What is one thing you liked about the pre-placement talk?

Round 5: Final HR Round

Tell me something about yourself and family background?

- According to you what is success and what is failure.

- Tell me about your biggest failure and how you overcome from it.

- Where do you see yourself after five years from now ?

- Suppose you got the opportunity to switch from Product A to product B with extra incentives(monetary) then what will you do ?

What do you know about IBM ?

Why should we hire you ?

Did you attend Pre-placement talk ?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
IBM
IBM-ISL

IBM ISL Interview Experience

IBM ISL On Campus Interview Experience.

Round 1: IPAT Online Aptitude Test

This online test is timed, with each question allocated its own time limit of 2.15 minutes. About 18 number series questions and 18 numerical reasoning questions were asked.

[Number series questions were tricky. Numerical reasoning was simple]

Round 2: Written Technical

30 Questions to be answered in 40 minutes.

Questions mainly included

- Predict C program output (about 15 questions)

- Few questions from C++

- Few question from Operation systems, networking

- One question on design pattern.

[Prepare predict-C-code output questions. Check out OS and networking GATE questions]

Round 3: Technical face-to-face interview

This round lasted about One hour.

- I was asked to explain my favorite project.
- He asked if I know compilers – and asked basic question on lex and yacc.

Question from operation systems:

- Inter-process Communications
- Threads
- Critical sections
- Semaphores, Mutex (Asked to explain in detail with code)
- Reader-Writer problem
- DeadLock

Asked to write code to insert a node in its correct location, given a sorted linked list.

Asked to find least common ancestor given two nodes and the root; given a BST.

At the end he asked a puzzle:

- Given scene has some X no: of chairs and Y no: of persons in a room.
- If each person sit on one chair, exactly one person is left with a chair.
- If two people sit on one chair, the we have one empty chair

Find X and Y.

[My other classmates were asked a lot on system calls, linker & loaders, multi-threading; basically OS concepts in depth]

Round 4: HR Round

- Tell me something about yourself.
- What all programming languages you know?
- Why do you choose to join our company ?
- How long will you work in our company ?
- What are the latest developments in the industry ?
- Strengths and weakness ?
- What is cutting edge technology emerging in IT industry ?
- What parameter do you look to take up the job; if you had offer from two company for the same profile?
- Did you attend Pre-placement talk?
- What is one thing you liked about the pre-placement talk?

[If you are lucky; you end up filling laborious employment forms]

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
IBM-ISL

Citicorp On Campus Interview Experience

Citicorp (Citi Group/Bangalore) came to our campus for Full time Data analyst and intern profile.

Written round-

There were 15 questions from quant's, 10 questions from data interpretation with 1 mark each and -.5 for wrong answer also there were 2 case studies with 10 marks each with no -ve marks. Total 45 marks question, I did only 9 from quant and 7 from DI total 16 out of 25 questions and didn't touch case studies. Quanta and DI were very basics level.

In those 16, 1 question was wrong so basically I did 14.5 out of 45, but with a accuracy of 90%. Didn't expect to get shortlisted but was very tensed and angry upon myself coz it was my level paper. But around 12 mid night shortlist came and I was at 11th position out of 31 students in the list.

There were total around 90 students who appeared for written test. They allowed Mtech and Mca guys not Btech.

First round-

I went there and greeted him. Firstly he told me to introduce myself, later he asked what I like the most. I told analytical thinking and logical reasoning and yeah I relate it with data base.(since I knew they came for Data analyst profile).

He asked me about join, gave me a table and told me to perform all joins. I did that and he asked me about Order by clause and, having clause then asked me normal forms up to bcnf.

Later asked about pl/sql difference b/w sql and pl/sql, what is trigger explain in detail. Some basics questions of DBMS theory asked me about my 2 projects and at the end he gave me a situation where I have a grocery shop outside nit Surathkal, and from last few days/months I realized a downfall in sales, what possible reasons could I find? I gave him 8 reasons within 2/3 mins. He was impressed...

After 1st round out of 31 only 13 were selected and I was there in d list.

Second round-

As soon as I entered the room, mam told me "Ooo tum aao aao ". I smiled because I was the 1st guy during presentation who asked the first question (she made every1 clap for me there) and she remembered my face. And eventually she did study from IIT Kanpur so yes she was able to speak fluent Hindi (plus point for guys like me :p). with her there was a guy he asked me to write code for taking a no and converting it into binary and 1 question from array- very simple later she gave me a table with employee id, order date and order amount. A customer can place max 1 order in 1 day. I had to find the latest transaction of every customer with amount as well. i did it using max function over date and group by with sub query, she asked me about my resume at the end she gave me 7,9,21,63,100 and told me to find the no of numbers

between 1 to 50000 which are exactly divisible by all, i did it in 1 min.

but she was smiling, I thought I made some mistake in hurry, then I asked mam m I doing right or wrong (in curiosity as I find very comfortable there) she smiled and said "Chalo bhago ynh se ye interview h ".I said sorry but yeah she was impressed with my interview so told ki "you will learn all these things very quickly".

Third round-

After 2nd round 9 were selected and I was one of them. It was basically a Managerial round and it scheduled over Skype. I had to introduce myself as well as my family background. Here comes the harder part when he asked me why you have such a poor academic back ground? I was speechless for a moment but I started telling the truth.

I told despite getting 68% marks in my 10th I was the third topper of my class. I got 60.66 % in 12th but yeah there also out of 700 students only 14 got first division. So basically I concluded that in my state board marking is not that much good. He said ok but what happened in graduation(64%) when you studied in Delhi?(what to say now :p) I said sir I did it from IGNOU and you can Google the fact that even less than 5% of student are able to clear the degree in 3 years. Later I explicitly mentioned that I m not blaming my boards but this is the fact which can't be change.

Now He asked what happened in PG here also you scored only 7.50 CGPA which is less than even standard score of 8(Meri to jaan hi nikal gayi :p). Then I told him that sir u can see my pointer in first semester is very less close to 6.5 but after that I constantly improved myself. He was smiling

He asked me about my family background and then I told him how I struggled, I was giving tuition in my grads to continue my education and after grads took a gap of 1 year and cleared all MCA entrance examination and now sitting in front of him.

Later asked about my best qualities....i told him that I can lead group of people very well. I gave example of me being captain of my department cricket team and I was class monitor through 3rd to 12th std and also some stuff regarding my college events. He noted down something .I don't know what.

I was not sure that I could clear that interview. When the result came they called all 9 students and said that they find is difficult to eliminate 4 names .i was sure that I m out of picture now but fortunately my name was at 2nd position. Wowwww

Fourth round-Hr round

It was telephonic round and just my hobbies and all, he asked me about my poetry writing hobby as well as Hindi Shayaris. I was told to recite 1 ...when he listened, he was very impressed...

Key to success: If you wanna come in Citicorp make Dbms and sql strong .you should be good in analytical thinking as well as reasoning capability should be good ..Be yourself and Be Confident

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Citicorp

TCS Interview Experience | Set 8 (On-Campus)

First of all, I was very fortunate for being selected in CODEVITA SEASON V, an annual coding contest conducted at the TCS CAMPUS COMMUNE and hence, was exempted from the Written Test as well as Verbal Online Test (Email Writing).

Although, we were passed on directly to Interviews that were to be held in our college itself, then too I have some experiences from my friends that I will be sharing here:

Round 1:

Email Writing:

10 minutes of Email writing is not so difficult if you are good at expression and writing. They provide you with the phrases which you are supposed to use in your mail. Generally word limit minimum of 70 words is given but from my experiences it should be between 80 to 90 characters to score maximum marks, not more than 95. As soon as you submit the email, written test starts.

Written Test:

It consists of 30 question which are supposed to be completed in 80min. The level of the question is moderate means not very tough but one should not take them as granted. My advise would be to go for the previous years TCS placement papers in advance.

Results were announced next day in the evening.

Round 2:

This was the day for the Interviews. It consisted of three Interviews namely Technical Round(TR), Managerial Round(MR), and HR Round. For most of the cases TR and MR were taken simultaneously, HR was separate. But some were called separately for the MR also.

TR AND MR:

The interviewers were already very lenient and cooperative. Being from CodeVita, they didn't asked too much.

First of all they wanted to know about my experience about codevita and then asked for the Resume.

Since I had given 3 out of 5 stars to the data structures, so obviously the first question was:

Q.1)"if we have the data of a banking system, then which data structure would you prefer to use?".

At first, I replied using hash map, since each customer has its unique account no. Then they asked why hash map?

I said because it would processes the query related to each customer in O(1) complexity.

Then they asked for reducing the space complexity, again at first I said using linked list but at the last we arrived at common consensus of using BST.

Q.2) "Since you have shown your interest in DBMS, what all databases except RDBMS you know?"

Since I didn't had much knowledge about any, I politely said: "Sorry, I don't know".

PROJECT:Then we had some discussion on my project and discussed the Algorithms used in that; Mine was the Maze solver Bot and used Mapping Algorithm for creating the Adjacency List and then used Dijkstra's algorithm for finding the shortest path. I think this gave me some edge since he took some time understanding the mapping algo. which was based on recursion & backtracking and again I was from CodeVita So he was quite happy with me.

Then, He asked me for any questions, and we discussed about the provisions for the internal sliding and future prospects inside TCS.

HR:

This round was just the formality, they just cross checked my mark sheets and informed about the job liabilities. Although she asked me few questions like "Describe your day today" and "What if you are not selected today", Anyways I replied to all these and sincerely said "thank you" and left.

I was expecting some typical questions from data structures and algorithms, but didn't faced any of them.

My suggestion:

If possible go for the CodeVita contest if you really want to grab some edge in TCS selection process. Be prepared on your subjects in Resume, Have good communication skills, be polite and always wear a smile on your face (helps a lot).....

Thank you..

}

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Interview Experiences](#) Tags: [TCS](#)

TCS Interview Experience | Set 7 (Off-Campus)

Hello everyone, I am Raviteja. I attended the TCS Off campus drive 2016.

Name : K.RAVITEJA

College: AP IIIT R.K VALLEY KADAPA

Branch: Mechanical

Mail id :: raviteja.iiit@gmail.com

TCS Written test : March 2nd 2016

TCS TR& MR : 18th March 2016

TCS HR : 19th March 2016

Place : Gokaraju Rangaraju Institute of Engineering and Technology. Hyd

Technical and Managerial Round

There were around 800 members attended for TR & MR which is divided into half of members in the morning and left in the afternoon.

I had my TR & MR on 18th Morning. We have been allotted to 30 Panels.

There were 2 Interviewers in my Panel.

Me : Excuse me, May I come in?

Int_1 & Int_2 : Yes, Plz come.

Me : Thank you. Wished them with charming face.

Int_2 : Asked my Resume. They had a look on my Resume and asked me to introduce Myself.

Me: told.....

Int_1; What is your Final year Project?

Me: Explained clearly

Int _2: Tell me about your Mini Project?

Me: – Explained clearly

Int_1: Tell me something u know about Softwares.

Me:- Explained about Internet of things clearly. They impressed.

Int_2: You are from Mechanical, then why do u want to join in TCS ?

Me:- Convinced

Int_2: Write the program for swapping two numbers without using third variable

Me :- I wrote and explained neatly. They impressed.[They said good looking at each other]

Int_1 : U got job in Bhel and TCS,then what do u do?

Me:- Convinced & they impressed.

Int_2: Have u applied TCS Before six months?

Me :- No

Int_1: What is your short term and Long term goals?

Me: -told

Int_1: u did n't tell me about ur family. So tell

Me:- told

Int_2: Can u work at nights?

Me:- told

Int_1: Can u work at any where?

Me:- told

Int_2: Do u have any questions?

Me:- No, sir. I had a great time with u. Said thanks with great smile..

Within 20 minutes results r came. I got selected for HR, which will be held on next day.

Out of 800 members only 440 students promoted to HR.

HR Round

Me :- Excuse me mam, May I come in?

Int (madam) : Yes plz

Me:- Wished her with smile

Int:- Asked my resume and started with basic question "introduce your self"

Me:- told

Int:- u are from Mechanical, then why do u want to join in TCS?

Me:- told

Int: – Why should I hire u? tell me two reasons

Me:-Saying that my college taught me to learn new things easily....blah...blah..blah. Mean while she cross questioned me .

Int:- u said Learning is your attitude. So tell me what have u been learning still now?

Me:- shocked , anyhow I said my best

Int: – Tell me about IOT

Me:- said

Int:- Difference between IT Service and IT product

Me:- said

Int : can u work at night shifts?

Me:- said Yes, I can

Int: – r u aware of TCS Policy, suppose if u r selected u have to stay for 2 years

Me:- I'm Ok for it.

Int : Do u have any questions ?

Me:- said no & wished her again with great smile.

My interview is over.

On 22nd morning I got mailHurray!!!!!! I got selected

My suggestion:

Get prepare well for written test and for interview have a minimum language of any programming language. Never feel tension. If u, I'm sure u will definitely lose ur self confidence. Have a good communication skills. They just check your level of communication and how confident we are....

Thank you..

For any queries you can contact me my contact details are on top of this document.

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TCS Interview Experience | Set 6 (On-campus)

I m sharing some tits bits from my interview

I was asked questions from Java and C

Technical question asked

- Testing (Black box and White box)
- SDLC
- Waterfall model.
- Data structure – Basics like Stacks, Queue
- DBMS basics -Keys ,Row,Column,Join
- Operating system basics-Scheduling, Processes etc
- Networking

I was able to answer almost all questions

BUT they did not see my CV ,they didn't touch my file and NO questions from my project.

Read all subjects. Questions can be asked from any subject.

GATE CS Notes (According to Official GATE 2017 Syllabus)

GATE CS Corner

TCS Interview Experience | Set 5 (On-campus)

Round 1: Aptitude Test

This test consisted of all the various aptitude problems from variety of topics like puzzles, arithmetic & geometric series, permutation-combination, clocks and calendars, upstream-downstream, average, coding-decoding.

To clear this test one should be good at mathematics , verbal ,non verbal and quantitative aptitude. I would say RSAgarwal will be the best to prepare to clear this round .

Round 2: Technical Round

The companies like TCS give a thorough training to any hired employee. So they expect us to be good at basics of the subjects. I was asked a few questions like:

1. Difference between C++ and JAVA
2. Write an SQL query – how would you find the second largest number in table
3. What was your project in third semester??Any internship?

I explained them but they were not very happy with the work I did.

4. Topologies of LAN
5. Which is my favorite subject? I told them data structures and they asked me some questions like binary search tree, insertion of an element in a tree, linked list advantages etc

This round went well. I was able to answer almost all questions correctly.

Round 3: HR Round

1. Your family background
2. Are you willing to move to any part of country?

You should readily agree to this as far as I think. They don't expect you to say NO.

3. You weakness & strength. You may read <http://www.geeksforgeeks.org/10-mistakes-people-tend-to-do-in-an-interview/> to see answers to all common questions

After a wait of almost 7-8 hours, they declared the result and I got SELECTED 😊

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GATE CS Corner

TCS DESS Interview Experience | Set 4 (On-campus)

TCS visited our campus last month for the Systems Engineer profile under the DESS unit. The DESS unit works in the latest fields of Mobility, Cloud Computing, Big Data and Analytics, AI, etc.

1. Aptitude Test:

This round comprised of 2 tests one aptitude and one technical. The first round was of 50 min. and comprised of 30 questions. The second round was of 30 min. and 15 questions.

2. Technical Interview:

There were two interviewers in the interview. They asked me to sit and I gave them my resume. The whole interview rotated around the projects mentioned in the resume.

A vague outline of the questions is as below:

- Latest trend in mobile world(mainly Android).
- Database technologies such as NoSQL and its effects.
- Fundamentals of C,C++,JAVA.
- Networks layer concepts.

In depth discussion was done on all the above topics. The interviewers were very investigative and always tried to stump you out.

3. HR Round:

The HR round lasted for about ten minutes or so due to delays. The questions were as below:

- Why are you fit for this job?
- Are you okay with relocation?
- Are you okay with working overtime?
- Any plans of further studies?

The experience was very good and geeksforgeeks really helped me a lot with the preparations. Keep up the good work GFG.

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Category: [Interview Experiences](#) Tags: [TCS](#)

TCS Interview Experience | Set 3 (On-campus Recruitment Drive)

"Welcome to TCS" These are the words which every aspirant reading this article is desperate to here. Few days back, I was also one of you. Believe me guys, its not too heard if you are prepared enough.

Let me share my experiences and help you the only way I can.

First step:

Aptitude Test

tip to crack this round is to keep your basic concepts in quant and practice them enough. And talking about number of attempts, I have attempted 23 and my friends who have passed the test also attempted around it. So no need to attempt all but accuracy matters a lot. So don't be misled by the arguments like more attempts lead to more marks.

Second Step:

Technical Interview :

Results of the aptitude test were out around 8'0 clock in evening and there was the feeling of mirth but it was like that 3 interviews are still left and "main jung to abhi baki he".

So contemplating about the questions in the interviews and molding answers for them I slept.

The day came when we were supposed to give interviews. I was prepared but little nervous as it was the first company at the campus and first that kind of interview.

The turn came and I was there for my first interview

TECHNICAL INTERVIEW:

Me: Good morning sir, may I sit?

Interviewer: Ya sure. How's your day today and how you feeling now?

Me: I am fine sir. But feeling little bit nervous, as it is my first interview

Interviewer: Ok Jalpa (after taking my form and resume). So tell me about your self.

Me: answered with my name, school, college, family and major achievements.

Interviewer: Ok fine. Now what are the core subjects that you are getting in your branch

Me: told like CN, OS, DSA, DBMS, JAVA, C, C++ etc. (as I am in IT. These are the major subjects.)

Interviewer: Ok than what about your project.

Me: told

Interviewer: why this project and asked some counter questions about it like alternative methods and why this particular method.

Me: told

Interviewer asked me about OSI basic model, DBMS basic concepts like normalization and difference between different normalization forms.

Data structure basic questions were there and so many questions on inheritance basics.

However all were basic questions, go through the basics in detail because they are always ready to counter you and gauge you that you know the complete basics or you are just overviews of the stuff.

Interview ended in around 25 minutes and I was quite sure about my selection and happened the same.

Management interview:

Went in and interviewer introduced himself an HR who has 15 years of experience. Interview began with his cunning smile and my confident attitude.

Interviewer: Introduce your self

Me: told

Interviewer: so jalpa, why TCS? You should join an NGO as you seem interested in social work.

Me: IT is a platform with which will be able to transform the world so my willingness to make a change in society would also be fulfilled by having in-depth knowledge of IT and implementing it in the right way. As I know TCS has contributed well in CSR activities and will continue to do so. So TCS would be the best platform that would aid me to fulfill my dream.

Interviewer: so where do you see yourself in next 5 years?

Interviewer: what are your monthly expenses?

Me: (confused as totally unexpected) told
Interviewer: so what do you expect from TCS?
Me: told
Interviewer: How many lectures do you attend in college?
Me: told
Interviewer: Than If you want to learn something that you are not aware of ,what shall you do?
Me: told.
Me: told
Interviewer: what if you are given tedious job that you don't like in TCS what would you do?
Me: told
Interviewer: comfortable with any location?
Me: yes with proper explanation

Many a times he didn't reacted or reacted negatively just to make me less confident or gauge me in stress situation so one trick to crack this round is "BE CONFIDENT".
After 20 minutes back to back questions I slipped to next round, HR round

HR ROUND:

Interviewer: What is the meaning of your name?
Me : (shocked) told
Interviewer: what is your weakness?
Me: told with recent example
Interviewer: why tcs? NGO is a better place for you
Me:told with explanation
Interviwer: any questions?
Me: (what? Just this much??) ya sir
I asked one question and he gave replied with a detailed answer .

So my HR round was very easy . I didn't have to do much but my management round was challenging.

Anyway I enjoyed the experience a lot and was satisfied with my experience.

At 12 am result was declared and I got offer letter. Speechless about the happiness that my parents and my brother had on their face. I just hope everyone reading this will able to feel that moment of joy and of doing something after 18 years of study.

Good Luck.

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Category: Interview Experiences Tags: TCS

TCS Interview Experience | Set 2 (On-campus Recruitment Drive)

I recently participated in an On-campus TCS recruitment drive and got selected as Junior Software Engg. In TCS. Here, I want to share my first day to last day experience with you. Please read it in deep and try to get what they are looking for.

Email: –

- (1) Email writing (10 minutes)
- (2) write all keywords in sequence,
- (3) if minimum limit of 50 words is given. Then, write 71-79 words,
- (4) Avoid spelling mistakes,
- (5) don't forget to use Dear and regards with names,
- (6) Use Capital and Small letter at right place,
- (7) save at least 4 minutes for checking at last,
- (8) avoid such words which you have a doubt on spelling
- (9) if name is not given use names like john, smith because they are easily recognizable.

*You can do email writing preparation on <http://www.technicalbaba.com/>

Aptitude Test :-

30 Q in 80 minutes

1. Please pleaseplease prepare CAMPUS GATE completely (<http://www.campusgate.co.in/2014/07/tcs-latest-placement-papers.html>).

Yes, I cannot guarantee you now that many questions will be from this website. But, it will surely help you with some of the questions asked directly from this. So, you will save your time.

2. Solve ARUN SHARMA for the main concepts of QA.

3. Solve R.S. Agrawal (If you can in case you have some time).

4. #Note: – Now, TCS is also including Logical Reasoning (Prepare Analytical reasoning). Scientific Calculator is also allowed.

Previous Pattern: – 28 Q of QA + 2 Q of LR.

New Pattern: – Vary according to set by set

(1) 5-7 Q of LR + Remaining Q of QA.

(2) 12-14 Q of LR + Remaining Q of QA.

Due to LR questions. The pattern becomes more tuff. Prepare LR Very well.

Interview preparation-

- Go through the <http://www.geeksforgeeks.org/> . It will help you a lot in your interview.

My Technical Round :-

Q: Which programming language you know better?

A: Answered

Q: Write a database connection code as well as retrieval of records from data in any language.

A: Wrote.

Q: Write a nested query.

A: Wrote.

Q: Explain that nested query.

A: Explained

Q: Make tables for that nested query and identify primary key and other keys.

A: Did.

Q: There are two programs, PrintA.java and PrintB.java. Write some code so that these programs can send messages to each other.

A: Tried socket programming somewhat, But not correct exactly.

They saw my application form into their computer and said, "You are not the same guy as in the photo in application form."

I said, "This is me", again and again without any problem like stress and lack of confidence. This was just a type of stress testing. Be careful with such questions.

Q: What are your hobbies?

A: Said same as what I mentioned in my resume.

Q: What's going on in IT industry? Anything fresh?

A: TCS market share has been down by 9.15% last night. (I heard it in morning from my classmates.)

Q: Your permanent address, phone no., Home no. ?

A: Answered. (They were cross checking from my application form.)

Q: What are the areas of improvement in yourself based on this interview?

A: I don't think any. If you can tell me, then it will be my pleasure.

They said, "Your voice is loud"

I said, "Yes sir, my friends also say that I have an inbuilt loud speaker by birth."

They said, "Hmm."

Again they said, "Also you are looking little bit over confident."

I said, "Yes sir, maybe, because I was trying to be confident."

They said, "Yeah, improve in it."

I said, "Yes sir, Thank you sir."

They said, "yeah. You can go now."

There are many more questions asked. But, I do not remember them. Guys they checked my basic knowledge completely. They were not actually sitting to check your knowledge. They actually check your confidence also. So, if u don't know something. Say it clearly instead of making false statement...

Tips:

Be confident.

Practice to enter in the room for that day.

Explain in short.

Have a smile on your face (descent) while explaining.

U must have a deo and chewing gum for refreshing yourself

Be Specific whatever you explain

Properly dressed

Check your body language

Accept if u had made a mistake instantly

It should be more conversational than Q and A session.

HR: –

Me: May I come in sir?

HR: yes

Me: Good Afternoon sir, May I sit

HR: Yes

HR: What should I ask you?

Me: Whatever you want to ask.

HR: Okay, Which type of questions do you want me to ask?

Me: Sir, please ask questions on real life.

HR: Okay, which questions?

Me: Like, How to deal with the world? How to live in a society?

HR: Okay. Tell me. How?

ME: I answered well as the question was of my choice or mine. I said I could know any person well in just 10-15 days.

HR: Suppose a foreign client with completely different tradition and culture came to work with you on a short term project of just 10 days. To work on this project together, you both must know each other well. But as you said you take 14-15 days to know a person, and here you have to finish the project within 10 days. What approach will you follow to deal with such situation?

ME: I will check his social networking profile like Facebook, Twitter etc. to know about him.

HR: He don't have any account on these social networking sites. Then?

ME: I will ask about him with others who know him.

HR: Okay, this is one point, What else?

ME: I will try to spend more time with him like going for coffee or movie.

HR: And if client is female, then also you will go for movie with her?

ME: Sir, I can't differentiate between males and females. This is my work and I will do it.

They smiled. 😊

After that, they explained about TCS policy, bond, joining time details and I said, "Yes, yes sir".

At last, they said yes, you can go now.

I said, "Sir, please may I ask something?"

They said, "Yes."

ME: Sir, what are qualities a TCSian should have?

HR: you say.

ME: "I don't know sir. But in technical I got some feedback. I can tell you."

HR: say.

ME: I said whatever feedback I got in my technical round which was loud voice and over confidence.

HR: yes.. (Also they listed some improvements in mine).

ME: Thank you so much sir. 😊

If they ask you "Which post (developer, tester, management) you want to work" please don't say any specific field. Say generic answer that u will do whatever company gives u. Then, after gaining some experience u will think.

..... All the Best Guys

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Category: Interview Experiences Tags: TCS

TCS Interview Experience | Set 1 (On-Campus 2014)

TCS arrived my college this year on Nov 2014. I wanted to share my experience with all of u , so here it is..

Eligibility Criteria is:1. 60% in SSC, Intermediate and B.Tech.

2. Not more than a gap of 2 years between above mentioned courses.

3. More than one active backlog is not allowed.The selection is made on the basis of 4 rounds and every round is a elimination round.

1. Online Aptitude test.

2. Technical Interview.

3. MR Interview.

4. HR Interview.

Tips to prepare:

1. Prepare your portfolio beforehand(though nobody has time to take a look of it, as they have your data on their database and keep laptops during interview). Take a file with transparent leafs inside to put the documents in them in following order:-

- C.V. signed and dated as the date on which interview is going to take place. (not more than 2 pages) (You can view sample C.V. from here:- https://docs.google.com/document/d/1m8MQIWki_UZiJ6_hrl4gGwG4BkG7uDsSfgRQ8bhMXc/edit?usp=sharing)
- 4th year marksheets(if graduated), then 3rd year marksheets(if you do not have it just take out its printout from university website and insert it.), then 2nd year's and then 1st yr's marksht.
- 12th Marksheets and then certificate.
- 10th Marksheets and then certificate.
- Industrial Training Certificate and other course's certificates(if any)
- Other Certificates comprising of Workshop certificates, Certificates of participation in co-curricular activities, etc.

2. Keep a separate copy of your C.V. along with you signed(by you) and dated(interview date). (Again nobody demanded it for taking a look of it during my campus drive, but still keep it prepared just in case ..!!)

3. Keep a printout of application form of TCS which you have to download from nextstep.tcs.com after applying for drive. (Download it in Mozilla Firefox, Chrome may not work). Application Forms would be submitted at the time of Round1 and would be used in all successive rounds to have a look of the interviewee.

Round 1: E-mail writing and Quantitative Aptitude

Students were divided in 2 slots(actually not divided, it was told that whoever wanted to give in 1st slot may give) . Then we were sent to Computer Labs for taking Round1. I was in Slot 1. There are 2 sections:-First section comprises of E-mail writing and next is Quantitative Aptitude. Remember you cannot go back to 1st section if you have

already exited it(although there is much time for it -10 minutes are sufficient for an e-mail).

Quantitative Aptitude comprise of 30 questions with negative marking. Starred questions will be of higher marks. The set I got had 10-12 easy questions, 4-5 tough questions, and rest medium level. Try to do atleast 18 out of them to clear the round. (If there is not much time left as compared to the number of questions you may take help of your neighbor as many people in my slot did, though its better to do it on your own as you can't trust others.)

Questions comprised of following areas:-

Time and Work (Questions related to calculation of Wages for work),

Number System,

Functions and Series,

Geometry,

Probability(Total Probability and Bayer's),

Time, Speed and Distance,

Ages,

Permutations and Combinations.

We also had a PPT in after this round in which TCS declared results of 1st round and told about the company, objectives, statistics, mission, values, etc.

Tips:

1. Take the mock test before the drive which is provided on <https://nextstep.tcs.com/> available after logging in.
2. Whether you write the **subject** in e-mail or not, is completely your choice. It won't matter much(I wrote the subject and my friend didn't, we both cleared the round with 10th and 9th position, respectively)
3. Use exact words and phrases which are provided in the question(like:- *passing out—ordered—* should not be used as :- Your *order* dated 24 July is *passed out* . , Correct form of using it is:- *Passing out* the project which you had *ordered* on 24 July ...) Sequence is not important.
4. If you have practiced Time and Work, Number System, Permutations and Combinations, then its enough. Just look out the simple formulas(or one-two questions) of other chapters like Total Probability Theorem, Bayer's formula, an upstream-downstream question, Sum of A.P and G.P. and their General Terms). Don't waste time on chapters like Alligations, Logarithms, Ratio, Percentages, Profit, Loss, etc. Remember alligations are just a shortcut method of solving some type of questions , generally useful for CAT/XAT students where CalCulators are not allowed.
5. Only pencils and calculators are allowed. Rough sheets would be provided by them which would be sufficient. Don't forget CalCs as they are more sppedy to work on rather than e-calculator.
6. Note down everything told in the PPT. It can be asked in successive rounds.

Round 2: TR (Technical Interview Round)

Out of 300 students, about 200 cleared the 1st round and were divided in 10 panels for Round 2. Only one interviewer was there in each panel, so not to worry too much. Regarding the questions they asked in this round, it totally depended on them.

In some panel they asked questions about family (just total time pass, answer in relaxed way as if talking to some relative)

In my panel the interviewer never asked me about my favorite subject(area of interest) . He asked me questions from various subjects except my area of interest :(, some of which are as follows:-

- What is your final year project? Tell me something about it. (as we had not even started making our project by that time, I didn't know what we would do in that but neither did the interviewer know. So I told him whatever I wrote in my project synopsis- the modules in the project, the objective, its applications, language used, etc.)
- (As I told that my project was based on JSP so he started asking me questions from it.) What is page directive(I told it)
- What is AJAX (I told it somewhat wrong, and said that I'm not sure)
- Ok. What are servlets? (told it)
- What is the relation between JSP and Servlets(at first I told it wrong, then he gave me a hint and I corrected it.)
- Have you heard about Quick Sort? What is it? (I was not sure. Just knew that it has a pivot element and we have to compare it with some other elements. Told him such things.)
- He handed me the paper and told me to take few numbers and show on them how quick sort is done. (I knew that i couldn't so I just took few numbers, told him the first element is pivot and then we find the element smaller than it from right side)
- He looked at me and said "Do you not think that we take middle element as pivot?" (I in my mind thought that yes he was right we take middle one as pivot , but told him confidently- No sir, we took the first element as pivot in our academics)
- He nodded and then asked which one was efficient(I told him taking middle one as pivot was more efficient)
- He asked me something about RDBMS. (I told him Sorry sir, I have no idea about that.)

Though my interview went out totally frustrating with the only good thing being my CONIDENCE (even in saying that I didn't know the answer). After 2 hours I got my call for MR round 😊

Tips:

1. Be confident. Don't hesitate in saying even that you don't know the answer.
2. They are not looking for students with best technical knowledge, but the students with the medium knowledge, greater potential, and most importantly confidence.
3. Study not focussing only on your area of interest, but just take a look of basic definitions of important topics especially related to your project. (like AJAX, JSP, Servlet, 1NF, 2NF, Indexing, etc.) Brush up about every type of sorting logics (bubble, selection, quick, insertion), and common programs like palindrome, swapping 2 nodes in a linked list, etc.
4. Greet Good Morning/Evening with a smile when you enter and sit only when asked to(if not asked, then ask yourself to sit), Talk in a relaxed mood but not too relaxed(don't speak like he is your chuddy-buddy).
5. To reduce stress after clearing this round, just think about both outcomes (if I'm selected then that would be great but If I'm not then at least I cleared 2 rounds when 100s of people couldn't. 😊 This worked for me.)

Round 3: MR (Managerial Interview Round)

This was the best round according to me.

There were only 2 panels for this round.

I was called in. I entered , smiled and greeted him .

The interviewer was an aged person and looked much experienced and friendly.

He : (taking a look at the application form) So Ms. Nirmal..

I: Sorry sir, my name is Swechchha Agarwal, That's my mother's name which you are taking.

He: (taking a look again)Ohh (smiling a bit) my mistake, its Swechchha.

(Some person entered meanwhile for handling him something)

He: So Nirmal, tell me something about yourself.

I: Sir, I am Swechchha Agarwal...(hoping to continue the intro)

H: Ohh again sorry. (smiling)Let me correct it here(working on his laptop for a minute) Ok now continue.

I: (told my complete intro)

He asked me about my family.

I told him that I had a joint family with 11 members .

He smiled and said that was very good.

He asked me about my hobbies (painting,sketching)

So u make human sketches also?(Sir, I have tried my hand on them, but its just my hobby and not my talent so i'm not good in it)

Don't you do anything else in your hobby like sports(Sorry sir I'm not good in that.)

He asked me about my strategy to achieve success in organization(dont tell only hardwork tell about the smartwork, punctuality, learning from experience, self-teaching, etc.)

He asked me "Why you want to join TCS"(Sir as I know many employees there I have come to know a lot about this company , its good friendly environment, platform to learn, etc. ...)

He asked me about my last project and why I developed it, i.e. its objective(told him)

He asked me what have I learnt in Software Engineering(that softwares are not developed by just coding them . If we want them to be a real success, then there are steps to follow:Reqt specification, analysis, design, testing, review)

He asked me what I have learnt in Industrial Management which was also a subject in my curriculum(I told him importance about human relations in company, stress management...)

He asked me how to manage stress?(I told him what I learnt in that subject like job rotation to reduce fatigue, etc.)

He told me that"You have told me how to reduce other's stress as a manager, now tell me how will you reduce your stress? (I told him through a little chat with peers, taking breaks in work, through hobby practising)

He again reminded me that I must practise something in Sports as my hobby to reduce stress (I know sir i should but just sports are not my type)

Ok you may go. Send the next one inside.(Thankyou sir 😊)

It was already 11:30 p.m. Next day results were to be declared of OutOfProcess students (eliminated)

I didn't have my name on that list 😊

I was called as the first one to give final round H.R. which ended in 10 minutes .

Round 4: HR Interview

I entered and greeted. He told me to sit. and said "tell me about yourself".I told. Then he asked me an aptitude question : "There is a 20 feet tower. A monkey climbs 3 feet in a second and drops down 2 feet in the same second. when would he reach top?" I asked him to give me a minute to think . He allowed. Then I told him "18 seconds" . He asked me the capital of Telangana. I told him"I know that Currently it is not stable but I don't know the answer" .He asked me 'Tell me any 5 points about TCS which were told in PPT and because of which you would like to join TCS"(I told him about the code of ethics, brand popularity, the awards it got,...he then interrupted)

Ok your home is so close from your college. How would you be able to relocate?(I told him that I had done it earlier after 12th in Kota)

He asked me about the Kota expeience and then told me to "You may go"80 were placed and I was also among them :)Please do comment if you want any other information ..

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Category: Interview Experiences Tags: TCS

ITC Infotech Interview Experience | Set 2 (On-Campus)

My ITC-Infotech Interview Experience

ITC-Infotech visited our campus offering post of IT-consultant. They have only one office in Bengaluru and one in silicon valley, you may get chance to work in silicon valley ☺

They were mainly hiring for making team of 50 people for Z-Labs. Cloud computing and Big data were field they are working

First Round (Online test)

It was a simple online test

There were 4 sections

1. Quantitative aptitude

2. English

3. Basic C/C++ MCQs

4. Logical Reasoning

it was conducted on AMCAT

Second Round (Tech+HR)

This round was Tech+HR

HR first asked to tell me about myself,then asked about family ,siblings,what they are doing now.

Tech guy asked questions mainly from DS and algo

some of which i remember are

1.Quick-sort worst case complexity

2.Which sorting takes minimum time,maximum time and average time for sorting a sorted array.

3. Deletion of given node from singly linked list and doubly linked list in constant time.

4.Basic questions on TREE

5.Concepts of OOPS

Again HR, Why do you want to join ITC-Infotech

All rounds were easy,interviewer and HR were very nice people

They declared result same day, and i got selected ☺

Hope it helps.

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Category: Interview Experiences Tags: ITC-Infotech

ITC Infotech Interview Experience | Set 1

First Round Amcat(English, logical reasoning, aptitude, c, c++ output based questions)

Second Round GD

Third Round (technical) Resume based questions, about projects, string based questions, joins in sql, sorting complexities, array based questions.

Fourth Round: simple hr round family background, why ITC??, about latest technologies etc.

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Citius Tech Interview Experience

Aptitude

Logical questions only

15 questions in 30 minutes

Some are CAT level and some are GRE level

They had 4 sets

69 people made it to the next round

If you score 15/15 then they will only take only HR round else both the rounds

Technical round

I was the last person to be called for the interview

My Interview started at 7pm

Stress interview

1) Tell me about yourself

I mentioned about my projects, extra curricular activities, achievements etc.

2) Since I had developed a Python Application which allows the users to send email without logging in.

His next question was what libraries did I use?

Can u make it without a library? Ans: No

3) What are ACID properties?

He wanted all the details

4) In my IBM project I had used Jquery and AJAX

He asked what all do you know about JQuery?

What all do you know about AJAX?

5) In my CV I had mentioned I knew ASP.Net and JSP

He asked PHP kyun nahi aata hai

6) What is the difference between Microsoft SQL Server and IBM DB2? (ab yeh kaha se aa gaya)

7) Difference between Java and javascript

8) Difference between encapsulation and abstraction

9) In 80s C was popular then why C++ was invented? (he wanted my view)

10) Javascript database connection code

11)Latest Android version

12)He asked me whether I know shell scripting. I replied Yes and then he said OK Cool, I won't ask you that (toh pucha kyu)

Since I had done a couple of Microsoft Certifications on various Operating systems these questions are based on them

1) Design a client server application in which the Active directory has more than 1 lakh users and you need to find all the users starting from A from the client

Answer : You can't do it. You can only do it on the server. Microsoft server OS does not provide these many rights

2) there is application server and 100 clients are connected to it. Some users are downloading content on the server's drive via the client and some of them uploading content on the server's drive

How will implement this?

Answer Concurrency control and transaction processing explained the process

Now he started grilling me

Why do you need to Microsoft certifications and all?

Usme cut,copy, paste karna sikha kya?

Why in server OS 2008? and blah blah he went on

Trust me this same interviewer asked my friend about image processing and cloud computing also

Interview ended at 7:43pm

Round 2

HR+Tech Again I was the last one to be interviewed

This round was pretty chilled out

Tell me about your family background

Do you have a facebook account? – I said no then he asked explain working of browser (ye kaha se aa gaya)

OSI Model

He gave me simple puzzle (Always think loud)

Explain normalization and denormalization

Why denormalize?

Explain ACID properties (phir se)

Do you have any offer from any other company?

Why citius

Do you have any questions for me

I asked how is the journey in citius tech for a fresher

he started explaining and went on for 7 mins

Interview ended at 8:50pm

The list of the selected candidates was mailed to the Training and placement officer after two days

Total selections made: 30

I was one of them 😊

My sincere thanks to GeeksforGeeks and all the very best to all other Geeks!

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Category: Interview Experiences Tags: Citius Tech

Wipro Interview Experience | Set 4 (On-Campus)

The process was as below-

1. First there was an online test. The test was pretty simple, it was divided into several parts. There were questions related to aptitude, English and logical reasoning. Apart from that there were questions related to CS fundamentals like OS, DBMS and Networking.

In the end there was a coding question, which was of basic level. (I have to write only three lines of code.)

After this test about 120 students were shortlisted out of 700 (In these 120 only 30 would remain when company visits in December.)

2. There were two interviews one technical other was HR.

Technical interview was on the phone the questions were

-Tell me something about yourself.

-Explain your projects all of them.(He was interested one of my project which was based on Internet of things and started asking question about it)

-what is internet of things?

-what is cloud computing?

-which is your language of choice?(I told him it was java and this was one of my strengths because they want Java coders)

-what is the one basic difference between java and all the other languages?(told him that java was platform independent)

-what do you mean by platform independent?(told him about JVM)

-what is JVM?

didn't asked about any extra curricular activities, they are not interested really

HR interview was face to face it was about 3 in the morning and the HR was not in a good mood I was a bit skeptical about this

-Tell me about your self.

-what do know about wipro.

-are you a team player?(well everybody is)

-what is your greatest strength?Explain with your real life example.

-what is your weakness?Explain with your real example?

-how will you work under pressure when you have a lot of dependencies?

-who is your greatest motivation?(told him that it was my dad)

-how will your dad feel when this morning you will call him and tell that you were not selected in wipro.(Now note that if they are not willing to hire you they will never ask these sort of question, these are just asked to check if you buckle under pressure, and it means you are on right track)

-why do you want to join wipro?(told him that because it is an indian multinational it will give me a sense of pride)

-so why wipro, why not infosys it is also indian.(told him clearly that infosys did not come for placement)

-so tomorrow if IBM buys wipro then you will leave us?(told him no because the the work culture and other things will be indian blah blah..)

-OK. very well, you may go now.

In the end I was selected with 14 other students(from 30 odd students). A couple of things that I will like to add in the end

-Never write anything in your resume that you do not know or you are not in touch with at the present. In my case for example I knew SQL and C++ but not in good touch with them so I just removed them. Fewer things in resume does not mean you will not be selected.

-Never buckle under pressure and always be polite because people do get kicked out of HR round and it is the worst thing ever.

-And lastly prepare every HR questions beforehand and be prepared for the unexpected ones.

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Category: Interview Experiences Tags: Wipro

Wipro Turbo Interview Experience | Set 3 (On-Campus)

I had Wipro Turbo coming to my college (College of Engineering, Trivandrum). Had one online test, one tech round and a HR round.

Online round was where most of the elimination took place.

Tech round(from the selected 29) 7 people got out and a couple in HR round.

Tech round started with few basic questions like tell me about yourself and questions connecting that.

Then he asked if I knew trees and related topics. I said yes, but not fluent with code so then he asked about linked list then he had me write the entire code to find the middle of a node in a circular linked list, the entire cpp code. Wrote it and he explained it.

Then he asked about memory leak, null pointers and garbage collection in C and Java.

HR round was pretty simple lasting just 5 mins asking question about my home place and related stuff. Asked if I was okay with relocation and things.

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Category: Interview Experiences Tags: Wipro

Wipro Interview Experience | Set 2 (On-Campus)

Recently Wipro visited our campus for the recruitment(Project Engineer).

I. First Round(Written):

Online test on cocubes consisting of three sections->

1. Verbal Ability
2. Logical Reasoning
3. Computer Ability (OS, DBMS, CN, DS, OOP)

(75 questions 75 minutes)

->60 out of 200 students were shortlisted for next round.

II. Technical Interview(F2F):

1. Tell me something about yourself.
2. Brief discussion on academic project.
3. Discussion about summer training.
4. Interviewer asked me whether I know Java or not.
5. What is normalization?
6. Asked about merge sort and bubble sort(time & space complexities in best and worst case).
7. Explain left outer join with example.
8. Explain hashing with example.
9. Asked about keys in DBMS(Super, Foreign, composite).
10. Virtual Functions and polymorphism.
11. In the end, I asked some questions related to job profile.

->24 out of 60 students were shortlisted for next round.

III. HR Interview(F2F):

1. Tell me something about yourself.
2. Tell one best thing about yourself, which is not in resume.
3. What do you understand by self motivation. (Explained with example. :P)
4. Discussion about family background.
5. Long discussion on luck factor in life.
6. Do you have any location constraint?
7. In the end, I asked some questions about company's work culture.

->Finally, 18 out of 24 students were selected. I was one of them. J

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Category: Interview Experiences Tags: Wipro

Wipro interview questions for laterals

25 question

1hr time

All Are MCQ:

1 mark each, no negative marks

Domain: C language

1)

```
int main()
{
    int i;
    i = 0;
    if (x=0)
    {
        printf("x is zero");
    }
    else
    {
        printf("x is not zero");
    }
}
```

```
}
```

2)

```
int main()
{
    int i = -3;
    printf("%d \n", (++i + ++i));
}
```

3)

```
int main()
{
    int x = 0xF01DEAD;
    printf("%X \n", (x>>1)<<1);
}
```

4)

```
int main()
{
    char* s1 ;
    char* s2 ;
    s1 = "FIRST NAME";
    s2 = "LAST NAME";
    strcpy(s1,s2);
    printf("%s %s \n",s1,s2);
}
```

5)

```
int main
{
    struct Student
    {
        int a;
        char b;
        char c;
        float f;
    }s1;
    printf("%d\n", sizeof(s1));
}
```

6)

```
int main
{
    struct Student
    {
        short a[5];
        union Student
        {
            long c;
            float f;
        }u1;
    }s1;
    printf("%d\n", sizeof(s1));
}
```

7)

```
int main()
{
    for (i=0; i<=2; i++)
        for (j=0; j<=i; j++)
            for(k=0; k<=j; k++)
                printf("hello world");
}
```

8)

```
int main()
{
    for (count=5; sum+=--count; )
        printf("%d \n",sum);
}
```

9)

```
int main()
{
    int i=0;
    while (i<10);
        print("hello world")
}
```

10)

```
int main()
{
    (x && (x&(x-1))) --- indicates what?
```

some more on pointers, preprocessors and static

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Category: Interview Experiences Tags: Wipro

InfoEdge Interview Experience | Set 3

Round 1: online Test, 30 q's 30 minutes, No -ve marking

Out of around 200, 40 cleared this round

Q's: DBMS, Apti, C output type, Data Structure, OOPS concepts

Note: algo, O.S not asked

Round2: Coding round

1 q to be solved in 30 minutes, Test was offline, on paper-sheet

Q: <http://www.geeksforgeeks.org/wildcard-character-matching/>

Luckily I cleared this round

Out of 40, 12 students selected this round

Interview 1:

Q1: Implement Dictionary. I need to suggest Best data structure supported for implementing database.

Q2: Database schema of Flipkart.

Q3: Check a string is palindrome or not

Q4: Perform search operation in sorted Linked list in logn time

Q5: largest palindrome substring in a string

Rejected here

After this 1 more technical and then HR round

Q's asked from other candidates:

1. How to implement database of facebook
2. Given to you is 900 digits, main memory can store 100 digits at a time, How u can sort these 900 numbers
3. Dijkstra's algo
4. Programs on arrays
5. OOPs concepts

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
InfoEdge

InfoEdge Interview Experience | Set 2 (For PHP-MySQL Developer Profile)

Recently I got interviewed at infoedge for PHP-MYSQL (LAMP) developer profile their naukri .com site.

Round 1

It was a written round:

7 ques, 20 marks in total, 40 mins

Q1. Write a program to find intersection of 2 strings with non-repeating characters.

Q2. Mention the differences between primary key and unique key.

Q3. Write a function which intakes an integer array. Swap the max element and the second

Lowest element of the array keeping the position of rest of the elements as previous i.e unchanged.

Q4. Puzzle: 9 balls with 1 heavier ball in them and a 2 pan balance is provided, find the minimum number of attempts required to find the heavier ball.

Ans: 2 (According to me)

Q5: How many print statements for `f(4,a,b,c)` :

```

f(n,a,b,c)
{
    if (n==0)
    {
        printf("\n a=%d b= %d c= %d",a,b,c);
    }
    else
    {
        F(n-1,c,a,b);
        printf("\n a=%d b= %d c= %d",a,b,c);
        F(n-1,b,c,a);
    }
}

```

Ans: 31 (According to me)

Q6. Find Value of f(3,2)

```

f(int m,int n)
{
    int val = 1;
    if (n%2==1)
        val = val*m;
    else if (n/2 ==1)
        val = val*f(m*m,n/2);
    return val;
}

```

Ans: 9 (According to me)

Q7. Write Sql queries to do following task:

- a) Find all teachers who have courses other than math.
- b) Find all student names who have atleast one subject taken by a lady teacher

Tables such as COURSE, TEACHER, STUDENT etc were given.

Round 2

Interview with VP-Tech

After introducing himself as Abhishek he began his chain of questions which encompassed

OOPS, RDBMS, DS, ALGO

Q1. Can constructors be private. If yes then how to get an instance of such a class

Basically a question about singleton class

Q2. Write a query to fetch all the people with their birthdays today from a table which is as follows:

NAME | DAY OF BIRTH (INT) |MONTH OF BIRTH (INT)|YEAR OF BIRTH

Ans: Select Name from table T where(DAY_OF_BIRTH=today AND MONTH_OF_BIRTH=this_month)

Q3. What is indexing. How you will index the above table data.

Q4. Remove extra parenthesis to form the correct equation, write full working code .

Note: Redundant parenthesis are not to be removed only extra ones are to be removed

```

e.g. input : (((((a+b)*c))+((d+e))))*f))))))
output: (((((a+b)*c))+((d+e))))*f

```

Ans . Javacode: done in O(n)

```

package remove_extra_parenthesis;
import java.util.*;

class stackelement
{
    char element;
    int index;
    stackelement()
    {
        element = 'a';
        index = 0;
    }
    stackelement(char cc, int in)
    {
        element = cc;
        index = in;
    }
}

public class removal
{
    public static void main(String[] args)
    {
        // TODO Auto-generated method stub
        Scanner sc=new Scanner(System.in);
        stackelement se = new stackelement();
        stackelement check = new stackelement();
        System.out.println("Please enter elements...");
        String s= sc.nextLine();
        char a[]= new char[s.length()];
        Stack<stackelement> st = new Stack();
        for(int i=0; i<s.length(); i++)
        {
            a[i]=s.charAt(i);
            if(a[i]==')')
            {
                if(st.size()>0)
                {
                    if(st.peek().element=='(')
                    {
                        st.pop();
                    }
                    else
                    {
                        se.element=a[i];
                        se.index=i;
                        st.push(se);
                    }
                }
                else
                {
                    se.element=a[i];
                    se.index=i;
                    st.push(se);
                }
            }
            else if(a[i]=='+')
            {
                if(st.size()>0)
                {
                    if(st.peek().element=='*')
                    {
                        st.pop();
                    }
                    else
                    {
                        se.element=a[i];
                        se.index=i;
                        st.push(se);
                    }
                }
                else
                {
                    se.element=a[i];
                    se.index=i;
                    st.push(se);
                }
            }
            else if(a[i]=='*')
            {
                if(st.size()>0)
                {
                    if(st.peek().element=='*')
                    {
                        st.pop();
                    }
                    else
                    {
                        se.element=a[i];
                        se.index=i;
                        st.push(se);
                    }
                }
                else
                {
                    se.element=a[i];
                    se.index=i;
                    st.push(se);
                }
            }
        }
        if(st.size()==0)
        {
            System.out.println("Valid");
        }
        else
        {
            System.out.println("Not Valid");
        }
    }
}

```

```

a[i]= s.charAt(i);
se.element=s.charAt(i);
se.index=i;

if( se.element == '(' )
{
    st.push(new stackelement(se.element,se.index));
    System.out.printf("pushing %c which was at index %d
                      inside \n",se.element,se.index);
}

if(se.element == ')')
{
    if (st.isEmpty())
    {
        a[se.index]='$';
    }
    else if(st.peek().element != '(')
    {
        a[se.index]='$';
        System.out.printf("peeking %c which was at index %d inside,
                          setting dollar to %c at index %d \n",
                          st.peek().element,st.peek().index,se.element,se.index);
    }
    else
    {
        check=st.pop();
        System.out.printf("poping1 %c which was at index %d inside \n",
                          check.element,check.index);
    }
}
while(!st.isEmpty())
{
    check=st.pop();
    a[check.index]='$';
    System.out.printf("poping2 %c which was at index %d inside \n",
                      check.element,check.index);
}

//char first=st.pop().element;
for(int i=0; i<s.length(); i++)
{
    if(a[i]==$")
        System.out.printf("%c",a[i]);
}
//System.out.print("idiot %c",first);
}
}

```

Some other variants of this question which I found online:

<http://stackoverflow.com/questions/13204483/remove-extra-parenthesis>

<http://www.careercup.com/question?id=12011927>

Q5. Write full working code for pattern

```

      1
      1 2   1
      1 2   3   2 1
      1 2   3   4   3   2 1
      1 2   3   2   1
      1   2   1
      1

```

After this round they told me to leave for the day and for next rounds we will let me know you, if I am through this round at a later date.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
InfoEdge

InfoEdge Interview Experience

Recently I got interviewed by InfoEdge. It was off-Campus drive at Noida.

There were 5 rounds:

1 Aptitude (Quants+Technical)

3 Technical rounds

1 HR round

Round 1 : Written (Aptitude)

There were 30 question to solve in 30 minutes. Questions were from work and time, profit loss, time and distance, pipes and cisterns, probability, Permutation and combination, c,c++,DBMS etc.

Round 2: Technical Interview 1

1. Write a program to find frequency of each character in a string.
2. Briefly explain Class, Object, Methods, Member variables, Encapsulation, Abstraction.
3. Make a Queue using Stack. He asked to optimize number of push and pop operations.
4. Make a Stack using Queue.

Round 3: Technical Interview 2

1. Introduce yourself.
2. Then he asked me about my projects. Detailed discussion on both projects.
3. Write a program which takes decimal number as input and gives Roman number as output.

Ex: i/p: 8 o/p: VIII

i/p: 43 o/p:XLIII

range of numbers can vary from 1 to 1000.

4. Design problem: Design database for facebook page subscribers. Write classes and functions involved to implement this. Further he added to implement facebook notification system.

Round 4: Technical Interview 3

First interviewer asked me favorite subject. I said Data Structure.

1. Write a program which takes a String and an Integer as input and gives output as follows:

i/p: aaaabbcc 2 o/p abcc

i/p: aabbcc 2 o/p aabbcc

i/p: aaabbbbccdd 3 o/p:aaabcc

i/p abcd 3 o/p abcd

2. Given an array of size n. It contains numbers in the range 1 to n+2. Each number in the range is present in array except 2 numbers. Find the missing numbers.

3. Question on Asymptotic Analysis.

4. Difference between compiler and interpreter. Advantage and disadvantage of each. Complete working of compiler and interpreter.

5. What is HTTP, TCP/IP. Detailed discussion on both.

6. Difference between HTTP and HTTPS. What is SSL. Explain in detail.

7. What is fork system call. What will happen to the child process if parent process get terminated.

8. Explain Copy on write.

9. How to count number of objects created by new and created by malloc.

10. What is copy constructor? Why const keyword is used in copy constructor. Why reference is used as parameter in copy constructor. Some more questions on operator overloading, type conversion etc.

Round 5: HR round

Simple behavioral questions

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
InfoEdge

Sapient Interview Experience | Set 5 (On Campus)

1. Heads and tails puzzle.
2. Burning a rope puzzle.(Measure 45 min time)
3. Given a paragraph and a word in it, count how many times the word is present in the para.(program)
4. Thrashing.
5. Paging.
6. Acid properties.
7. tell me all the sorting you know and explain any one sorting. (I did bubble sort)
8. 1 nf, 2 nf, 3 nf explain
9. write syntax for pointer to a function.
10. questions on hobbies.
11. questions on project.
12. Positives in you that separate you from others.(This time I did not tell grasping power :P)
13. How comfortable are you in learning new technology.

14. Questions on family background.

15. any questions??

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Sapient

Sapient Interview Experience | Set 4

First Round was online test.

4 sections-

- **English** : 25 Questions (synonyms, antonyms, 2 passages, sentence completion, common errors)
- **Logical Reasoning** : 25 Questions (Age relationship questions, series, Statements and Conclusions)
- **Technical**: 25 Questions (C, Data Structures, time complexity, sorting algorithms, OOPS concepts)
- **Quantitative Aptitude**: 25 Questions (Percentage, Profit and loss, LCM and HCF, Work and time, Speed and distance, train problems)

Each section had individual cut-off.

It was adaptive test so you cannot go back to your previous answer.

Out of 200 students only 56 were selected.

Second Round was Personal Interview (Technical)

Questions generally asked: Sorting algorithms and their time complexities.

- 1) What is Bubble sort, Selections sort?
- 2) What is Shell sort, Counting Sort?
- 3) How to find a duplicate number in a fixed length array, provided that only one element is duplicated.
- 4) You are given a String, give the algorithm to find the number of occurrences of that string in the given paragraph.
- 5) Implement stack using Queues.
- 6) Give the Linked List Implementation of Stack.
- 7) What is ACID in Database management?
- 8) How is Durability maintained in Database?
- 9) Concepts related to Having clause and when to use where and when to use having?
- 10) Difference between Delete and Truncate.
- 11) Write SQL query to select employer name from table, group by department number, and SSN= 24235?
- 12) Puzzles: There are 49 Horses, and you have to organise a horse racing competition. Maximum of 7 Horses can be made to race at a time. How many minimum races you need to schedule the races such that we can find the horses with first, second and third positions? Ans= 9

Solution:

<http://www.programmerinterview.com/index.php/puzzles/25-horses-3-fastest-5-races-puzzle/>

13) Divide 6 eggs among 6 people and 1 egg still left in basket. How?(Ans. 6th person took the basket too with the last egg)

14) Three ants are moving on equilateral triangle, starting with corners. What is the probability that they never collide, given that their speed remains constant. (Ans. (6/8))

Discussion on my project and Internship.

My technical round went good and I was selected for Third Round (HR)

HR Personal Interview 3rd Round

He was really focussed on my CV. So always justify what is written in your CV. Don't Say I don't remember it now but I have done it in past, if you don't remember then don't write in CV. I mentioned in my CV – HTML, CSS, MySQL, JAVA project, Data Structures. So they asked me the questions on each Skill

- Tell me About Yourself (He expected me to prepare a solid answer for this question, so prepare for it)
- Why Sapient?
- Why should I hire you, not others? What makes you unique?
- Write the HTML code to change background colour, insert table and change its colour. Modify the code with CSS.
- Write the program to swap two numbers.
- Write the program to swap the two numbers without using third variable.
- I made Info graphic CV that helped me to impress them, it made me stand out of crowd.
- In Java you have 3 classes, Employer, subordinate and manager. How will you establish IS-A i.e. Inheritance Relationship between the three classes.
- What is the difference between C and JAVA (OOPS)?
- What are the files created after compiling C programs and Java Programs? What is the major difference between them?
- What is my proudest moment in life?
- Basically, puzzle solving skills has to be good and basic technical knowledge was required

I got selected and I believe the attitude with which you respond matters, check on your conversational and interaction skills, as they play an important part for selection, be confident in what you know and tell clearly what you don't know , don't guess or give wrong answers instead.

All the Best!!

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GATE CS Corner Company Wise Coding Practice

SapientNitro Interview Experience | Set 3 (On-Campus)

First Round : Online Round

Second Round : Tech + HR interview

First Round :

Online test of basic aptitude questions and technical questions

Second Round:

Technical:

There were puzzles and programs

1. Given 10 coins, create as maximum number of lines consisting of 4 coins each. (Answer : make a star figure)
2. Two trains are on the same track a distance 100 km apart heading towards one another, each at a speed of 50 km/h. A fly starting out at the front of one train, flies towards the other at a speed of 75 km/h. Upon reaching the other train, the fly turns around and continues towards the first train. How many kilometers does the fly travel before getting squashed in the collision of the two trains? (easy but tricky) for solution check here : <http://mathworld.wolfram.com/TwoTrainsPuzzle.html> and some more puzzles Practice them.
3. write a program to pairwise swap nodes in a linked list (not their data)(check boundary condition properly).
4. program to find height of a binary tree.

HR:

1. Introduction.

2. Project and my role.

I Hope my experience will help you, and Best of Luck from my side.

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GATE CS Corner Company Wise Coding Practice

SapientNitro Interview Experience | Set 2 (On-Campus)

Mode:- skype and telephonic interview

written test by:- amcat

1. Recruitment process

There was a written test which had four sections. Technical, Logical Reasoning, Quantitative Aptitude, Verbal Ability.

Shortlisted candidate went for technical interview round.

Then further shortlisted candidate went for hr interview round

Those who got shortlisted after the hr round got the full time offer.

2. Questions and answers

Written test questions

technical:- questions were from C C++. Find out the error type questions and also output type

quantitative apti:- I'm a bit weak at it, never practiced. So, i found them a bit tough, however they were standard

verbal ability:- damn easy, work on synonyms, antonyms and some basic english grammar

logical reasoning:- number series, coded words and very pretty easy thinking questions

Technical Interview

To many of my friends, it was a puzzle round and they faced only puzzles(8-9). But i got lucky, I was asked 4-5 puzzles and jumped into technical questions

puzzles:-

1. I was to imagine a situation where there's is an empty wet, water spilled room(ceiling to floor height- 12 ft), a dead man(7 ft height) hung by a 3 ft rope. I'm asked how could the man hung himself there?

reply:- I said there had been a 2ft ice cube on which he might have stood and tied himself and hung, (ice cube melting away killing him)

2. I'm given 8 sticks to use to make two squares and four right angled triangles

reply:- a rhombus inside a square

3. I was given two non-uniform sticks which burn one hour each. I had to measure 15 minutes using them.

reply:- I set one stick to fire on both ends and the other stick on only end. I let the first stick burn completely which measures me 30 minutes. Then I put the other end of the burning second stick on fire and let it burn completely. Now, the second stick takes 15 minutes to burn completely

4. I was given 9 balls which all are identical except one which is hollow! How many trials would you take to figure out the hollow one!

reply:- logarithmic answer. log 9 base 3 . i Said its two trials, I don't know if its a right answer

5. There are three ants on three corners of an equilateral triangle. they can move in any direction but only along the triangle edges. probability that any two ants collide each other.

reply:- i gave up. couldn't find out the answer

tech ques:-

1. Difference between C and C++
2. Can one edit standard libraries of C?
3. what is function overloading and overriding (difference between them)

He asked me to explain about my project which was on Service Oriented architecture for building a middleware in JADE. I explained it all to him. I wonder how much he might have understood.

HR Interview

It started with him telling about himself. He told his position and his work role. I couldn't get a single thing of what he was talking about. :p Flew over my head 😂
Then i started to tell about myself, strengths weakness, hobbies.

He asked why i like listening music a lot. I was like- I love it without any reason.

He asked me if i like maths. I said no! 😂 He gave me a small problem

How many squares are there on a chess board.

without further thinking, i spit out 64. He asked for my surity. Then i thought and said no!(there are plenty of them inside, bigger and nested squares)
so, i gave up, he finally told me the answer. (sum of squares of numbers from 1 to 8)

He asked about software development life cycle. I gave an honest reply i forgot. Then he started scolding me saying that my pointer is 8.30 and i forgot this! He started saying to go prepared for the next interview.

Then he asked me what if i don't perform well if they hired me.

i said- kick my ass.

He started giving me life lessons in hindi.

Then he asked me what would i want first in process of making tea. (related to software development life cycle)

i said- gas(fire). but he says the first step would be knowing the no. of people who will drink that and what are their requirements(same as a software needs)

That's it. It ended. and after news came over. I got selected :p

Tips:-

In tech interview, be confident about your answers, and don't ever guess any answer. Be honest and say you don't know if you don't and yes if you know.

In HR interview, be what you are. Reflect entirely yourself there. Don't be moody and shy. Try to converse with him as a friend. He's there to select you rather than to reject you.

All the best guys 😂

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Sapient
SapientNitro

Sapient global market Interview Experience

1. Recruitment process

- There was a written test which had four sections. Technical, Logical Reasoning, Quantitative Aptitude, Verbal Ability.
- Shortlisted candidate went for technical interview round at their office in gurgaon
- Then further shortlisted candidate went for hr interview round
- Those who got shortlisted after the hr round got the full time offer.

Written Test

- Technical sections had questions from almost all the sections through AMCAT(C, C++, DBMS, DS, OS)(level :moderate)
- Quantitative aptitude's questions were good.. All were almost of R. S. Aggarwal level though few exceptions were there too
- Logical reasoning and verbal ability was good.. Some questions were tough.

Technical interview

- project discussion
- asked me to write code of module written in project as my project was in c++
- Linked List : find middle node, DLL data structure, Sort Linked List,count nodes,how to free linked list.
- Polymorphism,Virtual function,types of polymorphism,
- Testing,Black Box Testing,types of testing,difference between spiral model and incremental model.
- Then they came up to global market questions ,For eg,sensex,Banks interest,RBI,Finance,Loans,Acoounts.(mad tho)
- Puzzles,Train problem,Petrol Tank problem

HR(most difficult)

- introduce yourself
- How will you show that you are confident
- leadership qualities
- GK questions(again mad tho)
- few testing based question.
- Test cases
- Hypothetical situations
- why you Graduation marks are low?

- Puzzles
- They asked do you have any questions? I asked about work culture and relocation
- they asked to tell two qualities of us(hr team)(confused)

Overall enjoyed. But not selected because of my less market knowledge.

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Interview Experiences
Sapient

SapientNitro Interview Experience

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2. Questions and answers

Written Test

- Technical sections had questions from almost all the sections(C, C++, DBMS, DS, OS)
- Quantitative aptitude's questions were good.. All were almost of R. S. Aggarwal's level though few exceptions were there too
- Logical reasoning and verbal ability was good.. Some questions were tough.

Technical Interview

- The first question i was asked "what is polymorphism" ???
- Is Java only language to provide run time polymorphism ???
- Write a code for stack using linked list(when writing any code keep the boundary conditions in mind)
- Write an algorithm to find the loop in a given linked list(i did it with two pointers), then i was asked if we can do it with one pointer(yes, using extra space of course). Then i was asked if we really need any pointer??
- Next question was regarding dbms, a table was given and i was asked to write three different type of queries to insert data in that table
- Then the next question was about joins in dbms. First theory and then two tables were given and i was asked to perform each type of join on it
- A puzzle was also asked "we have a car which had 5 tyres(4 in use and 1 spare). The car had traveled 20,000 miles and all of its tyres has covered equal amount of distance and all the tyres has reached their maximum limit and thus all are busted. What is the maximum limit of each tyre."

HR Interview

- It started with "tell me something about your self"
- Then we talked about my "strengths and weakness"
- Who is the toughest person you ever had to deal with
- Asked about my project. But he was mainly interested in how i participated in that project. and how i worked in that team.
- I was asked about my participation in different activities that ranges from playing an anchor to organize a debate in school.
- Where do i see myself in 5 years from now.
- Why "sapient"??
- What do i know about "sapient"??
- And then it was my turn to ask any questions..
- I asked "what kind of work i'll be actually doing if i join you guys " and " what will the chances of my growth in your organization"

Interview tips

- Prepare for hr round as well, it's important too. If two people have same technical skills then obviously the one with better hr skill stands with and upper hand
- Your positive attitude matters a lot. Try to have a smile on your face when you enter the interview room
- Should have good communication skills
- Stay confident throughout the interview, even if u don't know abt any particular thing don't panic just try your best..

All the best everyone... !!!!!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Sapient
SapientNitro

Sapient Interview Experience | Set 3 (On-Campus)

First round was aptitude test organized by Amcat.

It had 4 section –

1. English – 25 questions (25 minutes)
2. Quantitative – 25 questions (35 minutes)
3. Technical – 25 questions (35 minutes)
4. Logical – 24 questions (35 minutes)

Practice previous Amcat papers. Technical was mostly from data structure and algorithm. Each section had individual cutoff . It was adaptive test so you can not go back to your previous answer.

Out of more than 500 students, 49 got shortlisted for the next round which was technical interview

Technical interview round-

My interview started with lots of puzzles. Some of them are –

1. Sand Timer puzzle where I needed to measure 15 minutes using two 7 and 11 minutes sand timer.
2. Divide 6 eggs among 6 people and 1 egg still left in basket.
3. Make 1000 using eight 8's by only using +,-,*,/.
4. Number based puzzle.
5. A monkey climbs 3 step up during day and falls down 1 step during night. How much time required to climb 30 m.
6. Day of month using 2 dice.

I managed to answer all of them. Interviewer seemed really impressed.

Now technical questions were asked –

1. Difference between c and c++.
2. Polymorphism – Overloading, overriding, virtual function (explain with code).
3. Basic of hashing (Just how it works).
4. Inorder, preorder and postorder traversal.
5. Print 100 to 1000 without using loop and recursion.
6. Find the reverse of the number without using extra space.
7. Reverse of string without using any loop.
8. Logic to find cycle in linked list.
9. code to connect to database. (as I mentioned i know php).

HR round –

1. Discussion about my projects.
2. Normal situation based questions.
3. Strength, weakness, proudest moment etc.

She actually checked my live website and my blogs on internet in front of me. so, never lie on your resume.

Basically, puzzle solving skills has to be good and basic technical knowledge.was required.

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Category: [Interview Experiences](#) Tags: [sapient](#)

Sapient Interview Experience | Set 2 (On-Campus)

Company – Sapient Interview experience (on-campus)

First round was aptitude test organised by through Amcat.

It had 4 section –

1. English – 25 questions (25 minutes)
2. Quantitative – 25 questions (35 minutes)
3. Technical – 25 questions (35 minutes)
4. Logical – 24 questions (35 minutes)

Practice previous Amcat papers. Technical was mostly from data structure and algorithm. Each section had individual cutoff . It was adaptive test so you can not go back to your previous answer.

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Technical interview round-

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1. Difference between c and c++.
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8. Logic to find cycle in linked list.
9. code to connect to database. (as I mentioned i know php).

HR round –

1. Discussion about my projects.
2. Normal situation based questions.
3. Strength, weakness, proudest moment etc.

She actually checked my live website and my blogs on internet in front of me. so, never lie on your resume.

Basically, puzzle solving skills has to be good and basic technical knowledge.was required.

Finally, got the offer.

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Category: Interview Experiences Tags: [sapient](#)

Sapient Interview Experience

Recently sapient visited our college and here is my interview experience

First Online round was there of apti, English, C/C++ output, oops.

ROUND 1. (TECHNICAL)

He asked me about my favorite subject I answered him DSA, OS and DBMS then he asked practical implementation of stack ... instantly LRU(least recently used) clicked in my mind, so by LRU I linked LRU with many OS concept like why LRU ,paging ,cache , tlb and many more concepts of memory utilization part of OS. He was quite impressed.

Second question how would you detect linked list is circular and he extended this question to remove linked list and write code for it. Easy gfg question I explained both the approaches by hashing and without hashing . Then I extended this question by giving practical implementation why linked list ,having circle is used and discussion goes on to trie and doubly linked list data structure.(again impressed ☺)

Third question was of dbms and he asked about referential integrity I was blank about this word then he asked to design a database (used join and foreign key concept) and optimize this database , I answered this by normalization, explained definition and why 1st 2nd and 3rd normalization are used in practical purpose. on the basis of final database he asked 2-3 sql queries

above questions went on for around 40-50 minute, I think he was completely satisfied with my technical knowledge that's why he didn't ask any puzzle(common in sapient) and just asked 2 non verbal reasoning question and it was quite easy and seemed just a formality.

ROUND 2 (HR) (50 minute)

He asked question about my project and some basic question, weakness ,strength ,why low cgpa, how do you face your problems and how you try to handle it ,and some general discussion. Seemed like a formality.

After 15 minute, result come out and I was selected.

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Category: Interview Experiences Tags: [sapient](#)

Quikr Interview Experience | Set 3

Round -1 on hacker rank

- 1) Find the first repeating word in a sentence.
 - Use a set to store word by word and insert would return false when it is duplicate.
 - Use a hashmap to store the counts and detect the duplicates.
- 2) Given a list of coordinates what is the minimum size of the rectangle so that k number of points lies inside the rectangle.
 - Could not find completely correct answer solution written only passed 6 test cases.

Round – 2

- 1) Print path to a node from root in a binary tree.
 - Easy question asked to write the code and checking if we cover the edge cases.
- 2) Find the median of continuous stream of numbers.
 - More frequently asked in amazon interview questions
- 3) Delete a node in a linked when you have nothing other than the pointer to the node you want to delete.
 - Traversing to find the node we want to delete is not a viable approach, could get the idea of copying from the next node and as we prev pointer to the node we want to delete it's good.
 - Edge case what if the node is last node of the linked list.
- 4) Data structure to pick to store the words of a dictionary.
 - Hash maps are not the optimal solution as you end up allocating memory for each word.
 - Tries are the best possible data structures to pick
- 5) How tries are better option than the Hash Maps for storing the words of a dictionary?
- 6) Load factor of hash map and how does it affect the performance of the hash map.
- 7) Asked questions on equals and hash code contract of the hash maps.
- 8) Times when you decide to pick a linked list or Array List.
 - When you requirements is you perform more number of deletes and insertions rather than the search.
- 9) Asked the difference between concurrent hash maps and Collections.synchronized(hashmap)
 - Fumbled a bit as i was not aware of the lock striping that happens in the concurrent hashmaps.
- 10) Explain on fail fast and fail safe iterators.
- 11) is static overriding allowed if not why ?
 - Not possible as static methods are binded at compile time and nonstatic methods are binded at the run time.
- 12) Asked about thread pools and why use them ?

Round – 3

- 1) Asked me to write the code for the deadlock creation
 - Wrote 2 runnables where they call nested synchronized locks in the reverse order/
- 2) how to prevent dead locks ?
- 3) Asked some question related to threading
- 4) Given list of words of a dictionary {cat, rat, mat, map} given 2 words cap – map
you can change only one character at a time
eg: cap – cat – mat – map
["http://paste.ofcode.org/6Cb2DFbwHXB2nG3xEze2n"](http://paste.ofcode.org/6Cb2DFbwHXB2nG3xEze2n) – code logic i suggested.
- 5) Questions on sharing objects using serialization. Also spoke of using gson to Json utility for sharing objects across applications

Round – 4

- 1) Asked me to write code for the singleton pattern
 - Wrote code for the doubly checked singleton pattern
- 2) Asked me if i know decorator pattern
 - I said i had no idea of it.
- 3) Asked me on Robot capable of moving in different directions but it should have the capability to make the steps back
 - It didnt click stack is the data structure i should use, Interviewer gave the hint of stack which is the appropriate data structure to make the steps back.
- 4) Asked a small question on if there are other objects which cannot be serialized that we have to use in our class which is expected to be serializable how do we do it ?

Round – 5 (F2F)

- 1) Asked questions on Message queues, How did you perform request response implementation using the message queues ?
- 2) What is JMS how is it different from other tool vendors like active mq and so on ?
- 3) Asked significance of queues and topics.
- 4) Given a list of users and their phone numbers each user can have multiple number of phone numbers
How to get the m users having highest number of phone numbers
 - Data storage structure suggested was HashMap >?
 - Interviewer gave me hint that i can get the entry map as list with in the hashmap
 - So i wrote a comparator to compare the sizes of the arraylist in the entry map object.
 - Called collections.sort();
- 5) Asked to print the right side view of a binary tree.
 - Suggested to do a breadth first traversal on binary tree using queue and pull the last element.
 - He asked how will you find the last element of the queue ??
 - He suggested how about using stack to perform the breadth first traversal of the binary tree.
- 6) Asked on how do you get the thread dumps
 - said i use jstack command line tool to get the dumps.

Round -6 (F2F)

- 1) Robot is some where inside the rectangle, it can do only operations such as move forward, backward, left and right.
Asked to find the area of the rectangle.
- 2) After that he said the rectangle inside is filled with the obstacles of arbitrary size so now how to find the area.
said assuming my rectangle can be broken into smallest units called pixels if i could what all pixels robot can cover i can get the area.

But could not write the code on how to do it.

He said this is similar to breadth first search that we do on a graph connected by points.

But it did not click.

3) Asked on how to make applications scalable using redis.

I said I had no idea of it.

Source: <http://pavanraj84.blogspot.in/2015/08/my-interview-questions-at-quikr.html>

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Quikr

Quikr Interview Experience | Set 2 (For SDET)

Round 1-Telephonic -General discussion about project.java.

Round 2-HackerEarth- 10 questions of Programming, selenium, Appium and shell scripting.

F2F1

- 1- There are two arrays . You need to copy content of one array to other ,each slot should include 5 elements and there should be a wait of 5 second after every slot.
- 2- Java program of email validation.
- 3- Framework design.

F2F2

- Merge two sorted array.
- Project level discussion.
- Test cases of split function in java.

F2F3

- Find highest consecutive character in a string.
- Race condition.
- project discussion.

Thanks geek for geeks team.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Quikr

Quikr Interview Experience for Software Engineer Position in Bangalore

Round1:-

1. Find the first non repetitive character in a string
2. If there is a website run by 2 servers. These 2 servers balances the load using Load Balancer. So, if 1 session is created on 1 server and say load is shift to another server immediately, then how session is maintained?
3. Discuss about Design Patterns. Asked to implement some basic Design Patterns like Singleton, etc.

Round 2:-

1. Find missing element in an array of elements from 0 to n-1. Different approaches asked(about 3 to 4 approaches)?
2. What is connection pooling.
3. Asked some questions on multithreading in Java.
4. How to implement Critical section in Java and on which variable?
5. Some Questions on Java, Database, Hibernate in general
6. Stock Buy Sell to Maximize Profit

<http://www.geeksforgeeks.org/stock-buy-sell/>

problem was modification of above problem. I don't remember the actual problem exactly.

Round 3:-

1. Given a wood of some size. It burns from 1 end to another and takes 30 min. How to burn the same wood in 15 min.? (Answer :- Burn the same wood from both ends at same time.)
2. Asked many questions about work in current workplace.

Round 4:-

1. How my current job work can be used in Quikr?
2. Some more questions asked related to work done in current job and how can it be useful in Quikr?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Quirk

Visa Interview Experience | Set 12 (On-Campus)

Round 1 – Coding in hackerrank. (5 questions)

Round 2 – Tech

How ping works – Didn't answer well

Maximum Length Palindrome – Answered perfectly

OS core concepts

Resume Questions

Round 3 – Tech and Managerial

My AI project analyzed outright

Networks project I had done for CIP had a payment scope. I explained it really well and how Visa can help a small scale industry to scale to new heights in business with the project.

Why Visa – basically this question means you're 90% selected.

Round 4 – HR

Why Visa

Strengths Weaknesses

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Visa

Visa Interview Experience | Set 11 (On-Campus)

I recently had the opportunity to interview with Visa Inc.

Round 1:

Online Coding Test:

Platform: HackerRank

Questions: There were 4 coding questions to be solved in 90 minutes.

Question 1: Given 'n' Jars filled with 'm' number of Jellybeans. 'T' represents the number of operations performed on these jars. Given a range [a-b] and number of jelly beans to be filled in the jars lying in the range [a-b], find the number of jelly beans in each jar after these 'T' operations.

Question 2: Given a number 'N' and an array a[], find the number of possibilities of $a[i]-a[j]=N$ such that $i>j$. (Could be solved in $O(n)$ using a HashMap).

Question 3: Given the number of nodes and the number of edges connecting these nodes, arrange these edges such that maximum number of nodes are strongly connected. Return the number of nodes that could be strongly connected. A node is said to be strongly connected if that node is connected to every other node in the graph (Derived a formula for it and solved in $O(1)$ – worked for 10/14 testcases).

Formula: $(\text{No:Of Edges}^2)=(x^2-x)$ where x represents the number of strongly connected nodes. Solve the equation for x . Could be reduced as $(1+\sqrt{1+8*\text{edges}})/2$. The approximation produced an error of ± 1 .

Question 4: <https://www.hackerrank.com/contests/w1/challenges/volleyball-match> (Solved this using Combinatorics in $O(1)$).

50 students were shortlisted.

Personal Interview:

Round 2: (Technical -I)

Interviewer asked me to introduce myself.

He went through my resume and asked me about a few of my projects.

He asked me to go on explaining without minding him. He was noting down a few points from what I had been explaining (Not sure what though). Since my project was Android–DBMS based, he asked a few questions on indexing and database archiving.

He asked me the problems I faced while developing the application and how I overcame them.

They also had the compete summary of the Coding round on HackerRank.

He asked me what went wrong in the graph problem since 10/14 testcases had only passed. This discussion went for some time.

Around 15 students were shortlisted after this round.

Round 3: (Technical-II)

It was around 6PM when this round started and so the Interviewer asked me how the previous rounds were and if I was tired.

She asked me for my Areas of Interest, for which I replied Android app. Dev, DBMS, DataStructures and Algorithms.

She started with questions on DBMS.

What is star schema? Where it is used and its advantages?

What is normalization? Explain each normal form with examples.

Given a scenario. Design a schema and its E-R diagram.

She noticed a project in my Resume, using MongoDB. So she started asking the differences between MongoDB and the traditional RDBMS.

Difference between traditional SQL and NoSQL, its advantages and a few basic queries using both SQL and NoSQL.

Asked how data is formatted in MongoDB? (BSON) and a few basic questions on that.

A short discussion about RESTful services and GCM(Google Cloud messaging) since it was used in my projects.

Difference between a Complete and a full binary tree. Given the number of nodes in a full binary tree find the height of the tree in O(1).

Given a BST and a sum, find 2 nodes in the BST that yield the sum.

13 of us were shortlisted for the next round.

Round 4 (HR)

This was the final round.

Started with "Tell me about yourself" and the HR started improving the conversation.

He talked with me about my projects on my Resume.

He then asked me to explain in detail about a project that was the most interesting.

He then asked me what I could have done to improve this project.

I was then asked the programming language in which I was the most comfortable. (Java).

The HR seemed to be a nice guy and this round went casually.

I was finally asked if I had any questions for him.

Results were then announced around 9PM.

10 of us were finally selected for a FTE at Visa Inc.

I thank GeeksForGeeks for helping me through this process.

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

GATE CS Corner Company Wise Coding Practice

Interview Experiences
Visa

Visa Interview Experience |Set 10 (On-Campus)

I recently interviewed for Visa Inc. on our campus.

Coding Test:

Platform: Hackerrank

Questions:

- <http://www.geeksforgeeks.org/find-number-of-islands/>
- <http://www.geeksforgeeks.org/maximum-profit-by-buying-and-selling-a-share-at-most-twice/>
- I dont remember the other two (PS: they were very easy compared to above two)

Following the Coding round I was shortlisted for the personal interview round. Total 30 students were shortlisted.

Personal Interview:

Round 1:

- Interviewer asked me to introduce myself. Asked me to go through my CV.
- Seeing that i had done some work in Image processing he asked me to design a schematic to store multiple images in a single file.
- <http://www.geeksforgeeks.org/find-the-point-where-maximum-intervals-overlap/>
- Given a function and some text cases i needed to design an algorithm to determine how many lines of code were executing for each testcase.

Round 2:

- Given my major in Electrical Engineering the interviewer asked me a how to design an IOT type of protocol.
- He then asked me to explain the algorithm of one of my projects.
- He asked me about the software used in Fast and Furious 7 (Godeye) and asked if I am implementing it what are the pros and cons from the implementation point of view.
- He then asked me if given transactional data from visa cards how will I detect frauds in the data and how will I handle the large volume of data.

Round 3 (final round)

- Round 3 was predominantly HR.
- I was asked to explain my project in simple not technical way in writing, verbally and diagrammatically.
- He then asked me what type of members do I not get along with in a team.
- I was given a puzzle similar to : <http://www.mytechinterviews.com/gold-for-7-days-of-work>
- He then asked me about my interests apart from academics.

- Then I was asked if I had any questions for him.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Visa

Visa Interview Experience |Set 9 (On-Campus)

First round: Coding round hosted on hackerrank. Consisted of 4 questions of varying difficulty. Duration was 75 minutes.

Interview 1: Questions on oops, arrays, networks, dbms and os

Some of the questions asked were:

Merging two arrays, largest sum contiguous array, sql query to find nth maximum tuple, polymorphism, lru cache, routing and finding whether the given two linked list intersect.

Interview 2: Was the easiest of the 3 interviews. Was asked to write sql queries for the given tables which could be done using nested select, group by and limit.

Given a txt file containing strings write a program to copy the strings with more than 2 vowels to another file.

Interview 3: Was asked about the dbms project that I had done (had to explain each and every details about the project). He had the codes of the hackerrank round and discussed about it for 10 min or so. Asked me a puzzle (there is an insect climbing a 35 inches wall. It drops 2 inches after climbing 3 inches. This takes a total time of 1 min. After every drop it takes 1 min rest. What is the total time taken to climb the wall). I was supposed to do it without using pen and paper. Then he asked me common hr questions like why visa, why should we hire you.

I want to thank geeksforgeeks for such a good and amazing solutions to the problems which helped me in the interview .

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Visa

Visa Interview Experience |Set 8 (On-Campus)

ROUND 1

It started with my introduction to which I introduced myself followed by I started mentioning about the projects I did.

I mentioned my one of the projects on Android based on database.

He asked me to draw the design (Class Diagram) for the same.

Given water bottle ,design its software.

I started with test cases followed by feasibility, requirement analysis, coding, testing. He confused me in a couple of Use cases but I had mentioned enough of them.

How would you say that your software is good?

I had somewhere mentioned about that my code should be clean, well commented, good documentation and SRS, should fulfill user requirements.. I also mentioned how would I tackle various requirement changes using various software models.

I mentioned the following points as well in the discussion.

1. Modularity

2. compatibility

3. Maintainability

He asked me for my favorite game?

I replied with "Chess"

He then drew 8*8 chessboard and asked me as to how would I place 8-queens in them (Famous N-queen problem)

I explained him my backtracking concept.

He was happy with the solution.

I started placing the queens manually (code was not required)

He asked me if I had any questions?

I asked a couple of questions about the growth in visa.

Round 2

Interviewer was not interested in Data Structures and asked for my area of interest except Data Structures and Algorithms (very common for CSE students)

I mentioned Web Development And Android Development.

He started asking questions on what security issues I faced in Web Development.

I told him about the time when I started it all with a login panel and how it got attacked by SQL Injection.

He asked me the difference between Encoding, Encryption, Hashing

Types of Encryption?

I started with Encryption Techniques like DES, AES

He gave me a hint by saying symmetric.

I then told him the other one Asymmetric (quite trivial). I explained both encryption to him by famous Alice Bob example and public Key Private Key thing.

Http stateless or ——?

I replied with stateless.

If stateless how it manages to provide user specific contents?

Cookie I said(he was happy)

Cross Side Scripting?

he asked me the language and IDE's i used for Android Development?

Java,Eclipse Android Studio

Asked the above question of iOS?

I did not know the answer

Asked me about various validations i put in a form..

asked me fours types of methods used in form?

he gave me a hint after which I gave two names "GET" and "POST"..i did not know the other two(PUT and DELETE)

I told me the explain difference between GET and POST..i did that

Why GET preferred over POST?

I told him that GET was vulnerable to data leaking as variable and value was present in the URL.

He was expecting the following answer.Due to limitation in size of URL we cannot use GET to pass large number of values..which POST does easily

Why would I like to join VISA than greatly growing startup like Flipkart?

I stuck with visa and mentioned some of their points from PPT like the patents their employees filed and innovation related things

No of threes in all numbers from 1-n?.

He finished the Interview with this puzzle..

How many times minute and hour hand would overlap in 24 hours..

I replied with 24(answer 22) -he asked me to count the same using the clock manually.

ROUND 3: HR Round-(8-10 minutes)

He asked to tell something about myself and things I learnt in last three years?

I told him about myself ,my area of Interest,various projects I did,Technical Fest .I followed with personal skills like facing difficult situations..helping friends (continuously spoke for 5-7 minutes-in flow)

Asked me if I had any questions for him?

I asked him a couple of questions related to work and technologies in VISA.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Visa

Visa Interview Experience | Set 7

Preliminary Round: (75 minutes test on Mettle)

This test comprises of MCQ and Coding Questions. Following are the details of the test:

MCQ question:

1. Programming: 10 Questions
2. Machine Learning Hadoop : 6 Questions
3. Networking : 6 Questions
4. Operating System: 6 Questions
5. Infrastructure: 6 Questions
6. Application Security: 6 Questions

CODING questions:

2 coding questions.

One of them is simple array question and the other related to Dynamic Programming.

After few months I received the mail for the next round.

F2F Rounds:

3-4 round of interviews.

I have gone through 4 round of interviews:

First Round (45 min):

I was welcomed by the interviewer with small introduction. Interviewer gone through my Resume.

(**NOTE:** Interviewer examines the resume thoroughly).

Interviewer started asking question from OOPs concept.

He asked to design any example that covers all the OOPs concept.

Then he started asking questions from Data Structures.

Questions:

- 1.Implementation of Doubly Linked List.
- 2.Extended the first question to sort the Linked List and remove the duplicates.
- 3.Heap Sort.
- 4.Different algorithms.

The interviewer looks what strategies you take in order to solve the problem.

Note: Both Algorithms and written Code required.

Moving forward he asked question related to my 6 months Industrial Training and Projects.

Then the interviewer started asking basics questions which touched following topics :

Questions:

OS: Race Condition,Deadlock,Thread,Process. etc.

DBMS: Delete vs Truncate vs Drop, Where vs Having , Joins, Stored Procedure etc.

Network : IPV4 vs IPV6 , Protocol, TCP/IP , NAT etc.

Moving forward questions related to Android Development since i worked on Android.

Then few minutes conversations related to VISA Inc.

Be careful while preparing your Resume. Interviewer asked questions based on the resume.

Second Round (35-40 min) :

Questions:

Implementation of Stack.

Different Sorting Algorithms.

Linked List and Array questions.

JAVA related questions that covers Java Collections, Multithreading and basics Java questions.

Network Security and Encryption related questions.

Puzzle (Hour Min hand)

Software Engineering questions.

Operating System questions.

DBMS questions.

etc

Third Round(30 min):

HR round.

HR related questions and puzzle.

Puzzle: 3 ANT PUZZLE.

Fourth Round(10 min):

HR round:

HR related questions and most importantly about the company.

That's all from my side.

ALL THE BEST

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Interview Experiences
Visa

Visa Interview Experience | Set 6 (On-Campus)

Written Round:

75 minutes Test on Mettle.

Assessment Composition:

1. Coding Skills: 2 Questions (One ques is from DP(easy one like 0-1 knapsack) and other is Activity Selection Problem).
 2. Programming: 10 Questions
 3. Machine Learning Hadoop MCQ: 6 Questions
 4. Networking MCQ: 6 Questions
 5. Operating System: 6 Questions
 6. Infrastructure: 6 Questions
 7. Application Security: 6 Questions
- (In coding round everyone had different questions but they mainly cover DP and simple array question).

First Round (35 min):

- First he told me about himself,then asked me "Tell me something interesing about yourself?"

- Then he asked me you have experience in android or iOS app development. Because i don't have any knowledge of about it i simply said no.

- Then he asked me what is your area of interest. (my area of interest : computer networking , ds and algo).

- Then asked me completely describe Tcp/Ip model and OSI layer model thoroughly and difference between them.

- OOPS concepts all.
- PKI (public key infrastructure) and DDOS attack.
- Loadbalancing of servers.
- Complete working of Router .
- Write a code to delete node from singly linked list.

Second Round (1 Hour 10 min):

- First he told me about himself, then asked me about my project.
 - Project was the main deciding factor that you will move to next round or not.
 - Computer Network Topology,SDLC models, statistics (mean,median,mode,standard deviation formulae).
 - What is api give examples also.
 - He has given me a real time scenario and asked to develop strategy for making a software.
- You have been given unstructured data which is coming from facebook and twitter. Analyse these data according to "TCS stocks in market and people's view on this". Make a strategy to tell that your software will decide that any point of time you should "BUY" or "SELL" the stock.
(A lot of discussion had been done there interviewer just want to know how you are approaching to solution.)
- Testing (white box / black box testing mainly).
 - he asked one question based on this that if there is memory leakage in your program which testing you will choose and why. (ans : white box testing).
 - Finally he asked "You have any question from me".

Third Round (15 min):

- This round was tech and hr mixed.
- He asked me for which profile you want to go (Networking or Programming) .
- TCP congestion how to remove it.
- A simple 9 ball puzzle , one ball is light in weight . In how many minimum balance you can find out this light weighted ball.
- Finally he asked "You have any question from me".

Guys mainly focus on networking, information security and project and be confident. Thanks to geeksforgeeks for helping a lot in preparing for placement.

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Visa Interview Experience | Set 5

Written Round:

75 minutes Test on Mettle.

Assessment Composition:

1. Coding Skills: 2 Questions (One que is from DP(easy one like 0-1 knapsack) and other is array)
2. Programming: 10 Questions
3. Machine Learning Hadoop MCQ: 6 Questions
4. Networking MCQ: 6 Questions
5. Operating System: 6 Questions
6. Infrastructure: 6 Questions
7. Application Security: 6 Questions

First Round (20 min):

- First he told me about himself, then he asked about project.
- My one project was basic UNIX shell,so he asked me to make one and try to illustrate(mainly focus on FORK and EXEC).
- SDLC from software engg.

Second Round (1 Hour):

- Tell me about yourself and then project..(try to elaborate project as much as u can).
- Digital Signature (Don't start with its definition,always start with situation/example considering there is no digital signature and then its use and importance).
- D-dos attack and how to stop it.(i told it with help of IDS and IPS)
- Explain working of IDS and IPS.
- Context switching,Starvation ,aging (Again try to explain).
- Difference b/w Micro kernel and macro kernel.
- Difference b/w argument and parameter.
- Indexes in DBMS.
- Diff b/w Interface and Abstract class.
- Different topology in networking.
- Where should u prefer BUS topology instead of ring topology and vice versa.
- Que from unix-

- 1-Mode switching
- 2-Single User system(i had no idea about this que,but i tried to explain it with pseudo terminal and we restrict its value to 1).
- 3-Find a pattern in a file(use grep).
- 4- cat command and how can we use it for input to a file (explain).
- SDLC and different type of model and steps in different model.
- Situation que – Client want his project in very small time span,then which SDLC model will u prefer...(i answered him PROTOTYPE model but this was wrong ,correct is RAD model,but try to explain any model u choose to develop project).
- Analytic que- Two trains start from equator and start running in different direction and they will never collide...so which train will have more wear n tear first...use concept of rotation,relative motion and air resistant).
- Lateral thinking que- A man went to a bar and as he reached to bar-tender,bar-tender showed him a gun and that man left that bar...explain scenario.

I had only two technical rounds but some of my frndz had three.Following ques r asked from my frnds

- XSS attack
- JSON.
- Digital Certificate.
- OOPs concept

HR Round:

Tell me about yourself. Tell something about school life (Prepare some fiction out of box story for this que). Why should we hire you.Where do you see yourself in next 5 yr. Any plan for Post-graduation(M.S)..(play diplomatically in this ans). One puzzle of 8 balls containing one defective ball and then some condition like u don't know whether defective ball is light or heavy than others.

That's all about my experience.

TIP: Prepare CRYPTOGRAPHY and try to ans as much as u can and in details, even if u dont have enough knowledge about that que...ALL THE BEST

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[Interview Experiences](#)
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Visa Interview Experience | Set 4 (On-Campus)

Prelims : Online Test in Mettl.com

75 minutes Test on Mettle.

1. Coding Skills: 2 Questions
2. Programming: 10 Questions
3. Machine Learning Hadoop MCQ: 6 Questions
4. Networking MCQ: 6 Questions
5. Operating System: 6 Questions
6. Infrastructure: 6 Questions
7. Application Security: 6 Questions

Coding round , which consisted of 2 questions , was very easy questions (From DP , arrays , Strings) . The questions was selected from a pool . So don't expect every candidate to get the same questions (all sections). Hadoop questions were mostly code related .

1st Round Interview :

Basic Questions from OS , Networks and Software Engineering .
OS: Race condition, Semaphore , Job Scheduling
Networks : Very basic like TCP handshake etc
Soft Engg : Diff testings , Design pattern (definition) , SDLC
Nothing on Projects and Internship

2nd Round Interview :

Since I am Interested in Info Sec , this panel asked questions from Security only
: DDoS , how would you propose a solution to DoS , network attacks , etc . The guy who was in the panel was heading a security division , so we were practically talking about a lot of stuff regarding InfoSec.

3rd Interview :

It was entirely non technical for me but for others it was an HR+ Technical Round . The panel was not an HR guy . He was technical head of a division in Visa San Francisco . So he talked about technical stuff to other but for me nothing. We talked for a bit and that was the end of last round .

Hope this helps some Visa Inc aspirants . All the best .

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GATE CS Corner Company Wise Coding Practice

[Interview Experiences](#)
[Visa](#)

Visa Interview Experience | Set 3 (On-Campus)

I had three rounds of interviews for Visa on campus (all technical).

First round majorly focused on the projects I had done as part of my curriculum. Then some basic coding stuff where the interviewer was mainly trying to see the approach. Some questions related to sorting techniques.

He was also interested in the real time projects that I worked on during my internships at Amazon. So I was asked about all that I did there and then some questions on Spring framework and dependency injection (Amazon intern project related stuff).

Second Round:

Here the discussion started with OS and networking. General questions on race condition, semaphores, raid structure, deadlocks as well as network layer, data-link layer and transport layer (One who is well acquainted with all the basics of the subject can easily answer them all). Some machine learning discussion on classifiers, Artificial Neural Networks, and genetic algorithms as well as assembly language programming. A code for a problem which could be solved using BST and then optimizing it.

Third Round:

First the interviewer started with explaining kind of work Visa does and their plans for the technology hub they are opening up in Bangalore and my interests and all. Then some questions related to writing POJO (Plain Old Java Objects) classes and tests for the code (unit tests, integration tests) based on what I mentioned in my resume as part of my intern project. Some aptitude questions and programming stuff again and then about Object Oriented Programming (OOPs) concepts.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Visa

VISA Inc. Interview Experience | Set 2 (On-Campus)

Visa Inc. (On – Campus, Day 1)

Preliminary Round :

75 minutes Test on Mettle.

Assessment Composition:

1. Coding Skills: 2 Questions
2. Programming: 10 Questions
3. Machine Learning Hadoop MCQ: 6 Questions
4. Networking MCQ: 6 Questions
5. Operating System: 6 Questions
6. Infrastructure: 6 Questions
7. Application Security: 6 Questions

On Campus procedure :

Round 1 :

- Projects, Internship
- Asymmetric and Symmetric encryption with some real world usage
- Concepts behind Digital Signature and Digital Certificates
- Detailed discussion on HTTPS
- Basic OS concepts : Threads, Mutex , Semaphores
- Basic OOPS concepts : Virtual functions , Function overloading and overriding , encapsulation.

Round 2:

- Projects , Internship
- Some discussion on Testing and how you would design a unit test case and a complete project test case. Discussion on Automated Testing.
- How does a Web application work.
- Software Development Models
- Discussion on interpreted language and compiled language
- Some DBMS basics for efficiency :- Indexing viz. B+trees , Hashing.
- Some discussion on Apple Pay , VbV (Verified by Visa) (informal)

Round 3 :

- Typical HR questions.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Visa

VISA Inc. Interview Experience (On-Campus)

Visa Inc. came to our campus for placements. There was one written round (mettl.com) and 3 PI rounds.

Written Round

The written tests covered almost every aspect of computer science – Programming, CO, OS, DBMS, ML etc. In addition to just using it as a cutoff for interview shortlist, they had also done an extensive analysis of each and every candidate (We could see pie charts for each section during our interviews).

Coding questions were:

1. Given a plane and n lines, what are the maximum number of regions formed (Solution: Lazy Caterer's Sequence)
2. Given an array of numbers, find the largest subarray of numbers to be negated to obtain the maximum sum.

Only one subarray can be negated while calculating the sum

for ex: -1 -2 7 -8 10 -3 -4 -5

Ans = 3 (negate -3 -4 -5 to get maximum sum)

PI Rounds:

Round 1

- 1) What do you think about Mobile Apps for Visa? (They had exactly one US position for this domain)
- 2) Detailed discussion about each and every project
- 3) What is Concurrent programming (Based on course taken)

Round 2 (Software Engineering)

- 1) What is Agile methodology?
- 2) What is your project? If you are going to deploy this for commercial use, what additional aspects to be taken care of?
- 3) Different types of testing?
- 4) What types of testing used in project?
- 5) What is QA? How can you ensure QA?
- 6) What kind of bugs were fixed in project? How were they fixed?
- 7) What programming language used for project?
- 8) About python programming language – advantages and disadvantages (based on my answer to the previous question)
- 9) Questions based on my previous work experience

Round 3 (About VISA)

- 1) Applications of Data Mining, Machine Learning for a company like VISA.
- 2) What kind of data mining can be done on VISA data? What are the uses?
- 3) What kind of position, are you interested in? (Multiple profiles were available. It is important to know atleast one or two of them)

Final Note: Resume is very important. I was questioned about each and every point, I had written in my resume.

I would like to thank the GeeksForGeeks admins for maintaining such an awesome website.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Visa

Subex Interview Experience

Recently i was interviewed for the position of Software Engineer(Fresher) in Bangalore.

Round 1:

In the first round there was some aptitude questions and one coding paper in which we have to write 2 Programs.

The Coding part was as follows:

- a) Write a program to reverse a linked list and make another list when node value is less than or equal to 2.

```
i/p: 6->5->4->3->2->1  
o/p: 3->4->5->6  
1->2
```

- b) Write All the operations of Doubly Linked List Using only Single Pointer.

- c) I don't remember but it was from Matrix.

After the first round very few have been called to get a face to face interview and i was one from them.

Round 2:

- a) Introduce yourself.
- b) Explain Object Oriented Concepts in detail.
- c) What is the difference b/w Pass by Value and Pass by Reference.
- d) What is Inline Function why we use it.

- e) Explain Normalization.
- f) What is Friend Class.
- g) Some questions from Unix(which i don't know).
- h) Write a program to reverse a Linked List in size of 3.

After that interviewer asked me again about Unix which i don't know very well. And told me that we're hiring for Unix profile.then he asked me some more questions and asked me to wait for the result, unfortunately i didn't clear the round.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Subex

Practo Interview Experience | Set 3 (Off-Campus)

Applied for practo off campus in February, call came for first round on 20th February.

Round 1 (Coding Round):

The first round was coding. It was hosted on hacker rank. Had 6 questions which need to be solved in 2 hours. The level of questions were nice and contained 3 DP and 3 adhoc questions.

The level of the questions were high. The catch is you don't need to solve all the questions. I solved 2 questions completely and 2 questions partially(½ and 4/8 testcases) and that was enough to clear this round.You can download and see the questions that were asked from the following link :

<https://www.dropbox.com/sh/aokayew1x0aamj/AAC5kjRVcodxYgdfnjd7133Ua?dl=0>

Round 2 (Skype Interview):

This round took place on skype. The interviewer shared a link for the scratchpad, it was hosted on hacker rank. This round was divided into 3 parts :

1. He gave me the following question to code:

Given a string, calculate the number of distinct palindromic substring. e.g. if the string is aabaa, then distinct palindromic substrings are a, aa, aba, b, aabaa. So the answer is 5.

Cleared 6/9 testcases, took 20-25 minutes to code this.

2. He was going through my resume and asked me to discuss any project of my liking. So I discussed "Sentiment Analysis" and how it can be connected to the kind of work Practo does. He showed interest in the project and to some extent was kind of impressed about the work. Discussed about all the algorithms and technologies involved in the project.

3. In the end he gave me a design question. He asked me to design a database schema for the ongoing cricket world cup which would be able to answer queries like "which bowler took how many wickets in a particular match", "how many runs were scored by batsman abc in xyz match", "how many no-balls were bowled in xyz match and at what position in the match and how many runs were scored off those balls", "ball by ball update, the kind of delivery", etc.

Hint : took idea from the way espncricinfo displays an ongoing match summary.

This was it, this round took 1.5 hours, in the end he asked me whether i have any questions, i didn't have. He said I will receive a call from HR next day. The call didn't come, instead a mail came and i was lucky to get selected.

The complete procedure took 20 days.

Tip : Be thorough with your resume and the projects you do, it matters a lot. Needless to say about Competitive programming. Practice on Hackerrank, Codeforces and Leetcode.

P.S. : Practice Dynamic Programming as much as you can.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Practo

Practo Interview Experience | Set 2 (Off-Campus)

First Round

1. There were 5 Programming Questions and the test was conducted on HackerRank.

2. I solved 3 out of them.

Mostly the questions consisted of all levels from easy to tough mostly on Dynamic Programming.

After 1 week I got a mail saying that i cleared the first round.

Second Round :

1. It was an Online Technical Interview at Hacker Rank.

2. 2 coding questions were asked:

- a) Find total number of unique palindromic sub sequences from a string.

- b) Find if a number is a power of 2 or not.
3. Then a designing and database question was asked. He wanted to know how well are you able to design tables and establish relationships between them.
4. Then he asked me some front end related questions as I was working as an intern on front end development at a company.

The interview lasted about 2 hours.

Overall it was a very good experience. They test you from every aspect. In the End I would like to say that Practo is one of the best companies to work for.

Thanks Geeks for Geeks for providing a platform to prepare for such stuff. Thanks

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Practo

Practo Interview Experience | Set 1

There were total 3 rounds.

First Round: It was online coding round, conducted through hackerrank. There were total 6 questions, in which every type of question was there(easy, medium,hard), no need to attend all question I did 2 submission successfully and got selected for next round.

Note: for clear first round practice program from hacker rank website.

1. Frog Racing
 2. Chocolate cut into 1X1 size
 3. how many character should be added to make string palindrom.
 4. Music play list
5. given a number A find the smallest number B . such that AXB in contain 4 and 0 only, zero must not appear before any 4. for ex:- 4440000 is valid but 404004 is not valid.

Second Round: It was a designing round

In this round we have to make a design of app we need to tell how we make that app following all aspects.

We have to design a cricket app, in which we need to show all running matches, how many member playing in each team, their record, strike rate, required run rate , ball by ball record each and everything. We have to visualize how app will look, what extra option you want to add etc.

Third Round:

It was technical round, question were asked from coding, sql,os,ds, some puzzles, project.

1. Describe you project
2. write a code to check if two given string are anagram or not .
3. By tossing a coin we can get either head or tail, i have a function toss() which return head or tail with equal probability.
You have to write a function for dice which will return number from 1-6 with equal probability.
constraints : you can not use random function, you can use only toss function.
4. Write a query to fetch duplicate email from table,
5. find second max value from a total column.
6. Mango, Apple, mixed puzzle
and many more....

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Practo

Gramener Interview Experience | Set 1 (For Visualization Developer)

Round 1-Coding test:-(3 questions) based on parsing of a file and extracting some values from it.

Round 2-(1 hour)

Q1>Calculate no. of thursdays between two given dates.Day of the first date will be provided.

Ex: between 1st jan 1976 to 31st december 2009 assuming 1st jan 1976 is Monday.

Q2>Print all numbers between 1 to 1000 in words(only pseudo code required).

Q3>Calculate Nth prime number in most optimal way.

Q4>Print all permutations of a given word.

Q5>Few mysql queries.

Round 3-(45-60 min)

Discussion on resume. And few questions on data visualization.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Gramener

Knowlarity Interview Experience | Set 2 (Off-Campus)

I applied for a job through there official website(I saw the job opening and mailed my resume to the HR). He immediately responded and sent me a link for an online test.

It had 2 coding problems. Later, the next day he called up and asked three aptitude questions. I was later on called for a f2f interview.

Round 2 : I was asked to code. A computer was provided.

Question : A calculator application that takes 2 numbers as input and an operation to perform.

Condition : The number's digit count will be greater than 50.

Solution : I scanned it as a string and performed the operations digit-by-digit from right to left.(Did not perform division, it was time. I took 1hour for addition,subtraction and multiplication. Reused addition logic for multiplication)

I cleared that round and went on to next round.

Round 3 : It was a f2f interview over hangout. I was asked various algorithm and Data structures based questions.

Problems like finding loop in a linked list, which is the best sorting technique? why? , He asked me to code a small program to perform addition of two integers by call by reference.

I used Integer object in java.

I passed that round.

Round 4 : I was asked to rate myself on programming,algorithms,Android SDK(since i am a android developer) and DBMS. Then he started interviewing me about the algorithms and slightly about android.

Puzzle : 100 floors and an egg puzzle. After deducing, i came up with binary search algorithm(i did not know the solution). He said why not tertiary search? He wasn't convinced with my answer.

Since they work on NodeJS, he gave an assignment on NodeJS. I had to use NodeJS, Redis and MySQL for basing insert/delete and update operations. I left for the day. 2 days later i sent my assignment. A week later they called back for further interviews.

Round 5 : The same person form round 4 came and asked the same question 'why not tertiary search? ' . I said the same old answer. He went out – HR came and told me that the manager wasn't convinced. They were polite and nice.

I failed that round. But the interview quality was too good.

Mistake : After an interview, always research the questions that were wrongly answered.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Knowlarity

Knowlarity Interview Experience

Hi, Recently I attended Knowlarity Interview.

Round1:

1) swap the even bits and odd bits in the number.

I/P: 01010101 O/P:10101010

2) convert a binary tree in Double Linked list. He then asked, how will you handle the case when the parent left and right pointers are changed, but children has not been processed yet

3) Find the min element in Stack in O(1) time, without affecting Push and Pop operation.

Round 2:

1) Left view of a Binary tree

2) Puzzle: Using all(8,8,3,3) and only operators(*,/,+,+), make 24

3) I/P: "My lt India lt is great"

O/P: great is India My

The string can contain many spaces,tabs between the words, but you have to output with 1space between the words.

Next he modified the problem, told to it inplace, without using an auxillary array.

4) There are two arrays.All the elements in the array are same, except one pair. Find that pair. I told Hashing. He told to improve it. It can be done as an equation.

Sum of first array – Sum of second array = x-y

Sum of squares of first array – Sum of squares of second array = x^2- y^2

Round 3:

1) How do you implement LRU cache

2) Your current project in Company

3) I don't remember

Round 4:

1) You have a stream of numbers. At any time , find the maximum and the unique number at any time.

I/P: 5 6 7 7 6

O/p:5 6 7 6 5

2) There is a Binary Tree. Find the min and max of the binary tree , without using Global variable

3) Check if a Binary tree is BST or not

Round 5 (Director Round):

1) Print the maximum subsequence in the 1d array

2)

```
A1 =()
A2 =()
A3 = (A1 + A2) => (())
A4 = (A3+A2) => (((()))
A5 = (A4+A3)=> ((((( ))( ))))
```

Similarly $A_n = A_{n-1} + A_{n-2}$

Given n and k, find the kth bracket in nth term in $O(n)$

I did in $O(n+\log n)$. He told to improve it. Then he told the solution in $O(k)$. And then he told to code in computer and gave the inputs to check it.

Round 6 CTO Round:

1) Merge two sorted linked list

2) Puzzle: You are given two eggs. There is a 100 floor building. Find the minimum floor from which if the egg is thrown , breaks , in minimum number of throws. Answer=> 14

Then he asked if I had any questions for him.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Knowlarity

Huawei Interview Experience | 4

Round 1: Aptitude

Cocubes : 40 min 40 qns

20 questions from logical reasoning and 20 questions from quantitative aptitude.

Round 2: Coding Round

Cocubes: 3 qns – 1 hr

1. Given two integers x and y. Find the no of multiples of x between x and y.

2. Recursion.

3. Array.

Round 3: Technical Round 1

String reverse function without using additional array.

Questions on basics of c like extern, memory leak, recursion, pointers, struct, union etc.

Round 4: Technical Round 2

Find whether there exists a loop in a linked list.

Swap nodes in a linked list without swapping the data and draw a flowchart for the same.

1 puzzle and an aptitude qn.

Round 5: Hr Round

How do you handle problems in railways like train delays. Draw a software design for the same.

How do you define success.

Tell me how the software will develop in the future.

Questions on academics.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Huawei

Huawei Interview Experience | Set 3 (On-Campus)

Round 1: Aptitude Questions

CoCubes – 40 Questions and 40 Minutes.

Round 2: Coding Round

3 Questions – 60 Minutes

Difficulty – easy

Concentrate on time and space complexity. Try to keep code optimised.

Round 3: Technical Round 1

Questions mostly based out of data structures.

Needed to write code for the questions given.

Questions were on string manipulations too.

Round 4: Technical Round 2

Questions Again on Linked list (2 of them)

Round 5: HR

Questions based on the introduction that i gave.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Huawei

Huawei Interview Experience | Set 2

Round 1 :

Aptitude. Only aptitude nothing else.

Round 2 :

Coding. Basic array manipulation questions.

Round 3 :

Technical 1 – Algorithms related questions. I was asked to code on paper.

1) Longest palindrome in a text file.

2) Reverse linked list

3) Bubble sort using recursion

4) Puzzle – 25 hours.

Technical 2 – Data Structures, Algorithms, OS, DBMS

1) Inorder, preorder, postorder printing.

2) Insertion into tree

3) Shared memory, buffers.

4) Types of database

5) DP questions I know

6) In detail about my project

7) 2 puzzles. Filling in a 3 cups 2, 5 and 7 litres.

HR

It was more of technical than HR

1) Short term goals, long term goals.

2) Strength, weakness

3) Printing using command line argument

4) Dynamic memory allocation

5) Aptitude question. The time when two trains moving towards each other meet.

6) 12th std score in each subject

7) If I have any other offer.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Huawei

Huawei Interview Experience | OnSite Interview (5 years experienced)

OnSite Interview (5 years experienced)

Round 1 – (40 mins)

1. You are getting a running stream of integers. This running stream is a input to a multithreaded environment and many thread are working parallelly on this running stream of integers to print the numbers but the number printed by one thread should not be printed by other threads.

2. Find a loop in singly linked list.

3. Design problem: –

you have 3 files and you need to print the output of operations inside those files onto log files.

Like some other 4th files come , then your code should be able to print its operation output with minimal change in code.

4. why do you want to change company?

5.Brief about yourself

Round 2. (40 mins)

1. how you deploy web applications .

2. what tools you use to manage software product life cycle

3. How you optimize your code containing 1000s lines of codes

4. an observer design pattern problem

5. why do you want to change company?

6. Brief about yourself

Round 3 (40 mins)

1. How to take care of memory leak in your program execution?

2. how you configure JVM on unix

3. How to increase the limit of JVM memory in Unix

4. A Ant collision probability problem.

5. why do you want to change company?

6. Brief about yourself

Round 4 (Director's round) (30 mins)

1. Brief about yourself

2. why do you want to change company?

3. Salary Discussions

Round 5 (HR Round) (30 mins)

1. Brief about yourself

2. why do you want to change company?

3. Salary Discussions.

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GATE CS Corner Company Wise Coding Practice

Experienced
Interview Experiences
Huawei

Synopsys Interview Experience | Set 6 (On-Campus for R&D Engineer)

Recently Synopsys (Bangalore Center) visited our campus for recruitment for Research and Development profile and Software Integration profile.

Here is my interview experience.

Round 1 (Written test)

It consisted of 36 MCQs to be solved within 1 hour .

First section consisted of Quantitative, analytical aptitude questions (probability,logical reasoning).

Second section consisted of coding questions , finding output (mainly pointer related, structure related)

Third section had Digital electronics (CMOS, power dissipation problem, K-MAP , flip-flop).

MCQ were of 1,2 and 3 marks , wrong ans 50% negative, SO ONLY ATTEMPT IF YOU CAN SOLVE IT OR KNOW IT ,wrong guess work may result in low marks.

Round 2 (Technical Interview)

14 people selected from 100 for this round.

Interviewer asked me to introduce myself and this interview was mainly related to OS related stuffs.

1. What are the stages of compilation , explain how every step works.

2. She asked me about static and shared library and the differences between them and told to write one library of my own and how static libraries are set up

3. How many processors and cores and sub processes running how to find out using application (in windows) , using command (in linux)

Here I answered I'll use Windows task manager to find out ☺ but she said they show us the main processes and she wants to see all the sub processes too

4. What are the main environment variables we use and what is ldpath ?

5. What debugging tools I have used till now and how debugging works internally? and asked me few question on gdb

6. What does loader and linker do and in which part of memory everything is stored

7. Asked me to write a code of checking string is palindrome or not ☺

Then some normal questions like

Why do we do coding? Basic necessities of coding , Asked me to explain my internship project (done in Samsung R&D) .What are the web development works you have done till now

After the 1st Interview round, 6 candidates were shortlisted for 2nd interview .

Round 3 (Technical Interview)

For the first half an hour interviewer asked me different pointer related question , I dont remember all .

1. Started with difference between

```
int *p[10];
int (*p)[10];
```

2. Dynamically allocate 2D array , array of strings , array of pointers (all using malloc and new both)

3. He asked to explain all the question related to pointer that came in written test.

4. Told me to write push and pop of stack using linked list.

5. Array of infinite numbers containing 0 and 1 , find out the transition point of 0 becoming 1 in O(logn) time. (code needed)

6. A path finding question using basic BFS (code needed)

7. Detailed discussion on polymorphism (virtual functions, why use, abstract class use , working of virtual table , operator overloading) with example

8. BST application and finding the minimum value node in there (code needed)

9. Difference between Sequential and combinational circuit and some questions regarding that

10. Function of clk in D-flip flop and some flipflop related question.

11. Use of NAND gate in real life and XOR using NAND.

Lastly asked me if i have already any offer and if I am willing to learn some electronics related work in future for Program synthesis (since I am an IT student)

Again after this round 3 candidates were shortlisted.

They were supposed to take more interviews but they said they do not need it anymore and these 3 candidates were given the offer 😊

Tips: Be prepared properly , They can just ask you anything from anywhere , not necessarily from academic topics always .

Thanks a lot to geeksforgeeks.org , this is the one of the most important reason of my success

All the very best! Keep faith in yourself and work hard!

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Synopsis

Synopsys Interview Experience | Set 5 (On-Campus for R&D Engineer)

Recently Synopsys (Noida Center) visited our campus for recruitment for Research and Development profile and a cg cut of 8.5 was enforced .

Round 1 (Written test)

A written test was conducted which included 4 sections of 10 questions each followed by 1 subjective coding question.

Section A : Had questions ranging from Quantitative,analytical and Logical Reasoning.

Section B : Questions from Digital electronics(counters,flip flops etc) , Micro processors and Computer System Architecture .

Section C : 10 questions from Operating System.

Section D : C/C++ output based questions .

1 Subjective coding question :

Write a method which accepts 2 Integer Arrays and their size N . Element B[j] for j=0..N should be equal to product of all the elements A[i] i=0..n such that i!=j .Eg : A : {2,5,4,10} B should be {200,80,100,40 }.

Time Complexity O(N)

Though question was simple just make sure it was bug free and make sure to take care of special cases like division by zero etc .

9 students were shortlisted for interviews after this round

Round 2 (Technical Interview)

The interviewer asked me to introduce myself followed by basic Object oriented Programming questions .

1. Difference between procedural and Object Oriented programming .

2. Advantages of OOP over structural programming.

3. Derive an upper bound for height of a balanced binary tree with N Nodes.

4. Why do we require Balanced BSTs ?

5. Program to check whether a BST is balanced or not .

6. State some Applications of Balanced BST .

7.Explain Memory leakage and Dangling Reference .How they differ from each other ?

8.What is Singleton design pattern ?

9.Implement a Singleton class and some application where it is implemented .

10.Explain what is Object Slicing.

11. Explain what is Virtual table.

12. Is virtual function by default a method stub in c++ ?

Thereafter the interviewer asked me if i was familiar with STL of C++ . I prefer to code in Java so i told him how Collection class in java suits this purpose .

13.What is a HashMap and how does it works internally ?

14.Difference between C++ and Java .

15. How objects are allocated in java .
16. Where are static variables stored in memory.
17. What is Cache ?
18. What is Cache Coherence ?
19. What is Virtual Memory ?
20. Explain Thrashing (In context to page faults) .

After the very 1st interview round the interviewer was really impressed by me . However he said that you won't fit in our company because you prefer to code in java . So somehow i was able to convince him that I would just fit in . (Syntax of Java is similar to C++ and the fact that I learned C and C++ prior to Java).

After the 1st Interview round 4 candidates were shortlisted .

Round 3 (Technical Interview)

This was the 2nd interview round . The guy straight away asked about my interests to which i replied Data structures and Analysis and Design of Algorithms.

1. What is Heapify operation ,Percolate Up and Percolate Down ?
2. Implement Heapify operation .
3. Implement Insert operation for Max-Heap .
4. You are given n elements find the upper bound for inserting the n elements in the heap.
5. Multiply a number by 7 without using *, / operator or loop .

I wrote all the methods he asked and he was really impressed .

Thereafter he asked some simple puzzles .

6. What is the maximum score a Batsman can score in a cricket match.
7. The famous prisoner Hat puzzle . (I told him that i had solved this earlier) .

In the end he asked some questions from Operating System and Compute System Architecture .

8. Explain types of Interrupts .
- 9.What is pooling ?
- 10.If Cache is so fast why not eliminate Main memory and have a Cache memory by itself
11. What is a micro controller ?

Apart from the last question i was able to answer all the questions

Then he asked me about my AIEEE (JEE Mains Rank) , i told him how ours was the first batch where boards were also taken into consideration and how just because of boards my rank fell sharply .

The Interviewer was alumni of the same college so he had a friendly chat there onwards He told me what all had changed in the campus along with his experiences in college .

Again after this round 2 candidates were shortlisted for the final HR rounds .

Round 4 (HR Interview 1)

The same guy who took Technical Interview 1 took HR .

1. Asked about my family background .
2. Tried to put pressure on me convincing that i wont be able to adapt in the company environment (Because of C++ Java issue , the company requires you to code in C++ there.)
- 3.What are in hot topics in Technical World ?
4. Any Future Plans to study ?
5. Why settle for a job right now ?
6. Any problem coming to Noida ?

Round 5 (HR Interview 2)

As i entered the room the guy was standing , we shook hands and he started the interview .

1. He asked me about how the technical interviews went ?
2. He asked me to explain the projects written in my CV .
3. How have u applied engineering via these projects ?
4. What new have you implemented at your end in these projects ?
5. Where do you see yourself in 5 years ?
6. Any future plans to study abroad ?
7. He saw in my CV ,in the interests section : Weight Training (Bodybuilding) and had a discussion over this topic for next 10 minutes , What is my current program and diet and for how long i have been lifting , what is your body fat percentage etc..
- 8.He asked if i already had any other offer .
- 9.How long do you think you will stay in this organisation ?
10. Why choose Synopsys over the other company(from which i already got an offer) ?

I would like to convey a big thanks to Geeksforgeek team . This site and interviewbit are the sole reason for my success. Keep up the good work fellas . Thank u sooo much

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GATE CS Corner Company Wise Coding Practice

Synopsys Interview Experience | Set 4 (For R&D Engineer I)

Recently, I was interviewed for Synopsys (R&D Engineer I). There were two telephonic rounds followed by 5 F2F rounds.

1st round(Phone Screen):

- 1 .Reverse a linked list recursively.
2. Find the height of a binary tree.
2. Write a binary tree 7to a file .Read a binary tree from a file.

2nd round(Phone Screen) :

1. Print a number without using printf. Recursive solution for the same.
2. Given a value N, if we want to make change for N cents with the minimum number of coins, and we have infinite supply of each of S = { S1, S2, .. , Sm} valued coins, what will be the minimum value ?
3. What is an expression tree. How to store an expression in expression tree. Write a code to evaluate an expression tree.

3rd round (F2F):

1. Check whether a binary tree is BST.
2. Given a 2D array having 0s and 1s where all 0s in each row precede before all 1s. Find a row having max nos of 1s .
Find the most optimal solution. Derive the time complexity.

4th round (F2F):

1. Concepts of reference and pointers.
2. Virtual function concepts.
3. Given a chess board and a location in the chess board as an integer find the next possible moves of a knight.
4. Design a 5 bit counter.
5. Given a BST find the kth largest element.
6. Given an unsorted array create a BST.

5th round (F2F):

1. Why do you want to switch ?
2. Copy a Linked list to a new location.
3. Virtual pointer and virtual function concepts.
4. How it achieves run time polymorphism ?
5. Give examples of compile time polymorphism .
6. LCA of BST and binary tree.
7. Given an array containing 0s and 1s sort it in most efficient way.
8. Questions about templates.

6th round(F2F):

1. Questions about projects in the current company.
2. Details about the college project.
3. Write a code for BFS of a graph.
4. Write it recursively.
5. Derive the time complexity.

7th round (F2F):

1. Given an array in sorted order and a sum. Check whether the sum of any two elements in the array is equal to the given sum.
2. Use of stacks and queues in computer science application.
3. Detail discussion about the stack management while function call.
4. Given a string count the number of substrings that starts with a and ends with b.
5. Detail discussion about Virtual function concepts.
6. Given two integers which can be represented as 32bit numbers and a start index and an end index, copy the bits of one integer to another within the given start and end index.
7. Design a stack such that we can get the maximum element in O(1) at any point of time.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Synopsys

Synopsys Interview Experience | Set 3 (For R&D Engineer)

Recently I gave interview in Synopsis for the position of R&D Engineer. These were the questions asked :

1. Round 1 : Telephonic Round

- a. Discussion regarding the academic projects.
- b. Discussion regarding the current job, roles and responsibilities.
- c. Find the maximum sum in an array such that no two elements are adjacent.
- b. Given n intervals with start and finish time and a global interval [globalStart, globalFinish], find all intervals which overlaps with the global interval.
- d. There is a pipe dealer who has got pipes of different lengths (two pipes may be of same length). He wants to sell his stock. He can only sell his stock such that the length of each pipe will be same. For eg. If length of pipes in his inventory are a=14, b=7, c=6 and he decides to sell pipes of length 7, then he can sell pipe b unchanged. He can cut pipe a, to get two pipes of length 7 each. But the pipe c=6 will be wasted. Suppose that the cost of each unit length of pipe is x and the cost of cutting a rod is y per cut (so if we have d=21 then we need two cuts, so cost of cutting will be 2y). The cost for cutting is a loss to the dealer. We need to find the optimum length which he can sell to achieve maximum profit.

Note : say there are pipes of length 7, 11, 13 etc. he may choose selling length=7.56 i.e a length corresponding to which no pipe is present i.e every pipe needs to be cut.

2. Round 2 : Telephonic Round

- Given an array which was sorted initially but then it was rotated at a point, find an element in it.
- Difference between static linking and dynamic linking.
- Explain BFS traversal in a graph.
- Perform BFS traversal using recursion.
- Suppose there are 3 players and 1 coin(with Head and Tail). Devise a strategy such that we can have a clear winner. Probability of winning should be same for every player. The coin may be tossed any number of times.

3. Round 3 : F2F HR

- Why do you want to leave your existing company?
- Why do you want to join us?
- In what other companies you have applied?
- Questions related to expected salary and some random stuffs.
- How are you as a team player?
- Two puzzles were asked. Could not remember them, but they were easy.

4. Round 4 : F2F Technical

- N sorted arrays are given. Combine them to get an overall sorted array. You can assume arrays to be of same size.

e.g: i/p : a1={3,7,9,10} a2={2,4,8,11} a3={1,6,8,15}
o/p: {1,2,3,4,6,7,8,9,10,11,15}

- Implement insert and delete functions in heap in C++.

- Given a number x, find the minimum number of squared term required out of all possible ways to write the input as squares of numbers.

Eg : i/p : 10

we can have many ways of breaking the number 5 : $1 \times 1 + 1 \times 1 + 1 \times 1 + 1 \times 1 + 1 \times 1$

o/p : 2 because the decomposition $2 \times 2 + 1 \times 1$ is having the minimum number of squared term(which is 2).

- In the previous question, what if we have a constraint that each individual product can't be repeated i.e say for 8 : $2 \times 2 + 2 \times 2$ will not be permissible because we can't have two identical products (i.e 2×2 , 2×2)

Round 5 : F2F Discussion

Discussions related to the kind of work done there. This was merely a discussion round which dealt with knowing the company well.

Round 6 : F2F Technical

- Given two numbers what are the various ways to swap it. (He was expecting the use of reference variable in C++).
- Given an expression, how to construct the expression tree. Coding was not required, just the logic.
- Write a function which will evaluate the value of expression by traversing the expression tree obtained earlier.

Hint : Postfix traversal

- Why do you want to leave your existing company?

Round 7 : F2F Technical

- Write a function to check if a binary tree is a BST or not.
- Write a function to do zig-zag traversal in a tree.
- Say we have a register of n bits. the character 'A' occupies 1 bit, character 'B' occupies 2 bit. How many different words can be formed?

e.g n=3 :
possibilities : AB, AAA, BA
Output: 3
hint : Think Recursive

- Given a linked list find if there is a loop in it or not. if loop exists, find the starting position of loop.

Round 8 : F2F Technical

- What are the ways in which you can store a 2D Matrix in memory. Advantages and disadvantages of both.
- Say we have a symmetric matrix, what will be disadvantage if we store it as a simple 2D array?
- For a given symmetric matrix, calculate the number of elements that are actually required to store in memory.
- How to efficiently store a symmetric matrix?
- for the previous question I said that we can store it as a 1D array. So he asked that given (i,j) how can we map it to the index in the 1D array.
- Given n intervals, each interval having start and end time, check if any two intervals overlap or not.
- What do you understand by hashing? What is the time complexity of searching? How can you achieve that time complexity?

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Synopsis

Synopsys Interview Experience | Set 2

Reached out via referral in November, team I was interviewed for develops in house software. The overall process took 2 weeks, 2 telephonic followed by F2F. In all the rounds minimum 3 puzzles were asked, listed down only algorithm and programming questions.

Telephonic

Round 1

- Fibonacci sequence expecting DP solution and corner cases like negative input, etc.
- Implement strcpy library function from C. Priority is on heap allocation, checking null terminated string, etc

3. Strcpy() vs Memcpy()

Round 2

- Given a huge file of strings, print words from EOF to start

F2F

Round 3

- Height and Balance factor for binary tree.
- <http://www.geeksforgeeks.org/a-program-to-check-if-a-binary-tree-is-bst-or-not/>

Round 4

- Size of a binary tree
- #define Vs typedef
- int main() Vs void main() Vs main(), why return statement is necessary in main()
- Merge two sorted array, recursive approach for the same using LinkedList (<http://www.geeksforgeeks.org/merge-two-sorted-linked-lists/>)

Round 5

- How negative numbers are represented in memory
- What is integer overflow, how to avoid it
- <http://www.geeksforgeeks.org/maximum-size-sub-matrix-with-all-1s-in-a-binary-matrix/>

Round 6

- Pascal triangle based question
- <http://www.geeksforgeeks.org/maximum-difference-between-two-elements/>

Round 7

- Given a student table with marks, find Nth rank student
- What is the possible pattern for static variables
- Initialized and uninitialized static variables, where are they stored in memory expecting explanation with BSS and Data segment
- <http://www.geeksforgeeks.org/detect-and-remove-loop-in-a-linked-list/>
- String is represented in a linked list, how to effectively check whether the string is a palindrome (<http://www.geeksforgeeks.org/function-to-check-if-a-singly-linked-list-is-palindrome/>)

Round 8 (HR)

- Usual HR questions, Why Synopsys, What will you do if you get offer from Google/Facebook, etc
- 2 more puzzles again

Pseudo code on paper with proper handling of corner cases is expected. All F2F happened in a day each round typically lasted an hour. Puzzles are given equal importance as that of algorithm design.

Thanks GeeksforGeeks for providing a wonderful platform to share and learn, keep up the great work, cheers

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Synopsys

Interview Experience with Synopsys – On Campus

1st Round:

MCQ test consisting of 60 question from Quantitative Aptitude, Logical Ability, C, C++, Algorithm, Data structures, Digital Design.

2nd Round: (20 minutes)

- Discussion on my internship projects and thesis projects.
- Courses done during the study period.
- Explain shortest path algorithms and minimum spanning tree algorithms.
- Applications of BFS and DFS

3rd Round: (30 minutes)

- Discussion on my internship projects and thesis projects.
- Courses done during the study period.
- Balanced tree checking
- Tree Rotations
- Machine Learning : Clustering, SVM
- OS Concepts: Deadlock, Scheduling
- Constructors and Inheritance fundamentals.

4th Round: (30 minutes)

- Closing cluster of points within a boundary (NP-Hard Problem). Suggested a solution for this.
- Bounding box solution for the cluster of points.
- Disadvantages of Macro
- BST and applications.
- Loop in a linked list and how is a loop different from circular linked list.

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One Convergence Device Interview Experience | Set 1 (On-Campus)

One Convergence Device (Hyderabad) came to our campus with a handy package on for Full time Software Engineer profile. MCA and Mtech were allowed.

There was one written and two technical interviews round. Second technical interview also included HR interview. No separate HR round.

Written round-

There was only one written round after ppt presentation. It was pure technical based paper consisting of c, java, datastructure, network and operating system.

There were around 60 questions to be done in one hour. All questions were easy but conceptual and little bit tricky.

1. In C.

Most of the questions were based on bits manipulation and string and union.

2. In Data structure.

Questions on tree , heap, red black tree and balanced tree and complexity.

3. In Operating System

It was really conceptual. Most of the questions were on virtual memory concept and scheduling and semaphore.

4. Network

Questions on layers and their protocols. Numerical that needed transmission ,propagation and bandwidth formula. Some general conceptual question including switch, hub and gateway.

I attempted every section since sectional cutoff was there. I didn't attempt any question that I was not sure for, since there was negative marking. I also didn't attempt any numerical.

So, attempt each section such that you can clear cut off. No need to attempt all questions of each section.

First round-

After written test , only 4 from Mca and 4 from Mtech were selected for next round.

It was also pure technical round.

Interview started just after result was declared. Since there was only two panels, It was taking time.

Questions.

1. Tell me about yourself in brief.

2. Write program to reverse string.

3. Write program to reverse bits of number.

4. Write program to check common sequence in two string.

5. Write program to the bits which is set.

6. Describe switch in n/w and how will you implement its s/w.

7. What is NAT and its functions ?

8. What is VLAN ?

9. How client and server establish their communication. How to create socket , explain step by step?

10. What is socket buffer?

11. What is function of bridge?

12. What is IPC(inter process communication) and ITC(inter thread communication) and how it happens and how to implement it.

Second round-

1. Tell me about yourself and your achievement briefly and your family background.

2. What is linking? Explain in detail.

3. What is little endian ,big endian. How to implement it's code?

4. What are different types of memory segment and tell about different parts of program and where they are stored?

5. Explain zombie, daemon and orphan processes and how they are different?

6. How to create parent and child process and different threads?

7. What are common segment used by parent and child processes?

8. What are common segment used by threads?

9. What is symbol table and what is it used for?

10. How to use gcc to compile program and what are different options available?

Ex: -g etc.

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GATE CS Corner Company Wise Coding Practice

Red Hat Interview Experience | Set 1 (For Internship)

I am doing my final year B.E CSE. I would like to thank geeksforgeeks. It helped a lot for cracking the interview. I applied online for the post of a Associate software Engineer Intern at Red hat, Bangalore.

The first round was a written test round. We had nearly around 30 questions in aptitude as well as coding and a C program to write.

Aptitude: The aptitude questions were moderate and it covered all most all of the topics. It is not necessary for you to remember any formula.Most of the problem involved

solving it logically. If you know the concepts you can solve. Majority of the questions were on probability, permutation combination, work and time, average, ratio, and few which combined the concepts. One could crack easily if you brush up the Apti concepts.

Programs: You need to be strong to answer this programmatic questions. All the questions were either from C or C++. some of the questions I remember was on

Macro functions With different signatures

Operators precedence checking snippet

Main within main function

Switch special cases

Loop exceptional cases

Storage classes and so on

Program: It was a file program read input from a file and say the occurrence of each string i.e output the occurrence of each word along with the count to a different file.

I solved aptitude and programs. I am sure of getting 23+ in both. We were given only 1 hour and 15 mins. So I solved 23 each qns in Apti and pgms. Then I started writing code. To get additional points I have written a C program as well as a Shell Script program for that. After writing the code they still gave us some time and I did few questions in Apti and code. Since there was no negative marks I just marked some option for the remaining qns.

The results were announced and only 3 of them were selected for the next round. I was the one to clear first with higher marks. So we were asked to wait and after ten minutes they asked me to attend Technical Hr 1

The HR was very friendly and cool. He asked me about the first round and there was an ice breaking session. Then he started technical questions. He asked why pointers, usage, advantage, disadvantage, discussed many cases, malloc, calloc, dangling pointer, null pointer, a code for implementation, be strong in your project, asked to draw use case, he stated some flaws and asked how would I rectify it in project, I had around 4 projects, which means I included 2 C programs that solved a real world problem. So he went discussing all these. Asked about data structures, A linked list programs just to find the middle node in single access, I just said use two pointers, one move once and the other move twice, approach, which was so easy. He asked if I knew it earlier. I said yes. code was asked to write for all pgms.

The next program was to find the intersection of linked lists. I know it already but just took little time to solve. Even if you know the programs earlier take few time to answer. Then simple C programs

Sort an array with 0 and 1 in O(n) complexity. first I said merge sort then I said keep one pointer at start and the other pointer at end. If you find any 1 from start, then start decrementing the end pointer till you find a 0 and exchange those. If I and j points to adjacent positions then stop the program.

A matrix program to print for any n*n order.

1 2 3 4

5 6 7 8

9 10 11 12

13 14 15 16 and the output is

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

I wrote the code and made lot of changes to make it efficient. Then he asked few questions from OOPS and web technologies and questions from my Resume about paper presentations, memberships clubs etc..

I was confident enough that I would clear this round. One of them was eliminated and two of us were asked to attend the next round after having lunch in their office.

The second technical round was with a hiring manager. He asked about data structures. Given family tree problem and asked how would I solve. I proposed graph and he was satisfied with the data structure and told how would I have a structure for it and few exceptional cases how would I solve.

Questions were on projects. He asked many questions from each of the project.

About each ppt that I have done. He also asked C programs involving storage classes, pointers, ASCII values. Asked commands and pgms in shell scripting, he asked in detail about testing and asked to say test cases. I told all the functional and non-functional test cases. He asked if I know to work with any testing tool. I said no. He asked in Python. I could answer only one question, then I said I have just started learning Python and I am not familiar. I said I will learn well before I would join. Then he asked few HR questions.

Why Red Hat

What is the post that I am going to join

The tool that I am going to work. It would be mentioned in the job requirement post

Will I be able to work well continuously and so on

What are you proud about yourself

About my family

And few more common questions and asked me if I have any questions

I asked a question about the tool I am going to work what kind of work will I be having,

Then I thanked him for having a nice session and for meeting him. We were asked to leave for the day and said results would be announced later.

Tips:

Be confident, express yourself,

Take your project reports to add up,

Express that you want the job.

Most of the programs were on GeeksforGeeks.

All the best!!

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GATE CS Corner Company Wise Coding Practice

IIT Delhi MS(R) CS Interview

Indian Institute of Technology Delhi Master of Science(Research) Computer Science Interview Questions.

There was one written Test involves 4 questions all were easy if you have prepared for GATE or UGC NET.

1. The probability of getting a head in one toss of a coin is 1/3, if a coin is tossed six times what will the probability of getting at least 2 heads.
2. Plot $y = \log_2(x+8)$
3. Given two inputs a real number x , and a positive number n calculate x^n . Your algorithm must run in $O(\log n)$ time.
4. A complete tree is a tree in which every node has exactly two children. Prove that if a binary tree is a complete binary tree number of children's will be exactly one more than the no. of internal nodes.

Interview :

Q1: You are working in industry why do you want to come back to studies ?

Q2: Do you think that the graph which you have plotted is correct ?

I answered No. He asked me to correct it. Later on he asked me to find the value of y at $x = -7.5, 7.75$ and plot the graph for the same.

Q3: Are you sure your algo runs in $O(\log n)$.

I answered yes. He said what is $\log(x)$. Define $\log(x)$.

Q4: If I divide array size by 3 what will the running time of Binary search.

Q5: How will you find if a graph is bipartite graph. I answered using BFT. He was not agreed. He asked me to define bipartite graph.

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Interview Experiences
IIT Delhi MS

My Interview Experience at Polycom

About Polycom

Polycom is a multinational corporation that develops video, voice and content collaboration and communication technology. Polycom employs approximately 3,800 employees and had annual revenues of approximately \$1.4 billion in 2013. It is the largest pure-play collaboration company in its industry. The company also licenses: H.264 video codecs, Siren codecs, session initiation protocol, Native 1080p high-definition cameras and displays, Native 720p and 1080p high-definition encoding/decoding, low-latency architecture and low bandwidth utilization, wideband advanced audio coding with low delay (AAC-LD), multichannel spatial audio with echo cancellation and interference filters to eliminate feedback from mobile devices, Optimized environmental conditioning to provide the audio and video experience; and inter-operation with legacy video conferencing (Source: <http://en.wikipedia.org/wiki/Polycom>)

Round 1(Written)

So, the procedure started with the written round, it had 60 questions consisting of quantitative aptitude, logical reasoning and technical(c/c++, operating systems, computer networks, data structures and algorithms).

Around 120 sat for this round and they shortlisted 17.

Round 2(Technical Interview 1)

The interviewer started from the basics, and then gradually elevated the difficulty level(overall it was easy), the questions asked by him were-

- Q1. You are given a 32 bit unsigned integer and you have to set the 7th bit in the number.
- Q2. Create a structure for link list and insert two nodes in it(write the code). (Since i know STL as well, first i coded it in C and then used STL as well)
- Q3. You are given a pointer to a node in the link list(starting pointer is not given) and you have to delete that node.
- Q4. Clearly explain the TCP/IP protocol stack alongwith the functioning of each layer.
- Q5. How does a router routes a packet.
- Q6. How does a router uses longest prefix matching to route a packet.
- Q7. What is page fault.
- Q8. How does a page fault is serviced. (had to tell all about demand paging, modification/dirty bit of a modified page to be replaced)

Then he asked me about any networking course i have taken in my Master's coursework, i told him that i didn't.

Round 3(Technical Interview 2)

The interviewer asked whether i am interested in networking or not, i told him yes i am, but i have only theoretical knowledge about all the protocols and procedures and have very little practical knowledge about it. He said it is enough to answer his questions.

- Q1. How ping is implemented(told him about the ICMP)
- Q2. How can you calculate the round trip time and bandwidth of the network using Ping.
- Q3. Can you measure congestion in the system using Ping and how?
- Q4. Explain different algorithms that applies in networking domain.
- Q5. How Minimum Spanning Tree is useful in Networking Domain.

Q6. Define Articulation Points and what is its significance in networking.

Q7. You are given an array of 0s, 1s and 2s, you have to sort it. (calculating the number of 0s, 1s and 2s is not counted as the solution for this problem).

Q8. What is Denial of Service attack and what is its remedy?

Q9. What is Distributed Denial of Service attack?

He was going through my resume and asked me about my GATE notes.

Round 4(HR)

They shortlisted 6 candidates and asked them to sit in a room and gave two sheets consisting of 50 statements each, the first sheet had 50 positive statements and the 2nd had 50 negative statements and we had to decide whether they are most significant/significant/least significant to us. (we had to answer any 15 of them).

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Polycom

UHG(United Health Group) Interview Experience | Set 4 (On-Campus for Internship)

It was a on campus placement.

First the usual, they took a ppt and introduced themselves and the company to all of us. This lasted for around 30 min and shortly after the process began.

The first round was an aptitude round with a time limit of 45 min and 30 multiple choice questions in total. The questions in the start were independent and like the ones available on indiabix but the later ones were in paragraph of two to three questions. The difficulty level for the initial question was moderate but the time required was really less for attempting all the questions, thus only questions in reach had to be tried, there was negative marking too.

The second round was the coding round and the code had to be written on paper. And the space was limited thus practice of writing code on paper was important, using a pencil would be good (which I did not know at that time) I was also for 45 min with 3 questions

1.(easy) Related to file input and writing back into it.

2.(easy) an array with number were given and another array with same length contained the indexes of corresponding elements in the previous array. We had to rearrange the elements in the first array according to the their indexes given in the second array with min. Space possible.

3.(moderate) timings of a bus departure and arrival were given for a particular bus depot and the min no. Of bus stands required had to be computed.

The outcome was mostly decided by the aptitude test as most of the people did the coding part.

Then after shortlisting, there were two interview rounds and a hr round.

In the first interview round the interviewer asked me about the projects that I had mentioned in my CV. He asked me many questions on databases and sql queries as my project was using a pgsql database. He asked me a few networking questions based on my other project. Then he gave me a fictional computer center management system and asked me to develop tables required for it and kept on adding functionalities to it, then he turned to computer architecture and asked a few questions related to it as we spoke about specs of computers in the cc man. Sys. This interview lasted for little over an hour.

In the second round of interview the questions were related to my most frequently used language, which he asked for Java. The questions were very basic and about Java itself like – about classes, object, the system class, its interaction with the system, objects compared to real life and some things about constructors and methods. Later he asked some basic algo and asked to write it in Java. This lasted for around half an hour.

Finally there was a HR round, for around 20 min and he asked questions like what did I disliked about the interview process, would I be an entrepreneur, how was my day!, about my college and school, etc. I think it did not matter much as everyone who passed the second round of interview was selected. ?

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GATE CS Corner Company Wise Coding Practice

Internship
Interview Experiences
United Health Group

UHG(United Health Group) Interview Experience | Set 3 (On-Campus)

The first test was on aptitude.

30 questions in 45 minutes. Each question weighed 1 and there was a negative marking of 0.5. The questions were related speed distance time, simple permutation combination probability, heights and distances (trigonometry), areas, complete the sequence.

Three coding questions to be written down on a paper and submitted.

The time given was 30 minutes.

1) Convert a binary tree to its mirror

2) Length of the longest common subsequence for two given strings

3) Sorting an array of pairs

There were three rounds of interviews. The first one was related to projects and internships. I was asked a bit of machine learning too. The person asked me to explain some ML ideas to him. I didn't have a project on Machine Learning though.

He said "explain to me what is machine learning. Think of me as a person with no knowledge of how all this works".

He asked me about supervised and unsupervised learning then.

At the end of this, he asked me :

"If you have to sell your project to me, how will you do it?"

My project was on pygame with python and he asked me some basic questions about the language. "Is python a front end language or a back end language?"

"what is pygame?"

Simple web development questions like what is jQuery? How is this related to JavaScript. How do you use them together? This was based on a few projects i had done.

He wanted to know about the results of the projects and if someone else had performed them – what i had done differently, if i had similar results or not.

Some students who had projects on DBMS were asked questions on left outer join, Normal forms, mysql.

The second interview:

He asked me my preferred language. I chose C++.

He asked me about memory management in C++, where are extern variables stored, where are global variables stored. He asked me to draw the typical memory layout of a program. Some OOPS questions followed like what is the size of an empty class? Some questions on how the compiler works. What does the preprocessor do? What is an object file? Can you open an object file? What does the linker do? Output of some C/C++ programs like those given on GeeksforGeeks. Dynamic memory allocation. Questions related to pointers. There were a lot of small questions rather than a few big ones. One another question was Iterative way to solve the question on converting a binary tree to its mirror.

This was followed by an HR round which had questions like:

- 1) what are your strengths?
- 2) if your boss or senior is giving you an approach which is not optimised, how will you point it out to him?
- 3) why do you want to join us?
- 4) what are your expectations with us?

I would like to thank GeeksforGeeks for being the best resource to learn from.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
United Health Group

UHG(United Health Group) Interview Experience | Set 2 (On-Campus)

UnitedHealth Group visited our college this year for hiring full time software developers.

CGPA cut-off- 7.0/10

Hiring process:

- 1) Analytical aptitude (Written).
- 2) Technical aptitude (Written).
- 3) Coding question (included in Technical apti).
- 4) Technical interview 1 (F2F).
- 5) Technical interview 2 (F2F).
- 6) HR interview.

Analytical aptitude – 30 questions 45 minutes. Questions were a bit tricky and needed to be solved fast. There was negative marking for wrong answers (+1 for correct and -0.5 for each wrong answer).

Technical aptitude – 20 MCQs+4 coding questions 45 minutes.

MCQs were based on DS, Networking and OS.

Coding questions-

- 1) Find the largest palindrome in a given string.
 - 2) Implement queue using two stacks.
 - 3) Find the middle element of the linked lists in a single pass (you can only traverse the list once).
 - 4) N numbers ranging From 1 to N are given, there is exactly one number missing and exactly one is repeated find the repeated and missing number.
- 29 applicants out of 77 got selected for the next round.

Technical interview 1 –

- 1) He asked me about my achievements, interests and hobbies.
- 2) Then he asked me to explain all the codes that I had written in technical round.
- 3) Thorough discussion on my project (I derived all the equations, graphs and diagrams), applications of my project, my role if I was working in a team.
- 4) Later he gave me a numerical problem based on my project.
- 5) He asked me to design a modern car (its block diagram) with all the functions I could imagine, after 20 minutes I had to explain its working and discussion on more advancement that I could've used.
- 6) Do you have any question for me? (Always ask a question never miss this opportunity)

Technical interview 2–

Interviewer was very friendly this time.

- 1) Introduce yourself.
- 2) How would you solve a Sudoku? (He asked me to give an algorithm because I told him that I like to solve the puzzles) I solved it using the concept of backtracking.
- 3) Design a future washing machine (Block diagram).
- 4) Write an algorithm for traffic light control (all the roads are two way roads).
- 5) Do you have any questions?

HR interview –

- 1) Tell me about your family background?
- 2) What are your strengths?
- 3) Give me an example where you used your strength to handle a tough situation.
- 4) Are you a team player?
- 5) What kind of roles you played each time when you worked in a team?
- 6) Discussion on an app which I developed.
- 7) Are you going to apply for any other company after getting this job ?
- 8) Location preference (I had two options Hyderabad and Bangalore)

Thanks geekteam .

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
United Health Group

UHG(United Health Group) Interview Experience

UHG (United Health Group) came to our campus for software developer profile.

Written Aptitude Round: 60 min

Contained basic logic based questions. 30 problems. Difficulty Level ->Medium

Written Programming Round: 30 min

- 1) 15 multiple choice questions. Difficulty level -> Medium-Hard
- 2) 3 programming problems: Difficulty level -> Easy
 - a) You have an array of integers. Find that index for which sum of all the elements before it will be equal to sum of all elements after it.
 - b) Implement queue using stacks.
 - c) Find minimum value in a binary tree.
- 3) There were 2 networking related questions. We need to write the answers in detail. I don't remember the questions.

Technical Interview 1:

Discussed in detail my projects. They thoroughly went through my resume and asked questions.

- a) Whole database design of one of my project. Asked some SQL queries also.
- b) You are given a triangle with height h and base length b and a square of side length a. How many squares can you fit in triangle? Need to derive formula.
- c) A pattern matching problem with special characters. He wanted the full working code. Similar question: <http://www.geeksforgeeks.org/wildcard-character-matching/>

Technical Interview 2:

This interview was mostly based on my B.Tech Project on Artificial Intelligence. He also asked many fundamental questions related to AI and Machine Learning. For e.g. what is SVM (Support Vector Machines), ANN(Artificial Neural Networks), GP(Genetic Programming) and differences between them and how it is better than linear regression? He also asked few java OOPS questions.

In all, my interview experience was quite nice. Both interviewers were very helpful and cooperative. Practice writing code on piece of paper. That will help a lot.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
United Health Group

Brocade Interview Experience | Set 2 (For Software Engineer 0-2.5 Years Experience)

I attended interview at Brocade for the post of Software Engineer (0-2.5 years experience). Some 200+ people had walked-in and it was a pretty large gathering. Though location pointed in Google Maps was right, the route for vehicle driving was wrong. So take care to start early.

First we had a written round è 15 Aptitude Questions + 25 Technical Questions. One hour time and no Negative Marking.

Aptitude questions were easy to crack and very basics. There were direction based problems, profit and loss, ratio and proportions, and speed around a circular track. There were few reasoning questions and guess the sequence, encoding/decoding type of questions.

Technical questions were mainly "Guess the Output" type questions. There was not much theory based questions in technical – which is a good thing. There was a question based on segmentation of pages, page fault, RB tree ordering, Infix-Postfix operations, heap dump, aggregation and few other topics.

Then they said they will announce result in 1 hour, but took 3 hours. Hence it is advisable to take something to eat. Though they provided lunch for the 60 people, who cleared written round, waiting is a tedious process.

Then those selected, were called for a face-to-face 1-on-1 technical. The person who conducted first technical round for me was a project manager. Starting with introduction, questions were primarily based on project details, and what I had done till date.

1. Tell me about yourself.
2. Are you comfortable with talking about your current project activity? If so, please explain what you are currently doing. (My current project was on LLDP)
3. What is LLDP? Why do you need it?

4. How do you let a peer know about congestion? What is PAUSE frame?
5. Tell me more about congestion notification.
6. If you are to write a protocol stack from scratch, tell me what will be your approach towards the design. Will you have any interface between the protocol and the hardware?
7. What is threads? Do threads share memory space?
8. How do you store a routing table? What data structure would you use?
9. If your routing table had 3 million routes, what approach would you use to display it?
10. Write a program to reverse the words in a string and print it. I used a singly linked list to parse and store the string, and displayed it using a loop. He said, approach was complicated, but

The interviewer was kind, and gave me enough time to think before answering. I took some time to analyze and answer the routing table display question. He said "You are doing well enough till now, take your time and answer." It was a very comfortable environment.

Then they asked me to wait for next round. The next round the interviewer looked very stern, and throughout one question kept leading to the other.

1. Write the syntax of a pointer to a function with return type float taking two integer arguments.
2. Now write the syntax of a function pointer with return type float taking two integer arguments.
3. Now use both in a function! (I lost here L)
4. Write a function to display binary value of a decimal number. (as it was just display, I used printf within while loop)
5. Provide me a real time example , which you have used at work, of singly and doubly linked list. Explain your answer and why you prefer it.
6. What is the worst case time complexity of a binary search?
7. Why is the time complexity of binary search $O(\log n)$?
8. What are threads? What is difference between thread and process?
9. How will a parent process know that a child is dead?
10. What is the API for signal handling?
11. What are the most common signals that can be handled?
12. What is segmentation fault?
13. Will a segmentation fault occur when I assign 0x00 to a pointer? Or when I try to access it?
14. Why is a process faster than a thread?
15. What is deadlock?
16. How does deadlock occur?
17. What is mutex and semaphores?
18. Won't a deadlock occur with mutex or semaphore? How would you avoid it?
19. Write a program to display the double of a number without using arithmetic operators? I simply did left shift once.
20. Will your program work if it is a negative number? Modify your code to calculate the double of a negative number also.
21. Then this puzzle , he had asked : <https://www.quora.com/Puzzle-Which-number-survives-at-the-last>
22. What is DHCP?
23. What is DNS?
24. Explain me in detail every single step that goes on inside when I turn on my laptop and type www.google.com.

He asked me some more questions, that I have forgotten. I felt that I didn't answer much. Hope things turn out good.

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GATE CS Corner Company Wise Coding Practice

Interview Experiences
Brocade

Brocade Interview Experience

Recently I attended Brocade Communications Interview. I would like to share my experiences.

First Round: Written round 15 Aptitude + 25 Technical MCQs (c++ (mainly output qs), 2 questions on socket, 1 on IPC, 1 on Database in 1 hour. The qs were little above average.

After 1 hour they announced results. They shortlisted half of the people.

Second Round: Interview

- 1) merge two sorted linked lists in a third linked list
- 2) how will you search a sequence of bits over array of bytes
- 3) Design Qs: You have an incoming stream of bits. You have infinite memory, processing power. Design a system that will check for viruses. You have all the viruses signatures.

- 4) Same qs, You have limited processing power. How would you do?
 - 5) When do you use Red Black tree, Avl tree
 - 6) swap the nibbles in a byte. 0101 0001 -> 0001 0101
 - 7) some pointer output qs.
- ```
> void *p=0; p+=2; printf("%d",*p);
> int **p=0; printf("%d",*p);
```
- 8) current project in your company

#### **Third Round :Interview (Manager)**

- 1) find if a tree is a binary search tree or not
- 2) count the number of set bits in a byte( in the best possible way)
- 3) what is your project in company
- 4) Since I was from a networking company , he told me to explain the full codebase architecture on the whiteboard
- 5) How ping works, What packets it generates
- 6) What packets are generated when a networking device tries to reach another networking device in a different network , connected through intermediate two routers. Explain in detail
- 7) Why do you want to change your company?

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Brocade

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## **Housing.com Interview Experience | Set 3 (On-Campus)**

I was interviewed by housing.com through campus placements. Here is my interview experience.

#### **Round 1:**

Resume based and 1 coding question. Briefly discussed about projects in resume and questions were completely related to projects mentioned.

Coding question: How will you determine the repetition element in the array? How can you do with least space complexity?

#### **Round 2:**

This round was completely pen and paper coding round. 3 coding questions were asked.

Question 1: Root to a node path sum equals give number. With least space complexity. Problem similar to this <http://www.geeksforgeeks.org/root-to-leaf-path-sum-equal-to-a-given-number/>

Question 2: There are buildings near a beach, which were of different height and placed one beyond the other. How many buildings can see the beach.

Input will be the height of the buildings.

Example: Input: 3, 1, 4. output: 2

Input: 4, 5, 2, 3, 6. output: 3

Question 3: Given a stream of bits which are 1's and 0's . Find the contiguous subsequences where number of 0's equals the number of 1's

#### **Round 3:**

Only one coding question was asked with time limit of 10 minutes.

There is a function getWord() which takes word as input and checks whether word is present in the dictionary. Given a long word as input find all the meaning full ( i.e getWord() is true ) that can be made from the given input .

Example : Input : antin  
output : a , an , ant, tin, in.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Housing.com

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## **Housing.com Interview Experience | Set 2**

I was recently interviewed by housing.com and received the offer. Following is my experience.

Applied through Career page

#### **1st Round : Online Written Round**

Coding Round on Hackerrank . 4 Coding questions. 2 were easy , 1 medium and 1 difficult.

In each interview , a link was shared where a full running code was required.

#### **2nd Round : 1st Technical Interview**

Longest Palindromic substring (Full running code)

Length of longest substring with no repeating character (Full running code)

Discussion on projects

#### **3rd Round : 2nd Technical Interview**

Minimum number of jumps to reach the end

All root to leaf paths with sum k

We have n apple tree in a garden(number of apple in each tree is given) and we can choose to take apple from those 3 times (must take apple from all trees). the number apples taken in 1st round should be greater than number of apple in taken in 2nd , similarly for 2nd and 3rd time. In how many ways we can take apples from tree.

#### **4th Round : 3rd Technical Interview**

LCA of n-ary tree (Full running code)

Lots of discussion on each and every project.

Few basic Questions on DBMS like indexing and OS

#### **5th Round : 4th Technical Interview**

A web crawler is crawling is wiki pages, how to store each page and apply phrase search in all the pages. Lots of discussion on Database schema and search algorithms that can be applied

A Question based on Artificial Intelligence.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Housing.com

## **Housing.com Interview Experience**

Here's my Housing.com interview experience.

#### **Round 1**

A discussion on resume, internship and projects. A project on Search engine (was on resume) was spoken in detail and a lot of questions was asked on it.

1. <http://www.geeksforgeeks.org/maximum-of-all-subarrays-of-size-k/>
2. <http://www.geeksforgeeks.org/reverse-a-list-in-groups-of-given-size/> with code.
3. <http://puzzlersworld.com/interview-puzzles/10-black-socks-10-white-socks-puzzle/>

4. OS questions like mutex,semaphore and DBMS ACID property.

#### **Round 2**

1. <http://mathoverflow.net/questions/18288/ants-on-a-rod-puzzle> (A variation of this)
2. <http://www.geeksforgeeks.org/dynamic-programming-set-14-variations-of-lis/> . The bridge problem of LIS.
3. <http://www.geeksforgeeks.org/level-order-traversal-in-spiral-form/> with full code.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Housing.com

## **Qubole Interview Experience**

Here's my experience of Qubole interview.

Input:

Was csv files of fb users data.

Questions for above Input:

1. Parse the data and build a graph.
2. Check if two users are friends.
3. Check if two users have a friend in common.
4. Find total mutual friends for a pair of users.
5. Find potential friends based on mutual friend count.
6. How will you do this for large datasets ?

OO code was required which had a good design and was well commented.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Qubole

# Global Analytics Interview Experience

## Written:

Question on files and hash table (it was a kind of dfs searching ..).

## Essay writing :

2 topics were there write any one of them (300 words).

## Interview:

1 hrs discussion on the code given in written round, explain complete code ,find any mistake correct it ( i did one mistake so i corrected that ).

Question on DBMS like normalization , join.. ....etc

Synchronization, Mutual exclusion , Semaphore its importance, counting and binary semaphore, functions of operating system , Diamond problem in c++ , how u will resolve this , multiple inheritance , interface in java , compiler vs interpreter , pointer vs reference variable , how u will access private member of a class ...and more question from technical subject don't remember write now.

## Puzzle :

1. A chess board is given (as we know that it is having black and white color ) . Now u are allowed to choose any shape (like 2 by 2 or 4 by 6) ..if u choose any shape then black color become white and white become black..so now at the end u need complete chess board black color ....how many selections u will do (minimum).

2. You have 3 baskets, one with apples, one with oranges and one with both apples and oranges mixed. Each basket is closed and is labeled with 'Apples', 'Oranges' and 'Apples and Oranges'. However, each of these labels is always placed incorrectly. How would you pick only one fruit from a basket to place the labels correctly on all the baskets?

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Global Analytics

# Prop Tiger Interview Experience | Set 3 (On-Campus)

## Round 1 :

This was an online objective round comprising of 4 sections : aptitude, basic Reasoning, English and a technical section which included questions mostly from DBMS. Aptitude and reasoning was just a cakewalk. The technical round had a few tricky questions but I attempted all of them since the round had no negative marking.

After a couple of hours the result was announced. 26 students ( B.tech + M.tech +MCA) were shortlisted in total.

Luckily, I made it to the interview.

There were two technical rounds in total followed by an HR round, both the tech rounds being eliminators.

### TECHNICAL ROUND 1 : ( 50 min )

The interview started with the ritual " INTRODUCE YOURSELF " question. He went through my CV and asked me to explain my project. My project was a LOAD BALANCER using SOFTWARE DEFINED NETWORKING. I explained every single thing beginning from what is SDN to how does a load balancer work. He cross-questioned a lot but I handled him well. This project discussion lasted for about 15 minutes after which he started asking questions from DS/Algo.

1. Pseudo-code to determine the height of a binary tree? ( Complexity )
2. Pseudo-code to determine the diameter of a binary tree ? ( Complexity)  
( I gave him an  $O(n^2)$  solution , he said optimize it , later I gave him an  $O(n)$  solution )
3. Pseudo-code to check if all leaves in a binary tree are at same level?
4. Validate if a given tree is a BST or not?
5. Given a number find its square root ?  
( Gave him a solution using binary search. He was satisfied)
6. Given a string , print all possible permutations of that string.  
( Did it using backtracking )

This was the last question . I was told to wait for the results.

After 50 minutes or so, the result was announced. Out of 14 people from B.Tech only 4 were called for the 2nd round.

### TECHNICAL ROUND 2: ( 1 Hr 10 Min):

The interviewer straightaway asked what all had been asked in previous round. I told him the questions which had been asked. He asked me to write the code for the latest coding problem that I had solved. I wrote the code. He kept on giving test cases and asked me to dry run the code on those test cases. The code worked just fine. Later he made changes to the same code and asked me to code the problem again..

I somehow managed to code the problem. I knew there were corner cases which had still not been taken care of. But the interviewer was probably not bothered about the corner cases..

After this, he began firing questions from anywhere (DS , OS , c++ , Algo , linux )

1. Print all root to leave paths in a binary tree.  
( I gave him a solution using a function which was using a path array, its length and pointer to head of the root as argument . He asked me to remove the path array and its length from arguments and rewrite the code . I said that I would declare the array as global. He wasn't satisfied. )
2. Banker's Algo?
3. Function overloading and function overriding ( difference ) ?
4. Connect leaves of a binary tree to form a doubly linked list?

5. Semaphores and monitors ( difference )  
( I told him that I had no clue about monitors)
6. TCP/UDP ( general discussion )
7. Basic OOPs concepts.
8. Object slicing.
9. Difference between process and threads.
10. Randomized Quick sort ( discussion on its worst case )
11. Design Patterns ( I Told him that I had studied it in the 5th semester but right now I am clueless) .
12. Coin change problem
13. Discussion about project

At the end, he asked if I had any questions. Of course, yes 😊

Out of the 4 students shortlisted for the 2nd round, 3 were called for HR. I was one of those 3.

#### **HR Round :**

Basic questions like why should we hire you , strengths, weaknesses, etc.. What changes would you like to make to our selection procedure.

He then asked me to explain my project to him as if he was a 5 year old kid. I did, and he seemed pretty impressed.

I was then told to wait for the results .

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Prop Tiger

## **Prop Tiger Interview Experience | Set 2 (For Software Engineer)**

Gone through Prop Tiger process for Java opening for Software Engineer.

F2F round:

Ques 1: Brief intro about Java projects. Pointed at some instances and asked Java questions.

Ques 2: Asked to write complete error free code in one shot to [find diameter of binary tree](#).

Ques 3: Again asked to code in one shot to [convert binary tree which hold children sum property](#).

Ques 4: Prove right or wrong  $p^{2-1} = 12k$  where p= prime number and k= positive integer. Simple approach is to use  $(p-1)(p+1)$  which means  $p^{2-1}$  is divisible by 4, then find how it is also divisible by 3.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Prop Tiger

## **Prop Tiger Interview Experience**

**Written:**

Question 1. Suppose u have given a string like 123456342184321 and second string like 1234. Find all permutations of second string (1234) in first string. You have to give count of all the permutations. So for above example, first is:1234 second is 3421 third is 4321, hence output shud be 3.

Qestion 2. MS Excel columns has a pattern like A, B, C, ..., Z, AA, AB, AC, ..., AZ, BA, BB, ..., ZZ, AAA, AAB, ... etc. In other words, column 1 is named as "A", column 2 as "B", column 27 as "AA". Find Excel column name from a given column number like 705 AAC.

**Interview.**

Questions on Redblack tree , binary search tree,maximum continuous subarray, maximum subarray with alternative index, more questions on array.

You have given number of notes like 1,5,10,20..make some amount using minimum number of notes(write code for it), questions on linked list, tree, mirror image of binary tree, Trie data structure, ancestor of a given node in binary search tree,how tcp ip network works complete working ,comparison of tcp and udp where they can be used etc.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Prop Tiger

## **Target Corporation Interview Experience | Set 3 (On-Campus)**

**Online test in the Campus:**

It Includes 31 questions,out of which 30 were Multiple choice questions and 1 coding question.

Multiple choice questions includes aptitude, expected output for given code snippet,expected error whether segmentation fault or compile time error,etc.It is better to learn the operator precedence and order of Associativity.

Coding question: You are having a playlist in which there are n songs each of duration 'song\_duration' and there will be a gap of 5 seconds of silence between every song.your first song will be start playing at 0 sec.Simultaneously your phone starts beeping at 0 sec and it will beep for that 1 complete second only and repeats beeping for every given 'call\_delay'.If the mobile beeps when the song is playing you can't hear to the beep.Now you have to find the second at which you can listen to that beep.

Example: n=3 song\_duration=7 sec call\_delay=5 sec

song start—end | beeps at

1) 0——6 0,5 you cannot listen to beep since song is playing simultaneously

7——11 10, Song don't play in this time but beeps at 10 so you can listen to it

2) 12——18 15

19——23 silence and beeps at 20 you can listen again

**Technical interview 1:**

After the test around 30 people were shortlisted

Started with Tell me about yourself

qn1 : Given a binary tree,you should do level order traversal from bottom,done using a queue and a stack,Asked to write code.

qn2 : Given sting1 and string2 you should find whether string2 is a sub string of string1 or not.Asked to write code

ended with Why this field?

Interviewer was very cool,just don't panic

**Technical Interview 2:**

Initially asked to write code for any sorting algo may be to make me relax

Then we discussed a lot about my technical intern

Little hr kind qns..

He is very friendly and used to maintain smile ☺

**HR Interview:**

This was Awesome I enjoyed it

He asked me around 12-15 qns in the span of around 30 minutes

He asked to give instances for every situation he asked where i have showcased certain skills,did something efficiently,etc..

He was pretty fast and used to write keywords for everything i say

Ended with whether I had any interviews that day before and their status

That's it ...!!

Good Luck..

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Target Corporation

### Target Corporation Interview Experiences | Set 2

**Round 1:** There were 31 questions 30 of them was from c/c++ and apti . 31th question was a code that you need to submit It online with all test cases. Online platform was hackerrank.

**Round 2:(TEHCNICAL)**

Q 1. Initially they asked me to tell about your self.

Q 2. Then they moved to my projects . They want deep explanations of your projects .

Q 3. Tell me about surrogate key , primary key , foreign key in details with differences and relate it to real time situations.

Q 4. Tell me about fragmentation in OS and its types reasons .

Q 5.He asked me to write a code for finding a number in a matrix with is both row and column wise sorted give best algorithm for that and trace it . I gave them O(row+column) algo. He see my code and told me that it will not work then again I traced it but it was working fine , He just want to test that I will make changes or not.

Q 6. He asked me to write a code for finding all permutations of a given string say Your string is "abc" then O/P a , b , c , ab , ba , bc , cb , ac , ca , abc,... I did it using recursion and he told me can u do it using iterative way I said no.

Q 7. He asked me to write a code for finding grand parent of a given Node . I did it using storing the all ancestors . Then he told me to do it recursive approach . I just explain how I will do it.

Q 8. Then he asked me to write a code for converting a tree into mirror tree.

I gave him recursion solution . told me can u do it iterative I said I need to take array to store data of levels and I will reverse the array and during traversal I will overwrite data.

Q 9. How to servers communicate each other. I ans this ques using distributed technology concepts.

Q 10. What is the DBMS and RDBMS with difference .

Q 11. How you are able to access the SQL services from netbeans IDE since you have not launched MY SQL server .(I was having project which was in java using mysql as backend ) Means they want how actually q query from your netbeans IDE is transferred to MYSQL server.

Q 12 . Difference between DATA WareHouse and DataBase? And need of data warehouse.

Q 13.What is Trigger what is the need of it .

#### ROUND 3: (HR + Behavioural )

Q 1. Tell me when you have worked in team . Do u have conflicts then u came up with it.

Q 2. What is your most embarrassing moment and why it is.

Q 3. Which project you like most in your CV (I was having two projects in my CV) and why.

Q 4. I was having year gap between UG and PG so why It is.(I explained with reasons and they were quit satisfied)

Q 5. What is your GOAL in your Life.

Q 6. Where you want to see yourself after 5 years.

and some basic HR questions that I can't remember.

**TIPS:** Be definite and confident with your answers and keep calm. And very important thing always give respond of question not give response .

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Target Corporation

### Target Corporation Interview Experience | Set 1 (On-Campus)

#### ONLINE ROUND

31 Questions in 60 minutes.

30 Quantitative and Computer Fundamentals Questions

1 Coding Question:

Obtain the number of Trailing zeroes in the factorial of a given number N.

About 27 students were Shortlisted for interviews after this.

#### Interview 1: (Technical)

1) Remove Duplicate from an array.

2) Explain Merge Sort and Quick Sort.

3) What Data Structure does Quick Sort remind you of?

4) Given a number N find the nearest perfect square.

eg:

i/p : 17

o/p : 16

5) Questions about my projects.

#### Interview 2: (HR Questions)

1) Problems faced during the project.

2) Biggest achievement of life.

3) And some 3-4 more questions( Don't Remember exactly)

#### Interview 3:(Mixed Questions)

1) Questions related to resume(About 4-5).

2) Was asked my favourite subject in my department( Not CS ).

3) Questions on how would I use that knowledge in Retail Industry.

4) And a few more Questions from my Resume( Don't Remember Exactly).

Overall Experience was Very Good and the Interviewers were the very friendly.

I would like to thank www.geeksforgeeks.org which helped me throughout my preparation in such a short duration of time.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Target Corporation

### Walmart Lab Interview Experience | Set 9 (Off-Campus)

there were 5 rounds of interview with 3 technical round, 1 director round and 1 HR round.

#### Round 1 (Technical)

1st question :- <http://www.geeksforgeeks.org/minimum-number-of-jumps-to-reach-end-of-a-given-array/>

2nd Question :- Given an alien language dictionary where the words are sorted, we need to figure out the list and order of the alphabets for that language.

#### Round 2 (Technical)

1st Question :- They gave me a question for implementing wildcard pattern matcher. He specifically mentioned that he wanted a clean and optimized code.

2nd Question :- Given a dictionary containing some words, and a start word and end word, you need to find the minimum number of conversion needed to convert start word

to end word with the following restrictions :-

1. Each intermediate word must be in the dictionary
2. You can change only one character in the word to convert to another word.

Example If You are given start word as 'SAT' and end word as 'PAN'

and the dictionary contains words = ['RAT', 'PAT', 'DAM']

then SAT -> PAT -> PAN is the answer

3rd Question :- He asked me the design of distributive hashing, various problems and their solution

#### Round 3:

1st Question :- Given a string of bits, divide the string such that each string in the division is a binary representation of a power of 5.

2nd Question : A 2D plane consists of circles, such that no circle partially overlap. You are given two points and you need to find the minimum number of circles you need to pass for reaching from one point to another

#### Round 4

Basically discussion with the director

#### Round 5

HR

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Walmart

## Walmart Lab Interview Experience | Set 8 (Off-Campus 3 Years Experience)

#### Round 1 (Coding round):

1) Range [L, R] is given. Need to find what is the maximum repeating digit in prime numbers between L and R (both inclusive). If more number of digits is repeated max times, return whichever digit is maximum

Eg: [2, 13] – maximum repeating digit is 1 among {2, 3, 5, 7, 11, 13}

[2, 9] – answer 7

2) Given a number "S", find out how many number of ways a, b, c, d (all > 1) can exist such that a+b+c+d = S;

#### Round 2:

- 1) OOPS Concepts
- 2) Reverse alternate nodes in linked list
- Eg: 1->2->3->4->5 should become 2->1->4->3->5
- 3) Iterative post order traversal of binary tree
- 4) Queue implementation using stacks

#### Round 3 (Java):

- 1) ArrayList, LinkedList – when to use what
- 2) HashMap, Hashtable, concurrent hash map
- 3) Hashcode, Equals, HashMap implementation
- 4) Serializable interface
- 5) AbstractClass Vs Interface
- 6) Multi threading, Difference between extends thread, implements runnable
- 7) Callable interface, Executor framework
- 8) Collections sorting, comparable interface
- 9) Best thing I have done so far what I proud of

#### Round 4:

1) Given NxN matrix, (X,Y) position. Find how many ways You can reach from (X,Y) to (N,N). You are allowed to traverse in 2 directions – Right, Down

2) Find loop in linked list. Find starting node of loop

3) Binary tree zigzag traversal

4) Given list of stock prices. You are allowed to buy and sell only once.

a) Find the maximum gain you can get

b) Find the maximum loss you can get

5) Binary tree is height balanced or not. (Every node in tree should be height balanced)

6) Implement String trim algorithm

7) Write a multi-threaded program – launch 10 threads and exit from main thread after all those threads completed

#### Round 5 (Manager):

1) Given a number in form of array, maximize the number w.r.t allowed number of swaps (can swap only adjacent elements) – maximize(int[] data, int numSwaps)

Eg: 1265 is number – if 1 swap allowed – maximum number we can get out of it is 2165

1265 is number – if 3 swaps allowed – maximum number we can get out of it is 6215

2) Questions on my projects

3) So many behavioural questions

#### Round 6 (HR):

Why do you want to change ? What You are expecting ? and some other HR questions.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Walmart

### Walmart Lab Interview Experience | Set 7 (Off-Campus 3 Years Experience)

Online round: [60 mins]

1. given a number N. print in how many ways it can be represented as  $N = a+b+c+d$ ,  $1 \leq a \leq b \leq c \leq d$ ;  $1 \leq N \leq 5000$
2. given two numbers l and r ( $l \leq r \leq 10^6$ ) find most frequent digit among all prime numbers between l and r inclusive. if frequency is same print highest digit.

**Round 1:**

1. difference between wait() and sleep() in java.
2. write code to print 1 to 20 using 2 threads. one thread will print only even and another one only odd.
3. Given an input string and a dictionary of words, find out if the input string can be segmented into a space-separated sequence of dictionary words. print all possible sequences (Word Break Problem). how will you implement dictionary.
4. discussion on REST services.
5. discussion on garbage collector algorithms and different heap generations.
6. some example on sql and he asked me to write sql code to get desired results. discussion on SQL CASE expressions.

**Round 2:**

1. discussion on different type of object relations (aggregation, association etc).
2. difference between NoClassDefFoundError and ClassNotFoundException in java.
3. difference between wait(seconds) and sleep() and their uses.
3. discussion on mutex and semaphore. discussion on lock and synchronization.
4. given linkedlist and a number k. reverse linkedlist in a group of k.
5. there are n houses in a city. all in a single row. we can color a house with any one of three colors (R,G,B). cost of coloring each house is given for each color. no two neighbour house can have same color. print min cost to color all house.
6. Given a wiki page, implement find all and replace all with limited regex support (?) and (\*). e.g. of search : '?\*?th'

**Round 3(Manager):**

1. why walmart, discussion on my current project.
2. discussion on sql indexing and joins.
3. discussion on java class initialization and constructors.
4. discussion on garbage collector algorithms.
5. 2 mathematical puzzle. first one was something related to counting numbers using fingers of one hand in alternate order. given a large number which finger will be the last finger when counting ends. second one was related to time velocity concept.
6. about my weakness and how will i improve it.
7. what was the last feedback you got from your manager.

**Round 4 (HR):**

1. tell me abt yourself, why walmart?
2. where u see yourself after 5 years.
3. what i like and dislike about my current manager.
4. my expectation from walmart.

i was asked to write code for all algo/ds problems.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Walmart

### Walmart Labs Interview Experience | Set 6 (On-Campus)

The Interview Experience below is for Walmart Labs. The hire process was for their IDC(Development Center).

This was an On-campus hiring event.

Hiring Procedure:

There was 1 online test, 3 to 4 technical rounds and 1 HR round.

**Online Test:**

- It was 90 minute test which included programming, little aptitude and Core subjects(Compiler Design, Operating System, Computer Networks and DBMS).
- There were 3 programming questions where you need to write the code for the problem and execute on their platform(HackerEarth). One of the problem was tough and the other two were on avg level. One of the three was a Dynamic Programming question. But if you solve any two, i feel that you will be called for next round (the number of test cases to execute were six for each problem). Students who had solved one question also were called to interviews combining the score with MCQs.
- There were 10 MCQs , which include questions on General Apti and core concept as mentioned above. These were very basic GATE questions , if you know the

concepts you can answer all of them.

—I was able to solve two programming questions and 8 MCQs(I think so :)).

Around 90 students have attended the test and around 22 were shortlisted for the Tech Interviews.

#### **1st Tech round:**

—He asked about myself, looked at my resume , asked to explain prior work experience details and then asked about all the projects done.

—He was interested in one my projects which was related Machine Learning , he went in detail into that . On that only he asked some questions like what is parsing , why did you do parsing . Whatever algorithm I was explaining, he was asking the reason behind choosing that algo why not others. So, its best to have a clear idea on what you are speaking.

—Later , he asked me build a system for " as in Linux terminal whenever we type some command and we press tab button ,auto complete of that word or command is done" . I gave him Trie as a solution , then he asked what is trie , where and all it is used . He extended the same question and asked what there are multiple results for the same keyword – gave a clue compare everything with the Linux terminal. I told him if there are more than 10 results I would ask the user whether to display or not and then proceed , if they are lesser I display them . He asked ,implement this using trie. I gave him the approach of linking multiple pointers in each trie node(optimized trie).

Again an extension to this question was to prioritize the result and display , I told I would use a count variable at each trie node and increment the value whenever I find a keyword used. He was satisfied with my answers and this ended my hour long 1st round.

#### **2nd Tech round:**

—This was interesting and best round for me . There were two mathematical problems.

1) If you start to count a number through your one hand fingers(5 fingers) , so if you start your count of 7 from little finger to thumb , you should go through all the fingers and reverse the path like 1 would be little finger and 5 would be thumb , the number 6 should be on the index finger and 7 on the middle finger. He asked me to write an algo so that whenever I give you a number you should be able to tell which finger that number would come to. I took around 5 mins and explained my logic of taking mod 8 of the number and getting the finger , here he was very much satisfied .

2) In a city of 100 couples , each year each couple have a child , if he is a girl child they will not have child next year onwards , if there is a boy child , then they have a child until a girl child is born . He asked me to find the ratio of male and female in 20 years. I knew the logic and told that first year there would be 50 child boys and 50 child girls born , next year, parents of 50 child boys will have child , here again there will be 25 boys and 25 girls and so on ...as i was explaining he stopped and told I got your point and asked me to wait for the next round.

#### **3rd Tech Round :**

—This one was very hard one .

—He gave two design question to solve

1) A subset of details of a facebook users are collected which have name and 3 other characteristics, you need to design an algorithm such that whenever I want some details with a condition or multiple conditions like get names with x as a common characteristic in them , you should be able to give result in real time (he told not access whole data for every query). First I told him ,we need to have combination of data structures to handle this as some of AI is involved . I told a logic a that I will store the data in a basic C structure ,he got convinced on my my logic after every detail I thought about later and asked me how will you handle the query , I gave many options starting from hash table ,trie and went to hash chaining too. but he was not happy with my approach and suggested to move on next question

2) Managing the seller ads on a social network , he had put many constraints like duration in which ads should be displayed , fair distribution among all the seller ads, peak time display etc....I have thought a solution told him , he was not satisfied and gave many extended solution but he was not satisfied

But , he was happy that I didn't give up at any moment or maybe he was using stress test on me 😊 . This round continued for around 2 hours

#### **4th Tech/Managerial round:**

— Because of my performance in the first two rounds I was called to 4th round , this was very easy and light weight round.

— he asked about my about past work experience , any issues you had in those time ..etc...etc..

— Linux familiarity and some basic questions on it, Walmart best products you know – i told him the automatic locker facility as the best .

#### **5th Hr round:**

— Traditional questions were asked .

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Walmart

## **Walmart Labs Interview Experience | Set 5 (On-Campus)**

Recently walmart labs came to our campus for campus recruitment. Here is my interview experience:

#### **Round 1 (MCQ + Coding Questions)**

This round was conducted on hackerearth and consisted of 12 MCQ's from ds,oops,aptitude,network etc and 3 coding questions

Q1. Given n strings consisting of 'R' and 'B'. Two strings can be only combined if last character of first string and first character of second string are same. Given n strings, you have to output the maximum length possible by combining strings.

I/P

RBR

BBR

RRR

O/P

9

Q2. Find the maximum digit occurred in a range of prime numbers Eg: Range ( 21 -40 ) → Prime numbers are 23,29,31,37,39 ( 2 occurs 2 times, 3 occurs 4 times, 1 and 7 occur 1 time and 9 occurs 2 times → Answer is 3 )

Q3. Some question related to DP

#### **Round 2 (Technical)**

a. First there was a deep discussion on my project. Questions related to Scalability were asked. I was asked to draw the schema of my database and make it more efficient, questions related to normalization were also asked. Long Discussion on NoSQL.

b. Top view of Binary tree but i told the interviewer that i know the answer and he seemed impressed with my honesty. Was asked to implement Hashmap in C and one question related to hashmap was asked.

There are two hashmaps and we have to find common entries, deleted entries, inserted entries and updated entries in an efficient way.

#### Round 3 (Technical)

a. All the questions which i attempted in my coding round were asked to explain.

b. This question was asked: <http://www.geeksforgeeks.org/count-possible-paths-top-left-bottom-right-nxm-matrix/>

First i gave recursive solution and then the optimized DP Solution.

c. Output question on OOPS (Please be thorough with your oops concept as they are very important)

d. Detecting the starting of loop in linked list and was asked to explain how it works.

e. Given a binary tree, whether it is a BST?

#### Round 4 (Technical)

A long discussion on my other projects and then he gave me design question in which he asked me to design a data structure to represent the situation ( You really can't prepare for these types of questions but make sure that you know all the important data structures from linked list to Segmentation Tree)

Round 5 (HR)

Basic HR Questions were asked.

Thanks and Regards

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Walmart

## Walmart labs interview | Set 4 (For Senior Software Engineer)

I was interviewed for Senior Software Engineer position in Walmart (6-8 years of experience, even people with 4yrs exp were also shortlisted)

#### Written Test (Hacker Earth) [Time limit 90 min]

1) Check for balanced parenthesis

<http://www.geeksforgeeks.org/check-for-balanced-parentheses-in-an-expression/>

2) Magnificent Fountains

<https://www.hackerearth.com/problem/algorithm/magnificent-fountains/>

3) Find the maximum digit occurred in a range of prime numbers

Eg: Range ( 21 -40 ) -> Prime numbers are 23,29,31,37,39 ( 2 occurs 2 times, 3 occurs 4 times, 1 and 7 occur 1 time and 9 occurs 2 times -> Answer is 3 )

=====

#### Face to Face discussion

##### 1st round:(Mostly JAVA)

1) What is the major advantage of autoboxing?

2) How to define custom annotation?

3) Out of multiple threads if thread throws Runtime exception what happens to other threads?

4) Implement LRU cache without LinkedHashMap

5) Explain garbage collection process in JAVA

6) Explain JAVA memory model.

7) Difference between instanceof and Instanceof.

8) Can you override methods of ArrayList? If so how?

9) Difference between Hash Map and Tree Map

10) Explain Concurrent hash map . (and few more which I am not able to recall)

##### 2nd round:(More of Data structures)

1) Explain inner classes in JAVA. Where exactly inner classes were used while designing famous JAVA APIs.

2) Reverse a linkedlist.

3) Maximum height of a tree.

4) Find the number of leaf nodes for a given node.

5) How has LinkedIn designed the number of hops to get connected to other people.

##### 3rd round:(Algorithms)

1) Remove spaces in a string without using inbuilt function and taking constant space.

2) Find the number of possibilities to move from one point to another point in a chess board kind of square box.

The interview process was quite long as the panel count was very less.( 9am to 7pm)

#### Tips:

1) Compared to Amazon, Flipkart and many hot startups Walmart is easy to crack

2) Be prepared with basics of JAVA

3)Be good at BackTracking,Greedy algorithms and Dynamic Programming.

4)They stress more on solution than optimization.

All the best for people who gonna attend the drive.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Walmart

### Walmart Labs Interview Experience | Set 3 (On-Campus)

Walmart Labs Interview Experience – On campus

#### 1st round (Online Test)

It was an online test of 90 minutes and was conducted on Hackerearth. It consisted of 10-12 MCQ's and 3 coding questions. MCQ's consisted of general aptitude questions, questions related to networking, programming, C input/output etc .

One coding question was – given arrival and departure time of guests in a party ... find no of plates or something .Similar to this <http://www.geeksforgeeks.org/minimum-number-platforms-required-railwaybus-station/>. (30 marks)

2nd (20 marks) adhoc dont remember

3rd (50 marks ) dont remember

IMP POINT – There was cutoff for both mcq and coding questions so u need to clear both of these sectional cutoff .

#### 2nd round (Technical Interview) 1.5 hours

1.Started off with discussion on my projects . He scanned my resume and asked questions based on my projects . I had done web designing so he asked me to draw the schema of my database used and asked abt the tables nd data in them .. why this .. why that ...The interviewer kept on asking abt web designing like scaling website , distributed servers , and lot of other new questions . He wanted to know how I would scale my website for millions of people . Since walmart is all abt a serving for a lot of people so be prepared for such questions .

2. Hashing , probing , collision , hashing with chaining , cache memory with discussion , LRU cache with written code(on paper) , Hashtable , Hashmap implementation with code (on paper) .

3. Image compression ...DCT nd DWT differences , JPEG nd JPEG 2000 .

4. Google autosuggest .. Trie tree with code (on paper) , he asked me to further optimize then I told ternary tree nd explained operations with an example .

5. Some questions on DAG I don't remember .

#### 3rd round (technical interview ) 40 min

1. Standard Josephus problem with code (on paper) .

2. Given a sorted 2-D array (row and column wise sorted) find 6th largest element with code (on paper) .

3. Puzzle – given 10 coconuts arrange them in 5 straight lines such that each line contains 4 coconuts.

4. A little discussion on projects and internships .

5. Then out of nowhere he asked me to prove  $(a+b)^2$  identity geometrically . I ended up with a approach similar to the actual proof . So he was quite happy .

#### 4th round (technical ) 30 min

1. Detailed discussion on project , internships .

2. Some HR questions were also there .

5ht and final (HR round) 5-10 minutes

1. Common HR questions why Walmart , strength , weakness , about urself apart from resume etc .

For walmart – Prepare what u have written in ur resume .. they really look deeply into resume . Keep discussion going on with the Interviewer .

Thanks geeks4geeks

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Walmart

### Walmart Labs Interview Experience | Set 2 (On-Campus)

#### 1st round (Written Test)

It was an online test of 90 minutes and was conducted on Hackerearth. It consisted of 10 MCQ's and 3 coding questions. MCQ's consisted of general aptitude questions, questions related to networking, programming etc and very easy.

The coding questions were as follows:

1. <http://www.spoj.com/problems/FARIDA/>. The question was exactly this. (standard dp problem).  
(35 marks for this question).

2. Given arrival and departure time of employees in an office. Find the maximum no of chairs needed so that at no instance, an employee has to stand. (30 marks question).

Example-

Input-

5.00 6.00 7.00

6.30 7.00 8.00

Output-2

It is similar to this <http://www.geeksforgeeks.org/minimum-number-platforms-required-railwaybus-station/>. The main thing in this question was reading the input as number of employees was not given beforehand. It was also asked to check for all INVALID inputs and return -1 in those cases.

3. Given a 2D matrix of  $n \times m$ . The matrix contained integers. Given a source position of a person and a destination position, find the number of ways in which that person can reach destination from source fulfilling the following conditions-

(i) Movement can be only in north, south, east or west direction.

(ii) A person can move from one cell to other if and only if that cell has value less than the value in current cell. (standard bfs problem). (25 marks question).

#### 2nd round (Technical Interview)-

1. Given a binary tree, print its bottom view. She asked me to write the code on paper. <http://www.geeksforgeeks.org/bottom-view-binary-tree/>

2. Given a character array and a dictionary, find the no. of valid sentences that can be made by putting space after any character in this array. A valid sentence is the one whose all the words are present in the dictionary. Write code on paper.

Example-

Input- catsanddog

Output- 2 (cat sand dog & cats and dog)

<http://www.geeksforgeeks.org/dynamic-programming-set-32-word-break-problem/>

3. Given an array of random integer, find the maximum length of subsequence in it such that the elements of subsequence are consecutive.

Example- Input [25,1,26,2,27,3,29,28]

Ans=5 (subsequence 25,26,27,29,28)

I told her a brute force method of  $O(n^2)$  and a  $O(n\log n)$  solution but she was looking for a  $O(n)$  dp solution. This round lasted for about 1 hour.

#### 3rd round (Technical Interview)-

1. Given an array and a frog, there can be a bridge from any index to any index in forward direction and a tunnel from any index to any other index in backward direction. Frog is initially at -1 index. Given an integer  $k$ , frog can hop at most  $k-1$  times. i.e. if  $k=4$  and frog initially is at -1, then it can reach cell 0,1,2 (3 hops at max). A frog on landing on a cell containing a bridge or a tunnel can avoid using that bridge or tunnel and stay there only. Find the minimum no. of steps in which the frog can reach a given destination 'D'.

I converted the whole problem into a graph where each node will have connections to its next  $k-1$  nodes and also connection to a node to which a bridge or tunnel on that node leads (if any bridge or tunnel is there at that node) and then Applied BFS. He then asked me to write code on paper. Complexity- $O(n^k)$

2. Given a linked list having loop, detect the loop and return the starting point of that loop. <http://www.geeksforgeeks.org/detect-and-remove-loop-in-a-linked-list/>

3. He asked me about what is map (general concept of map not language specific as in c++ or java). He then told me to design a data structure using the basic data structures such that searching in that can be done in  $O(1)$  in 95% cases and in 5% cases searching can take more than  $O(1)$  and the element to be searched can be an integer or a string.

I told him to take hash of string in any way (multiplying by prime nos etc.) and then take modulo  $10^6$  as maximum size of array can be  $10^6$ . He then asked me how will I remove collisions occurring due to same hash value. I told him to use chaining with a balanced BST at the collision index in order to achieve minimum complexity ( $O(\log n)$ ). He then asked me that if suppose during 1 year only 100 elements were required to be stored in array and searched in above problem and after 1 year elements become  $10^6$ , then during 1 year a lot of memory will be wasted if I allocate  $10^6$  initially; he asked me how would I do this. I told him that initially allocate memory of array of 100 size and then after 1 year, allocate a new memory of  $10^6$  elements and copy elements from original array to new array. This round lasted for about 1 hour.

#### 4th round (Managerial Round)-

It was a short round of nearly 10-15 minutes. The interviewer asked me to introduce myself. He then asked me why do I want to join Walmart. Why don't I want to pursue higher studies, difference between job and career and what does I want, job or a career? He then asked me what do I want to achieve in the next 5 Years. He then asked a brief description about the project mentioned in my resume.

#### 5th round (HR Round)-

It was also a short round of nearly 5-10 minutes. HR asked me to introduce myself. Asked me about my hobbies. One of my hobbies mentioned was reading newsfeed on quora so she asked whether I was active on quora and what all topics do I follow on quora. She then asked me why do I want to join Walmart, where do I see myself in 2 years. She asked me if I had interest in programming and on what websites do I take part in coding competition. I mentioned codeforces, codechef, hackerrank. She then told me about work at Walmart and asked me whether I would like to work on web development front and back end or back end of logistics.

#### Advice:

Prepare all the data structures from geeksforgeeks, maximum question asked were from geeks only. Think aloud in the interview. The interviewer will help by giving hints whenever you will be stuck at any problem.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Walmart

## Walmart Labs Interview Experience

There was 1 coding round and 4 F2F interviews. This was for Software Developer Position (Note:- It was not for the research division in Walmart Labs)

**Coding Round:-**

There were 2 coding questions given in this round. The platform used is Hacker rank and we have to complete both questions in their office only in 1 hour. Usage of internet is strictly prohibited.

1. Find Maximum sum in an array such that no 2 elements are adjacent. In this, 1 more condition was also there that first and last elements should also not be taken together. This question was modification of

<http://www.geeksforgeeks.org/maximum-sum-such-that-no-two-elements-are-adjacent/>

2. In a cartesian plane, there are N tanks and M objects placed. Tanks can fire in 4 directions (N, S, E, W). Position of tanks and objects are given as input and are fixed. We have to find a way to give directions to N tanks such that they will not hit any object and any other tanks. If a tank can fire in 2 directions, then a direction whose ASCII code is lesser will be given preference. Example:-

Input :-

N=2

M=3

Position of tanks

(0,0)

(1,1)

Position of Objects

(0,2)

(0,-2)

(-2,0)

Direction of N tanks should be :-

(0,0) E -> This tank should fire in east direction

(1,1) E -> This tank can fire in all 4 directions. Since E has least ASCII code in all 4 of them, so E

**Round 1:-**

1. Intersection and Intersection Point in 2 Linked List.
2. Questions on Multithreading in Java. About synchronised block, etc.
3. Why JVM is platform independent.
4. Difference between Java and C++.
5. Write a code for building a heap and explain its time complexity
6. k largest elements in an array
7. Some Questions on String datatype in Java

**Round 2:-**

1. Design a complete Railway Reservation System. Following things are checked in code:-
  - a. Object Oriented Programming
  - b. Design Patterns used(if any)
  - c. Are use cases are optimised or not?
2. Question on LRU cache implementation

**Round 3:-**

1. Design a data structure which provides following APIs:-
  - a. insert element in O(1)
  - b. delete an element in O(1)
  - c. find a random element in O(1)
2. Some questions on Java basics.
3. Some discussion on projects done in current job.
4. Got 1 feedback that my knowledge of Java is not so good. So, if we hire you, then what will be your strategy to improve on your Java skills.

**Round 4:-**

1. Why do you want to join Walmart Labs?
2. What are the biggest challenges faced by me in my current job.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Walmart

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[TopTalent.in] Google, Facebook, Amazon, Walmart & PocketGems, All Fighting For Prasoon Mishra



Meet Prasoon, he was just your average guy who studied at IIIT-Hyderabad but today Prasoon Mishra is one of the most well known names across engineering colleges across India. Last week we got a request from one of our readers that he and his friends want us to Interview Prasoon and today here

we are fulfilling their wish.

This really tells us how much people are waiting in anticipation for his interview. So, we went a step ahead, we not only would like to present his interview but we also have his resume for you to download.

So [click here](#) to download his resume by logging in. Here is the much awaited interview of Prasoon Misra as he shares his thoughts about his interview experience.

**TopTalent: Firstly, how do you feel when so many world class companies are trying to woo you?**

**Prasoon:** I am greatly overwhelmed! I never imagined such a scenario, so I am delighted that so many companies considered me worthy of an offer. It feels good to know that I did things right. And, it's always a treat to see your hard work rewarded.

All these companies are highly reputable and they are very selective in their hiring, but a lot of engineers get hired from across the world. So, its important to keep things in perspective and not get carried away. I can join just one company, so all these offers are equivalent to just one good offer. And hence, at the end of the day, I see it as a good job opportunity.

**TopTalent: Which company are you planning to join and how did you make that decision?**

**Prasoon:** Yes, that was a very tough call. It was extremely confusing. They are all top tech companies, and each had a lot to offer in terms of the role, work and responsibility. Google, given their array of products – it's a crime for an engineer to decline their offer. Walmart & PocketGems have quality work and good growth opportunities. Amazon also offered a very good profile. But, I chose Facebook because I feel that it is a better cultural fit for me at this stage. Even after their IPO, they are trying to preserve their startup culture, and continues to offer a lot of opportunities . That just nicked it in the end!

**TopTalent: Can you give us a brief account of what you felt was the toughest interview?**

**Prasoon:** Its hard to pin-point a single tough interview. Each company had its own style. Facebook & Pocketgems had very intense and focused rounds, revolving around coding/algo and system-design. They were looking for speed and accuracy. At Google, as can be expected, some really tough algo questions came up. I am unsure about the complete correctness of one of my solutions, even now. In another round, I was able to convince the interviewer that his solution had the same flaws as my solution. So, that was a confidence booster. Walmart though, was a bit unexpected. In a design round, my initial solution was built around a string algorithm. But, the interviewer pointed out some counter-cases. So, by relying on his hints and the counter-cases, some probabilistic techniques got incorporated into the system. At the end, the interviewer informed me that my final solution was a model in machine-learning. So, I feel that mathematical aptitude helps in more ways than just algorithm design.

**TopTalent: What kind of skill-set companies are looking for in candidates?**

**Prasoon:** Well, a strong understanding of data structures and algorithms, along with fast-and-accurate coding skills are the primary requirement. And companies pay particular attention to the quality of code -> neat, short & easy to understand.

Moreover, a good aptitude in Computer Science is also desired. The fundamentals of OS, DBMS, distributed systems, design patterns, etc, often get applied indirectly in the design rounds. In this regard, I feel that a basic understanding of common systems like search-engines, spell checkers, trends, etc, helps one greatly.

And, companies inherently dig for creativity. The above mentioned skills are just tools to come up with smart solutions.

**TopTalent: Whats your advice to students who are aiming for similar placement offers as yours?**

**Prasoon:** Do not get burdened by the hype surrounding these jobs. And after that, I think its extremely important to enjoy the subject and the process of preparation. In my opinion, there is an element of luck involved with interviews, and candidates must acknowledge it. Hence, they must not over-pressurize themselves. And, all wise proverbs about success strictly apply.

**TopTalent: What should one keep in mind while preparing a resume?**

**Prasoon:** One must understand that the resume is ones first impression. So, it's important to be precise and accurate in terms of what one wants to convey. A lot of tips are available on the internet, and one can pay heed to them. In terms of the content, I chose to write projects that had good depth, and discard the lighter ones. I feel that this enhances the strength of the resume.

Other than these, one must prepare oneself to have a detailed discussion on everything that is mentioned in the resume.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Amazon  
Facebook  
Google  
Interview Experience  
Walmart

## CouponDunia Interview Experience | Set 5 (For full time Software Engineer)

I applied here from their career page and was asked to attend 5 rounds and I cleared all of them and landed into a full time Software Engineer job

**Round 1:**

It was 5 question screening round which was meant to know about my expectations from the organization.

**Round 2:**

Online Coding round on Hackerrank

3 coding coding questions:

- Run length Encoding of string with slight modification
- Finding buying day and selling day for a given set of days such that the profit of the buyer is maximum .
- Given a set of keywords and a long string, break the long string such that the split words are from the keywords only

Questions were fairly simple but test cases were very nice.

**Round 3:**

1st Interview

The interview went for about 1 hr and was completely technical. The questions asked were:

- Given a binary tree how would you identify whether it is a Binary Search tree or not?

I gave the answer using inorder traversal.

- given a bst, convert it to a binary tree such that each element is replaced by the sum of all the elements greater than it?

- Given an employee table with employee name and salary find the 2nd highest salary.

I gave the vague answer of using inner query then he asked if instead of 2nd its nth highest then what would I do. After sometime I asked for the keyword (which was LIMIT) and then I wrote the query which was almost syntactically correct.

- The answer to the question of binary tree, he asked me if I could solve it without using any space (my previous solution took O(n) space)?

I was writing the solution and in between he said to stop and asked me if I have any question.

#### Round 4:

Java application development

Imagine we have an Email Queue table in our database with each row representing an email that needs sending. Table Name: EmailQueue Columns: id, from\_email\_address, to\_email\_address, subject, body (you can also add columns as you wish, but at minimum it should have these columns). Write a java program that will read from this table and send the emails over an SMTP server (not local unix mail). For the SMTP sending you can use a pre-existing library of your choice, if you wish. Please take into consideration the following:

1. Speed is of the utmost concern. Imagine we have 1 million emails to send. Your code should not sequentially send one email after another.
2. Your solution should scale. In other words, if we determine the fastest we can send emails from a single server is 300 emails/second I should be able to run the same Java program on another server and be able to send another 300 emails/second.
3. Your code should be careful to ensure that it is not possible for the same email to be sent twice (especially when running multiple processes of the program).
4. Don't worry about whether the SMTP server can handle the load. It can.
5. Order emails are sent is not necessarily important. In other words, even though I'm calling this a "queue" it's not important to guarantee that emails are sent in the order they are queued.
6. Comment your code extensively.
7. Once again, speed is the primary concern. So do remember to think about what the slow points in the email sending process could be and take efforts to minimize those pain points.
8. Send me instructions on how to compile/run/test your code along with the code itself. Also the sql statements for me to create the table that you are working with and the sql statements to insert a few test emails.

#### Round 5:

Final interview

It was of about 1 hr on soft and technical skills. Questions asked include:

- Tell be about yourself?

- given an array. find the pattern it follows? there can be 4 patterns only: increasing, decreasing, increase then decrease and decrease then increase.

- Given an array of distinct positive numbers find the maximum sum of elements such that no 2 elements occurring in the maximum sum set is adjacent to each other.

I gave an incorrect answer and then I realised it, so I asked to rectify and she allowed me to do so.

- How can you improve suggestions of coupons to the users?

This discussion went for about 20 mins.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
CouponDunia

## CouponDunia Interview Experience | Set 4 (Off-Campus for Internship)

I applied of off campus for the internship. Selection consist of five rounds. I cleared all the rounds.

Round 1:

(Online Coding Test on Hacker Rank)

This round consist of 3 question out of which two was easy and one was medium

Q1. Run length Encoding of string with slight modification

Q2. It was easy question dint remember

Q3. A DP question variation of word break problem

I did all the 3 questions and get call for the telephonic interview.

Round 2:(Telephonic with real time coding with code pair)

Q1. <http://www.geeksforgeeks.org/root-to-leaf-path-sum-equal-to-a-given-number/>

Q2. <http://www.geeksforgeeks.org/root-to-leaf-path-sum-equal-to-a-given-number/>

Q3 sql query to find 2nd highest salary and 6th highest salary

Q4 6 pirate problem

Round 3:(Skype round)

Q1. given two string check if one is sub string of another or not

Q2. given two string check if one is rotation of another or not.

Q3. Alternate level order traversal of a binary tree.

Q4. Heaps and its full code

Q5. Given a file with millions of string sort them

Q6. Given a linked list with millions of node a node will contain character from a to z . Sort them.

Q7. There are 127 player in a knock out tournament how many min no of matches to be played to find out winner.

Q8. DBMS indexing ,left join , outer join etc.

Some concepts of OS. etc

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## GATE CS Corner Company Wise Coding Practice

Internship  
Interview Experiences  
CouponDunia

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## CouponDunia Interview Experience | Set 3 (For Android Developer)

These are questions asked for Coupondunia Android Developer Interview

Primarily an email to get to estimate you.

Then a task is given for you to solve.

Then comes the technical Interview through skype.

What changes to Android app you would like to make incase you become a developer there.

What do you know about a service why kind of background work can be done in them.Why not an AsyncTask

Differences between a Service and activity

When do you use a Location Service

Questions related to my projects.

When is a getView in a ListAdapter called

Suggestions are Become thorough with all the Lifecycles of elements.

Best Implementations used for reducing runtime and memory.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
CouponDunia

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## CouponDunia Interview Experience | Set 2 (Fresher)

Since there is only one interview experience of CouponDunia i think this gonna help students who will opt for it.

You must be good enough in writing the codes at the moment because in each interview they made us write full functions.

Interview process had 3 rounds. 1 coding round of 90 min. with 3 questions. And then two skype interviews.

Round 1:

Q1. fishes of different length are given. you have to find out how many fishes can she get of length 10 by making cuts on fish, where number of cuts are limited? ex. 20 30 15(lengths) and number of cuts=3

Ans. : 5 (20—2(one cut of 10 10) and 30—(2 cuts of 10 10 10))

Q2. minimum jump to reach the destination problem.

round 2:

Q1. tell me about yourself?

Q2. given a string, find the length of longest string where no character repeats twice?

Q3. There is a dictionary with few words each of length 3 and start and finish word is given. You can reach from one word to another word by changing only one digit. Like from cat, you can reach to hat or bat or cap. What is the minimum number of steps should be taken to reach finish word from start word.

Q4. given an array. find the pattern it follows?

there can be 4 patterns only: increasing, decreasing, increase then decrease and decrease then increase.

round 3:

Q1. tell me about yourself?

Q2. print the bottom view of the tree?

Q3. given a bst, convert it to a binary tree such that each element is replaced by the sum of all the elements greater than it+ its own sum?

Q4. add two numbers without using arithmetic operators?

Q5. quicksort takes O(n<sup>2</sup>) when elements are sorted what is the solution to reduce it to O(nlogn)?

the interview was quite easy. GUYS I WOULD LIKE TO FOCUS THAT PREPARE "tell me about yourself" VERY WELL. Tell them about why u r so excited about joining there company, whether they ask you or not.

## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
CouponDunia

### CouponDunia Interview Experience

I recently got an offer from CouponDunia, here is my interview experience:

There were four rounds.

#### Round 1: Coding Test on HackerRank.

Three question in 90 minutes.

#### Round 2: Telephonic Interview

1. Let's say that you have 25 horses, and you want to pick the fastest 3 horses out of those 25. In each race, only 5 horses can run at the same time because there are only 5 tracks. What is the minimum number of races required to find the 3 fastest horses without using a stopwatch? (<http://www.programmerinterview.com/index.php/puzzles/25-horses-3-fastest-5-races-puzzle>)
2. Implement queue with the help of two stacks.
3. Given a table "student" of with columns Name and Marks. You have to write a SQL query to get the 2nd highest marks from the table. Also write a query to find the nth highest marks, where n can be any number.
4. What is left join. Give example.
5. What is magic functions and autoloading in PHP?
6. What is SQL injection?
7. Given three arrays sorted in non-decreasing order, print all common elements in these arrays.  
Examples:  
ar1[] = {1, 5, 10, 20, 40, 80}  
ar2[] = {6, 7, 20, 80, 100}  
ar3[] = {3, 4, 15, 20, 30, 70, 80, 120}  
Output: 20, 80  
ar1[] = {1, 5, 5}  
ar2[] = {3, 4, 5, 5, 10}  
ar3[] = {5, 5, 10, 20}  
Output: 5, 5
8. Difference between program, process and threads.
9. How will you display the most popular coupons on the CouponDunia website? What approach will you follow?

#### Round 3: Assignment(Java project)

Imagine we have an Email Queue table in our database with each row representing an email that needs sending. Table Name: EmailQueue Columns: id, from\_email\_address, to\_email\_address, subject, body (you can also add columns as you wish, but at minimum it should have these columns). Write a java program that will read from this table and send the emails over an SMTP server (not local unix mail). For the SMTP sending you can use a pre-existing library of your choice, if you wish. Please take into consideration the following:

1. Speed is of the utmost concern. Imagine we have 1 million emails to send. Your code should not sequentially send one email after another.
2. Your solution should scale. In other words, if we determine the fastest we can send emails from a single server is 300 emails/second I should be able to run the same Java program on another server and be able to send another 300 emails/second.
3. Your code should be careful to ensure that it is not possible for the same email to be sent twice (especially when running multiple processes of the program).
4. Don't worry about whether the SMTP server can handle the load. It can.
5. Order emails are sent is not necessarily important. In other words, even though I'm calling this a "queue" it's not important to guarantee that emails are sent in the order they are queued.
6. Comment your code extensively.
7. Once again, speed is the primary concern. So do remember to think about what the slow points in the email sending process could be and take efforts to minimize those pain points.
8. Send me instructions on how to compile/run/test your code along with the code itself. Also the sql statements for me to create the table that you are working with and the sql statements to insert a few test emails.

#### Round 4: Skype Interview

1. Tell me about yourself.
2. About my projects (in detail).
3. What is AJAX? Explain the working of AJAX in detail.
4. Given an array, print the Next Greater Element (NGE) for every element. If it doesn't exceed then print -1. They asked me to write full code.
5. There is a dictionary with few words each of length 3 and start and finish word is given. You can reach from one word to another word by changing only one digit. Like from cat, you can reach to hat or bat or cap. What is the minimum number of steps should be taken to reach finish word from start word.
6. There is a hotel with 100 rooms in it and some check in and check outs of different guests are given. You do not want to use all the rooms. So you have to make the arrangement in minimum number of rooms. What is that minimum number?
7. Explain Auto Complete system (like Google search suggestion). You have a database table and a search box. As you type in the search box, it should show the suggestions from that database table. How will you do that? Explain in detail.

## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
CouponDuna

# BankBazaar.com Interview Experience | Set 6

### 1st Round(Hackerrank Test)

- Count elements in an array whose count > 1
- ZeroOne problem SPOJ

Only first round is contributed by author. For more rounds, refer previous interview experiences.

[BankBazaar.com Interview Experience | Set 5](#)

[BankBazaar.com Interview Experience | Set 4](#)

[BankBazaar Interview Experience | Set 3](#)

[BankBazaar Interview Experience | Set 2](#)

[Interview Experience @ Bankbazaar.com](#)

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Bankbazaar.com

# BankBazaar.com Interview Experience | Set 5

### Round 1: Online Coding Test

1. There are n ticket sellers, each of whom has a certain amount of tickets. The price of each ticket is the number of tickets that ticket-seller has. The number of tickets they want to sell is k. Find the maximum amount that they can earn by selling k tickets. (The PriorityQueue based greedy solution does not pass all test cases, so think of a linear-time one).
2. There was a second question on binary strings that I can't recall now.

### Round 2

1. Given a stream of words, [print all possible dictionary anagrams of each word](#). Assume you have a dictionary which tells you if a word is valid or not. (You don't have to worry about its implementation)
2. [Towers of Hanoi](#)

### Round 3

Phone screening with AVP who is based out of Chennai. Lengthy discussion on why I'm leaving my current company, the exact work I did, bugs I was faced with and solved, described in detail my latest project, why BankBazaar?

1. Given a string, find out if it is composed of a repeating pattern. For example, String s = "xyzxyzxyz" is xyz \* 3 (so the function returns true), and for "abcabcd" it returns false  
(Solution is at <http://www.geeksforgeeks.org/find-given-string-can-represented-substring-iterating-substring-n-times/>)

### Round 4

1. Given an m x n matrix filled with integer values, find the sub-matrix with the largest sum
2. Write two APIs hasPath(A,B) and buildPath(A,B), where A and B represent two locations. Discussion on which implementation (adjacency list vs matrix) is suitable for what kind (dense, sparse) of graphs, time complexities for all common operations for each, and common test cases/possible bugs

### Round 5 : Round with HR.

A very long discussion about what BankBazaar does, some history about the company, why BankBazaar, personal interests and hobbies, etc.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Bankbazaar.com

# BankBazaar.com Interview Experience | Set 4

Telephonic Interview

- Brief introduction, project you are working currently and reason for change, feedback in last review cycle and how are you working on shortcomings
- Technical questions
  - n distinct values, how many BSTs are possible
  - Inorder traversal of BST is given in an array. Find relative pairs which are violating the BST constraints. variation of <http://www.geeksforgeeks.org/counting-inversions/>
  - Print all possible pairs of balanced parenthesis if n is given as input <http://www.geeksforgeeks.org/print-all-combinations-of-balanced-parentheses/>

#### F2F Bangalore Office [Lead architect]

- Brief introduction, reason for change
- In depth discussion on team and project architecture in current company – Probing questions on internal details, what would you do better etc
- You have been given million words. Input is string, find all anagrams in the list. <http://www.careercup.com/question?id=3088>

#### F2F Round2 [Project Manager]

- Brief introduction and why you want to join Bankbazaar.com
- Design Spell checker service – discussion on data structures, storage, APIs etc. Optimizations for the same.
- Design a parking lot system – Model all classes, attributes, composition, relationships etc. questions around displaying number of vacant parking slot – each level/all levels, if new vehicle comes where would you park etc.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Bankbazaar.com

### BankBazaar Interview Experience | Set 3

Round 1

An online test on java/ajax & struts

Round 2

- 1) How would you implement snakes and ladder game?(Hint: Use arrayList)
- 2) How would you come to know if a number is a power of 2? Code.
- 3) Given an arrayList, get the number which is lonely or does not have any duplicates. What is the time complexity here.
- 4) How will you implement a functionality where updating the DB updates the value on the UI without entire page refresh

Round 3

1) Consider a square matrix with elements 0s & 1s in it. The rows are sorted while columns are not. Calculate the row with the maximum sum. (Hint : you don't need to iterate through all the rows & columns to get the answer)

2) Consider an array:

[1,2,5,6,5,2]

Get the index of the element which is :

at-least repeated once & has the lowest index.

Output for the above given array is : 2

Explanation : Since both 2 & 5 are repeated elements but since the index of 2 is less than that of 5, hence the answer is 2.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Bankbazaar.com

### BankBazaar Interview Experience | Set 2

I had an interview with BankBazaar.com. Their process is online coding test followed by a telephonic and f2f interviews.

#### Written test

The person who wrote this problem is going through the bad phase of his life. But, fortunately he won some cash in his last programming event.

Now to make his girlfriend feel special, he wants to buy her some chocolates. As mentioned, he is not having good time so he want to spend as less as possible.

Keeping that in mind, he decided to play a game with her. The rule of game is as follows:

- 1) There are N chocolates represented by type 1..N
- 2) He will arrange them in a row in some random order
- 3) Now she (his girlfriend ofcourse) has to pick an index say i, then she will get all the chocolates at index j such that j>i and type of chocolate at j is strictly less than type of chocolate at index i.

He believes that his girlfriend is not that clever and will surely not choose the most optimal index, but he wants to know that if by any chance she picked the optimal index then how many chocolates will he have to buy.

Input:

First line contain N. then next line contain N space separated integers.

Output :

A single integer which is the answer.

Constraints :

$1 \leq N \leq 105$

1Round-1 Telephonic

Given a binary tree find the pairs which violate the BST property.

In BST EVERY element in left subtree must be less than every element in the right subtree

eg:  
      50  
      30   60  
    20  25 10  40

In above tree the pairs violating BST property are (20, 10), (30, 25), (30, 10) , (25, 10), (50, 10) and (60, 40).

Expected time complexity for the problem is  $O(n\log n)$  time ?

solution: Make in-order traversal. Store the in-order traversal in an array. Find the pairs which violate the property

I have not cleared this round so no f2f interview questions.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Bankbazaar.com

### Interview Experience @ Bankbazaar.com

Just want to share my interview experience @ Bankbazaar.com so that it's helpful for the aspiring ones.

Total Rounds – 6 ( 2 Telephonic Technical + 2 Technical Onsite + 1 with CIO + 1 HR )

Duration : Spanned for 2 weeks ( due to personal commitments )

#### Round 1 :

Q1 – Give an efficient algo to find if every node's value is equal to sum of left + right node.

My Ans – Kinda Postorder traversal

Q2 – Give an appropriate DS to retrieve minimum from set of values

My Ans – Min-Heap & something else (don't remember)

Q3 – Best DS to store and manipulate huge numbers

My Ans – Linked List

#### Round 2 :

Q1 – Given a million strings , for the input string get count of anagrams of input string among the million .  $O(1)$  solution needed

My Ans – Modified Trie + Back Pointer

Q2 – Efficient Algo to find second shortest path in a graph given edges part of the shortest path

My Ans – Got to do with removing edge by edge from Shortest , find best second shortest so far .

#### Round 3 : This went badly

Q1 – Efficient Algo for Tower of Hanoi , Trace working , Time complexity derivation

As a build up to this, given more than 1 auxiliary rod how would u change the algo for better performance and drive/prove it

My Ans – Use DP to derive the new Time Complexity

#### Round 4 :

Q1 – Efficient working code to traverse tree level by level and print odd levels left to right , even right to left .

My Ans – Simple level traversal use 2 stacks.

Q2 – Given a sorted rotated array , efficient code to find element .

My Ans – Simple Binary Search + special conditions

#### Round 5 + 6 : Traditional HR questions , Why Bankbazaar ? etc. usual ones

Among all the questions I got everything right except the Tower of Hanoi (got stuck).

**GeeksForGeeks thanks a lot !** for your question set helped me a lot, infact some of them are straight away the same.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Bankbazaar.com

### OLA Interview Experience | Set 10 ( For DS )

1.

- About my DS related work.
- Why change?

- IsBST()
- Kadane algo with start and end indices.

2.

- What is SVM?
- Given a hard disk with unencrypted data. What can u tell about the hard disk's data(use LDA)?
- Is LDA supervised or unsupervised?
- How many ways are there to do unsupervised learning(K-means, auto encoders , etc.)
- How decision trees works?
- How u execute in any new area in a timely manner.(like spark quickstart)

3.

- How to handle LDA with uncertainties(we can use probabilities)
- How to handle tail queries(we actually need not to handle because we have limited human resources and servers)
- Design features for the OLA app in order to match supply and demand optimally to optimise OLA's revenue.  
(think about user segmentation based on which car he takes even if other cars are available, festivals, regular user vs. occasional user, etc.. We will be predicting revenue and giving the best car to the user who is giving best revenue)
- Why do u want to change?

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## GATE CS Corner Company Wise Coding Practice

Experienced  
Interview Experiences  
OLA Cabs

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# OLA Interview Experience | Set 9 (For SDE-1)

1. Written

- Find unions of all intervals(startime, endtime)
- Design cricket score dashboard (which can give match result, tournament result and player stats)

2.

- how to sort a very large file in a single node
- Design pastebin(very large through, scalable and distributed)

3.

- reverse a sentence with words.
- design rubik's cube and its operation (all rotations and checking final state)

4.

- how will u much couchbase in ur unit test cases.
- design a mr job to sort a very large dataset

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
OLA Cabs

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# OLA Interview Experience | Set 8 (For SDE-2)

### Design Round:

1. Design LRU cache and implement
2. Solving sudoko
3. Design to replace the existing Support tab navigation based to search based in OLA app.

### Machine round:

Design and implement a sender and receiver system where there can be multiple senders and receivers subscribed to Topics. Each event generated at sender should be received by all receivers subscribed to that topic. Bonus if you can implement group mechanism at receiver side where event is received by one of the receiver in group and received by all groups subscribed to that Topic.

(like kafka)

**Managerial Round:**

1. In Depth discussion on projects worked on, flow of entire system of my component. Be confident as u r the boss of ur work.
2. Briefed about the job role and team.
3. Few personal questions like hobbies

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
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### OLA Interview Experience | Set 7 (For SDE-1)

I was recently interviewed by OLA, I could not make it after the last round. All rounds I had were telephonic, in the last round i was asked to code on collabedit.

**Round 1 (around 35 min):**

1. Given a matrix containing 0's and 1's. Find all the rows which are having 1's at same position.  
Give all sets satisfying this.
2. In a stock market given are price of shares spread over a week. On what day should I buy and what day should i sell to get maximum profit.  
<http://www.geeksforgeeks.org/maximum-difference-between-two-elements/>
3. Being a computer engineer why did I not opt for system side programming than web domain. (I had expr in web domain)
4. I had expr in web domain so he asked : What is difference between web browser request and ajax call request.  
— It is simple , by ajax call partial web page can be loaded.
5. Have you worked on ruby on rails?

**Round 2 :**

1. Given a matrix containing numbers. Find the 0's and make all the rows and columns corresponding to that index as 0.
2. Design a structure for a File Uploader service (eg. Dropbox , google drive) . It is a service where multiple person can upload data at same time and it also lists the top five uploaders (who uploaded maximum number of files).
3. Puzzle : There is a employer and a worker ,employer has gold bar of 7 units and he has to give 1unit each on a day for 7 days.  
Employer has a magical knife which doen't works once it performs two cuts(1 cut divides bar into two parts) on bar.  
How will you cut so that 1 unit on each day can be given to worker.
4. Print left view of binary tree.

**Round 3 :**

1. He discussed about what things they work on Ola. How these things are implemented. Like he mentioned of bar code a product has and catlaog kind of thing.
2. I had to explain what project I am working on currently, what is the team size.
3. a)Since I had worked on Sql and databases, so he asked me what data structure will i use to implemet a database.  
—I gave hashmap as a soln (key is our primary key and other fields we can store in object which will be value for hashmap)  
b)Now, If in case you want to find all names starting with particular word (eg. ram....).How will you do that.  
— gave trie structure as soln.
- c)Now you need to find students whose marks are between a range i.e. between two numbers. How will you do, what data structure will you take in this case.  
— a simple soln was that, take binary search tree and do inorder traversal of that (I coulnd't answer this, not clicked me)
4. Do you want to ask anything.

**Round 4 :**

1. Server receives a ping every 30 secs. The ping is load avg on the machine at that time. Find 90% percentile of the load average on the machine at any time instant.
2. Find missing number in an AP.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
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### OLA Interview Experience | Set 6 (For SDE-1)

Last month i was interviewed by Ola for SDE 1 post. Here is my experience.

**Round 1**

- a. Inorder predecessor and successor for a given key in BST –  
<http://www.geeksforgeeks.org/inorder-predecessor-successor-given-key-bst/>
- b. String matching where one string contains wildcard characters  
<http://www.geeksforgeeks.org/wildcard-character-matching/>

**Round 2**

- a. A Boolean Matrix Question  
<http://www.geeksforgeeks.org/a-boolean-matrix-question/>
- b. Print Left View of a Binary Tree  
<http://www.geeksforgeeks.org/print-left-view-binary-tree/>

c. Find the number of islands

<http://www.geeksforgeeks.org/find-number-of-islands/>

#### Round 3

a. Detailed discussion of my project, complete architecture, how can it be made better. He was listening carefully and was pointing out issues.

b. LRU design – i. Least recently used, and

ii. Max frequency

#### Round 4 (Senior Director)

Just normal discussion and he will basically check how involved are you in your job. Just be confident about what you have done.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
OLA Cabs

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## OLA Cabs Interview Experience | Set 5 (For SDE ||)

Design the entire bowling alley system. One bowling game will be played by multiple players on a single lane.

During the game, players and their scores will be maintained and shown by the system and winner will be declared at the end of the game.

Likewise multiple games can be played in parallel on multiple free lanes.

Some rules about bowling:

A game consists of ten sets

In each set, the player has two opportunities to knock down ten pins.

The score for a set is the total number of pins knocked down, plus bonuses for strikes and spares.

A spare is when the player knocks down all ten pins in two tries. If there is a spare, the player gets 5 bonus points.

A strike is when the player knocks down all ten pins on his/her first try. If there is a strike, the player gets 10 bonus points.

In the final set, a player who rolls a spare or a strike is allowed to roll the extra balls to complete the set. However, only a maximum of three balls can be rolled in the final set.

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Interview Experiences  
OLA Cabs

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## OLA Cabs Interview Experience | Set 4 (For SDE 2)

I was recently interviewed for SDE 2 position at OlaCabs.

#### Round 1 (around 1 hour)

Design and implement a logging library. Preferred language was Java.

- There can be multiple appenders – like file, network, db etc. Should be easy to add appenders.
- Library should be easily configurable.
- Message format should be configurable.
- Logger should not add additional overhead.
- Must log to all appenders simultaneously.

#### Round 2 (around 1 hour)

Discussion on the design and the code you have written in round 1.

Was asked questions like concurrency handling etc.

#### Round 3 (1 hour)

- Application monitoring – how will you handle data coming from various applications?
- Ola operates within city limits (a fixed area). How to determine if a user is inside that area and then show him available cabs. (Simpler problem is how to determine whether a point is inside a polygon or not).
- Given an array containing 0,1,2. Sort them maintaining the order in which they were in the original array.

#### Round 4 (Managerial Round – 45 mins)

Basic questions like – your strengths, weaknesses, best moment, worst moment, why want to change, why ola?

Overall it was a good experience.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
OLA Cabs

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# OLA Cabs Interview Experience | Set 3

I attended interview for Ola high availability team. Below are the questions.

1) Find k distant nodes in given tree. The paths going through parent should also be printed.

2) Find the first non repeating character in given string.

3) Give design for leader board implementation. 1000 customers with maximum points should be displayed on the leader dashboard. UI should handle real time changes. A customer's points are updated after each ride/order.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
OLA Cabs

# OLA Cabs Interview Experience | Set 2 (For Android – 1.5 Years)

## First Round

Written Test

1) Implement Stack Operations. Also maintain count of Largest Integer present in Stack at any given point of Time.

2) Implement Minesweeper Game.

3) Design an Android application to emulate Countdown ... Take Input from the User and start counting down from entered value till Zero with Updating App UI at every count..Show Countdown end message when reached at Zero

### 1st Round.

Lots of Java basics

Android Activity lifecycles and detailed discussions about it

Services and Fragments Lifecycle .

Difference methods of Creating Threads

One fragment Related Coding problem where UI of Fragment B has to be update from fragment A.

How Garbage Collector Works in Android.

Questions on Dalvik Virtual Machine.

Different types of BroadCasts and Broadcast Receivers

### 2nd Round

DS Questions

Find Total number of leaf Nodes in B-tree

Clone Linklist with random pointers.

Find Missing number in AP.

Print Left View of B-Tree.

Some Java Questions based Exceptions

### 3rd Round

Current Project Discussion.

Few questions related to that.

Questions on Telephony Class and Geofencing.

Problem related to Reverse geocoding.

Persistent Storage types in Android.

Discussion on Content Providers and Shared Preferences.

Coding on Content providers

Given a rotated array 'K' times (K unknown), find a number in most efficient way.

Scheduling algorithms in OS. (Implement LRU using choice of your language)

BFS traversal of B Tree.

Key is to Stay ultra confident ,smile and try solving each problem with whatever way you know.

Good Luck.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
OLA Cabs

# OLA Cabs Interview Experience (Bangalore)

I attended the interview for OLA Cabs in Bangalore for SDE position recently. Here is my interview experience.

## Round 1

Written Coding Test (1 hour)

We were asked to design a Bowling game and write code for it with proper OOPS concepts . The problem statement was not difficult . Main focus was to check coding

skills and writing good quality code pertaining to OOPs concept .

#### **Round 2 (45 mins)**

Tell me about yourself . Discussion about project

Coding test discussion with Interviewer

#### **Round 3 (1 hour 15 mins)**

Tell me about yourself . Discussion about project

A lot of technical questions .

Mirror Tree (Full code).

some questions on Arrays.

Suppose there is a parking lot with 3 entrances . U need to find the best parking space for a particular vehicle to park when entered from any entrance .

Initially used Hashmap to solve it .

Then came up with Heap solution with hints eventually.

U can refer this Question

<http://www.geeksforgeeks.org/a-data-structure-question/>

Asked me great deal about Hashmap and its internal working and Hashing when I talked about Hashmap.

Implementation of Heap and its complexity (just the explanation not full code)

Asked about my preferred language . I said Java , so lot of basic Java questions followed along with classes , interfaces design.

Why do you want to join StartUp ?

#### **Round 4 (45 mins)**

Hiring manager

Why do u want to leave current org. ?

Why do you want to join StartUp ?

Current project details .

Should be thorough with the projects u have done.

Module diagram with complete explanation for one of the project .

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
OLA Cabs

## **Grofers Interview Experience | Set 5 (On-Campus)**

Grofers On Campus Interview Experience :

#### **Round 1 : (Online test) Section-wise time**

Online test was amcat which consisted of quant,verbal,LR etc. and 2 coding q's. (Sectional wise cut offs were present).

Q. Rat and maze problem (not backtracking ,rat can move just right and down).

Q. Implementation of quick sort (In built sort doesn't work).

#### **Round 2 : (F2F) 30min.**

Q. 26 identical coins in weight and 1 different coin (lighter or heavier than those 26) .Have to find out those one different coin in min number of comparisons.Also if it is lighter or heavier.

Q. Given a pile of coins and 2 players can remove either 1,2,...,5 from the pile in his chance.Player to pick last coin loses the game.What would your strategy be?

#### **Round 3: (F2F)**

Discussion on Resume and Projects.

Q. Derive merge sort complexity.

Q. Quick sort vs Merge sort. Pivot choices in Quick sort? Asked how to find the median when i told about pivot as median.

- Told about quickselect method.

Q. Different methods to obtain fibonacci series , Space complexity of fibonacci recursion.

Q. Implement Min in stack in O(1).

Q. Indexing in database. Different methods of indexing . When to use method1 ?,when method 2 ? etc..

#### **Round 4 : (HR)**

Routine HR round.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Grofers

## **Grofers Interview Experience | Set 4 (On-Campus)**

This was an on-campus recruitment process.There were 4 rounds.

**Round:1**

This was the CV shortlisting round. They didn't disclose the shortlisting criteria. For full time hiring 30 CV were selected. My CV was also selected.

#### Round:2

This was a puzzle round conducted on paper. We were given 4 puzzles and had to solve them in 15-15-15-5 minutes.

All the puzzles were standard puzzles and they are listed as follows.

a) A man walks on the edge of a regular pentagon. At any point he decides to move away from the pentagon at any angle. After walking a certain distance he turns back and points himself to the center of the pentagon. What is the probability he would be able to see three edges of the pentagon? (he is allowed to move in the plane of pentagon)

b) 5 pirates and 100 gold coins - <http://www.mathsisfun.com/puzzles/5-pirates-solution.html>

c) 100 prisoners and red/blue hats - <http://geeksquiz.com/puzzle-13-100-prisoners-with-redblack-hats/>

d) Make 4 equilateral triangles with 6 match sticks. - <http://www.careercup.com/question?id=11205749>

I was able to do all of them and got selected for next round.

#### Round:3 This was technical round

a) In 27 coins one coin is counterfeit what is the minimum number of waitings to find out the counterfeit coin (we don't know whether the counterfeit coin is light or heavy than normal coins).

I solved it.

b) Tell me about B+ tree?

I wasn't able to answer this question.

c) Being a student of Electronics engineering i was asked why do i want to change my stream from ECE to CS?

My interests mainly lie in computer engineering and have studied data structures and algorithms moreover the scope of computer science is more as compared to ECE.

This was the time the interviewer turned rude. This was the worst interview experience i have ever faced. I don't know what happened but He was offensive and wasn't speaking professionally. I told him whatever i could but he wasn't ready to listen. I told him to ask more questions and give me opportunity to prove my worth but he said the interview is over.

I wasn't selected.

They were hiring for software profile and their was no coding round instead their was a puzzle round.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Grofers

## Grofers Interview Experience | Set 3 (On-Campus for SDE)

Initial round was CV shortlisting. They didn't declare any criteria. Just selected 50 random CV's I guess. I guess i was lucky to get through this round. The second round was puzzle round. They made us solve 4 puzzles on paper.

1. A man walks on the edge of a regular pentagon. At any point he decides to move away from the pentagon at any angle. After walking a certain distance he turns back and points himself to the center of the pentagon. What is the probability he would be able to see three edges of the pentagon?

2. 5 pirates and 100 gold coins

3. 100 prisoners with red/blue hats

4. Make 4 equilateral triangles with 6 match sticks.

I solved all the four puzzles correctly. Didn't make it through this round.

Shortlisting criteria – Confidential

WORST EXPERIENCE so far.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Grofers

## Grofers Interview Experience | Set 2 (On-Campus)

Grofers came to our campus for software engineer profile full time hires. only CS and IT branches were eligible. There was 1 online round and 2 PI rounds.

#### Round 1 (MCQ)

There was an online round of 2 hours which consisted of 25 English aptitude questions and 20 numerical reasoning questions and 25 technical MCQs and two coding questions which were :-

1. Given a matrix , print the no. of rows and columns of the matrix.
2. Given a string and find the reverse of the string without using any library functions.

Around 10 students were shortlisted for the next round.

#### 1st PI

1. Basics of OOPS like inheritance, polymorphism, overloading etc.
2. Implement a stack using 2 queues
3. how would u check if a given tree is BST or not?
4. what is heap
5. Algorithm for insertion sort and quick sort.
6. How to find a cycle in a linked list

around 7 students were shortlisted for the 2nd PI

#### 2nd PI

1. The horse puzzle and the ring puzzle.
2. why do u want to join Grofers
3. what do u know about grofers
4. find the sum of digits of a number
5. how would u find the intersection point of 2 linked list
6. Given a string , delete the occurrences of a given character in the string.

Thanks GeeksforGeeks!!

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Grofers

## Grofers Interview Experience For SDE

### Round 1 : (Online round : 2:30 hours)

Five sections : Logical, Aptitude, Verbal, Technical and 2 coding questions.

#### Tech 1

1. [https://en.wikipedia.org/wiki/Bridge\\_and\\_torch\\_problem](https://en.wikipedia.org/wiki/Bridge_and_torch_problem).
2. One very easy dp problem only memoization was required.
3. OOPs basics , inheritance , base and derive class pointers .
4. Run time polymorphism with an example
5. <http://www.geeksforgeeks.org/array-rotation/>
6. <http://www.geeksforgeeks.org/write-a-c-function-to-detect-loop-in-a-linked-list/>
7. Schema was given, I had to design a class diagram or ER diagram then had to perform queries accordingly.
8. Asked me about all the joins in sql.

#### HR(45 minutes)

1. Proper HR questions.
2. Asked me about my Summer Intern project
3. <http://puzzles.nigelcoldwell.co.uk/thirtynine.htm>

#### Tech 2(45 minutes)

1. Asked me about my summer intern project and technologies that I have worked on.
2. Find a sum of a binary tree recursively as well as iteratively
3. Find a node that has maximum sum with the root to its subtree such that there can be -ve node value also possible.
4. Asked me geeksforgeeks questions of trees like above questions and I just said I have already seen these problems.
5. Asked him about Grofers and CTC very deeply ☺

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Grofers

## Endurance International Group Interview Experience (on-campus)

Endurance International Group came to our campus for full-time hires.

Positions: Software Engineer and Operations Engineer

It was open to all the branches. Approximately, 450 people sat for the interview process.

There were 1 MCQ round, 1 coding round followed by 3 PI rounds.

#### Round 1 (MCQ):

Time: 45 minutes

Questions: 45 multiple choice questions

Format: we had to write down our answers on a piece of paper and then upload the answers on their website designed for the test.

The questions were from OS, DBMS, Networking, DS and algorithms, C/C++. The questions tested basic concepts

of Computer Science and were not too difficult.

Approximately 100 people made it to the 2nd round.

**Round 2 (Coding round):**

Time: 2.5 hours

Questions: 5

We could use our own laptop using any IDE of our choice. No internet access was provided.

We had to build a simple text processing tool using a language of our choice (C, C++, Java, Python Ruby, PHP,etc). Documentations were provided for each one of the languages mentioned.

The questions were like this:

Given a file contacts.txt:

```
Amit,Shah,+9800123456
Pramit,Singh,+9801345678
Shalini,Shah,+9801341876
```

Solve the following questions:

1. If "program\_name input\_file column\_no" is executed, print the column from to the input file.

For example, ./awkward contacts.txt 1

The output will be:

```
Amit
Pramit
Shalini
```

2. If "program\_name input\_file column\_no pattern" is executed, print the strings from the given column only if the pattern is contained in them.

For example, ./awkward contacts.txt 1 mi

The output will be:

```
Amit
Pramit
```

3. If "program\_name input\_file column\_no ^pattern" or "program\_name input\_file column\_name pattern\$" is executed, print the strings from the given column only if:

- a) the strings starts with the given pattern (if ^pattern is provided)
- b) the strings end with the given pattern (if pattern\$ is provided)

For example, ./awkward contacts.txt 1 ^Am

The output will be:

```
Amit
```

4. Now, instead of input\_file parameter, a directory name will be given. The program should process all the files contained in the directory as done in problem 1 to 3.

we have a directory "test" and 2 files "contacts.txt" , "newcontacts.txt" inside it.

test/contacts.txt:

```
Amit,Shah,+9800123456
Pramit,Singh,+9801345678
Shalini,Shah,+9801341876
```

test/newcontacts.txt:

```
John,Doe,+9800123456
Aman,Verma,+9801345678
Shalu,Singh,+9801341876
```

./awkward test 1 ^Sh

Output:

test/contacts.txt

=====

```
Shalini
```

test/newcontacts.txt

=====

```
Shalu
```

5. Now, do 1-4 for all the files in the subdirectories given directory name as a parameter. If no matches were found in any given file, make sure not to print anything corresponding to that file.

test

```
subdir1
 a.txt
 b.txt
```

```
subdir2
c.txt
d.txt

command: ./awkward test column_name ^pattern

and pattern matched the files test/subdir1/a.txt and test/subdir2/b.txt
```

output:

```
test/subdir1/a.txt
=====
```

```
some_string1
some_string2
```

```
test/subdir2/b.txt
=====
```

```
some_string1
some_string2
```

Approximately 15 people made it to the PI.

Questions were asked mainly from OS, DBMS and Networking. Questions were also asked on Projects and Internships which I have mentioned in my resume. A lot of questions were asked. I'll try to add as many as I can remember.

#### **Round 3 (PI):**

- . I was asked what I liked about Computer Science.
- . State the entire Boot process of Linux OS.
- . What is a kernel? State all the functions of the kernel. What is the difference between OS and Kernel?
- . What are different kinds of HTTP requests? What is the difference between PUT and POST?
- . How does email work? Mention the entire process of sending and receiving an email.
- . What is SMTP?
- . What are TCP/IP and UDP? what are the differences between them?
- . What are IMAP and POP3? What are the differences between them? Mention a sequence when using POP3 protocol would be useful.
- . What are ARP and RARP protocols?
- . Describe the OSI layers.
- . What is IP address? What is a MAC address? How do they differ?
- . What is the difference between router and switch?
- . Why is a MAC address necessary?
- . What is DNS? What kind of protocol is used to make a request to the DNS server?
- . What kind of protocols are used in Instant Messaging Applications? Why?
- . I had mentioned 3 projects in my resume. I was asked to explain the projects in the order of my preference. He asked me questions on topics related to the project. We had a detailed discussion about the projects and my role in each of these projects.
- . What is Normalization? Normalize a given table.
- . What is indexing in DBMS?
- . What is DDL and DML?
- . What is git? Difference between git fork and git merge.
- . I was asked which role (Software Engineer/Operations) I would prefer and why?

#### **Round 4 (PI):**

- . What happens when I type in a URL on the browser address bar and hit "Enter" ? Describe the entire process.
- . How does a web server work?
- . How does a web server know which resources to fetch based on the request?
- . What is DNS? How does a OS know which DNS server to make a request to? Explain DNS hierarchy.
- . Explain root DNS server.
- . I was asked to explain the projects. Again, we had a detailed discussion on them.
- . Explain the email architecture. If an email is sent from a yahoo mail account to a gmail account, how does the email actually get sent?
- . What is virtual memory? What is the need for it?
- . How to know the memory usage in Linux?
- . How to know the memory usages by various processes in Linux?
- . What is a semaphore?
- . What is race-condition?
- . What is dead-lock?
- . What is indexing in DBMS?

#### **Round 5 (PI):**

- . Questions on a particular project mentioned in the resume.
- . Design a cache. I had to ask a lot of questions to get to know the specific requirements of the design. We had a detailed discussion about various approaches. Pros and cons of my design were discussed. I was asked various questions on my choice of data structures. Like, in one of my approaches I had mentioned heap. So, questions were asked about the insertion/deletion/updation in the heap data structure, how it achieves O(logn) for insertion/deletion.
- . Questions on threads and locks related to the cache design.
- . How would the design be modified if the cache were to be made available for use over a network?

Thanks Geeksforgeeks.

Hope it will be helpful to other aspirants.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Endurance

### Epic Systems Interview Experience – Off Campus

Applied for Epic Systems offshore(Madison, Wisconsin) in December 2014, got the call on 6th January.

Applied through their career option on their website, IIIT tag will help you get the call.

#### Round 1(Introductory Interview – Telephonic)

The first round took place on 16th January, earlier they asked me about my availability and I responded by providing them a particular date. The call came from their New Jersey office. It was a normal chit chat about my area of interests, the projects I did, their overview. Then he asked me whether I have any doubts or questions related to the kind of work that Epic does, I asked various questions to which he responded. Came to know that the interviewer was from IIIT H itself(B.Tech).

#### Round 2(Online Assessment)

I was notified through an email about being through the first round and now I have to go through an online assessment exam conducted by ProctorU. They gave a link which was hosted by ProctorU(i suppose it is hiring agency that takes online assessment exams), at that link I had to pick the time for the assessment exam. This round took place on 26th January.

At the allotted time, I logged in the link given by them and the initial setup took around 30-40 minutes. This includes verifying the identity, verifying the surroundings where I am giving the exam, they monitored me through the cam and I was not allowed to even change the tab.

The Assessment had 4 parts :

Part 1 : Quant and Logical Reasoning(Untimed)

15 questions, MCQ type.

Part 2 : Technical Ability/Knowledge(Untimed)

It was somewhat comprehension paragraph kind of section. A new language was designed and rules were written for this new language, according to these rules MCQ type of questions were asked.

14 questions

Part 3 : Speed Ability

You will be given 2 minutes and 10 questions have to be answered. You have to do as much as you can. These questions span from Normal Mathematics to Logical Reasoning. I did 6/10.

Part 4 : Coding Section(Untimed)

It comprises of 4 questions that need to be solved. These are standard programming questions with a twist that there's no Judge, i.e. there won't be any test cases for you to test the validity of your solution, you can't compile/run your code and of course as I mentioned earlier you can't use your terminal(you have to code in their text area only, this is kind of annoying). But you can write pseudo codes as well instead of actual codes. They will judge how well you can construct algorithms. They don't judge you on correctness of the program but how you divide and structure your code. Having said that, your code needs to be genuine, i.e. plain structured code which is incorrect won't let you anywhere, so be judgemental about it. I remember ¾ questions that were asked to me, these were :

1. You will be given a string, containing both uppercase and lowercase alphabets(numbers are not allowed). You have to print all permutations of string with the added constraint that you can't change the uppercase alphabets positions.
2. There is a  $n \times n$  square board, there's a new kind of game which is played on this board. There are pieces on the board which can only move horizontal and vertical any number of squares until it encounters an opponent piece, when it does so, it replaces the opponent piece at that position and the turn alternates. The input will contain a  $n \times n$  matrix with 1,2 and 0 in the cells. '1' denotes your pieces, '2' denotes opponent pieces, and '0' denotes free space. One of your pieces has fallen from the board and neither you nor your opponent remember its original position, so you collectively decide that you can place it anywhere you want to, so its upto you to place it at a position where you can maximize the number of opponent pieces you can cut. Output the x and y coordinates of such position. If multiple positions exists, output anyone.
3. You have to print all possible combinations of phone numbers. The length of the number will be given. Also 3 digits will be given, which can not be used. No two consecutive digits can be same. A number containing 4 would always have 4 in the beginning.

Questions that were asked to other candidates:

1. Suppose all months have 30 days. There are 12 months in a year. February would have 31 days in a Leap year. condition for leap year is defined as  $(\text{year} \% 40 == 0)$  is leap,  $(\text{year} \% 200 == 0)$  is not leap,  $(\text{year} \% 1000 == 0)$  is leap. Given a date as MM/DD/YYYY, find the next Leap Day.

2. Print matrix in spiral order.

3. Given a number, get all possible substrings using the digits of this number and if the product of digits in one subset is same with the another, then return false, else return true.

e.g. 345 = {3,4,34,45,35,345}

products are {3,4,12,20,15,60} hence **true**

3426 = {3,4,2,6,34,42,26,...}

product = {3,4,2,6,12,8,12,...} hence **false**.

(products of 34 and 26 are same)

4. To print the perfect ordering string of length N.

eg "achq" is one of the example of length 4, since aRound 3(Personality Test):

After 2nd round result, they sent me a link where I have to give a personality test. It was a normal MCQ kind of questions where they gave some common scenarios and I was asked to give my best response to them (took 20-25 minutes). This was not an elimination round.

#### **Round 4(Technical Interview – Telephonic):**

They gave me one week window to choose 3 options when I will be available.

On the interview day(23rd February), they called at the precise time, so the interview started with normal questions like How to get the nth node from the end in a Linked List, etc. They asked very normal algorithmic questions. After these, he asked me one project to discuss. I discussed the Search Engine. The discussion spanned from Algorithms used from first phase to the last phase and all the technologies involved. Discussed about the future improvements for the project and in between he kept asking questions related to the project.

This round took 50-55 minutes.

#### **Round 5(HR Round – Telephonic)**

Immediately after Round 4, HR called(it was informed to me that Round 4 and Round 5 will be taken back to back). The HR asked the normal questions like : How did you came to know about Epic, why do you want to work in healthcare industry, whether I have any other job offers or not.

PS : Before applying I would suggest you to read about Epic Systems work environment and the technologies they use on quora, it will help you take decision in case you get selected.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Epic Systems

# [24]7 Innovation Labs Interview Experience | Set 4 (Off-Campus)

#### **Round 1(Telephonic)**

- Explained about company
- JD
- Snake and Ladder game (matrix, array, linked list)
- Find the row with maximum 1s where every row of sorted 0s and 1s ( <http://www.geeksforgeeks.org/find-the-row-with-maximum-number-1s/> )
- n =2 output ()(), ()() For given n print total valid parenthesis( <http://www.geeksforgeeks.org/print-all-combinations-of-balanced-parentheses/> )

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
24\*7 Innovation Labs

# [24]7 Innovation Labs Interview Experience | Set 3 (On-Campus)

#### **Round 1 : (Duration:1 hr)**

Written test consisting of MCQs in aptitude, data structures and analytical thinking. 3 coding questions were also asked of us, from 5 problems. Scope covered: The 3 traversals of binary tree, reversing SLL efficiently, reversing string with no predefined method, explanation of insertion sort, in full. Initially, we were asked to write in Java, but they later allowed C, C++ and Python

#### **Round 2: Face to Face technical round (Duration: lasted around 30-45 minutes)**

We were asked questions from our areas of interest, data structures and algorithms, their complexities and implementing them in scenarios. Interviewer was friendly and guided (they expect us to discuss strategies in terms of complexities)

#### **Round 3: Face to Face (Technical+HR) (Duration: around 20 minutes)**

They asked a few more technical questions, some puzzles and then on to the HR section. Basic questions of why our company, where do you see yourself in few years, what is your plan regarding higher studies and all.

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
24\*7 Innovation Labs

# [24]7 Innovation Labs Interview Experience | Set 2

Telephonic Discussion:

- 1) Basic Java Questions about Strings.

2) Sorting linked list of 0 and 1 and make separate linked list for both (further modified it to make separate linked lists of alternate elements in linked list)

3) Explain quickSort

First Round:

1) Implement 2 stacks in one array

2) Given a number N count the no of times 6 occurs in the number range between 1-N. [For N = 100 output = 20 {6,16,26,36,46,56,60,61,62,63,64,65,66,67,68,69,76,86,96} 66 has two '6']

Second Round:

1) Print BST in Descending order

2) Find media of BST without traversing it completely, weights of nodes are given.

3) Explain Heapsort

Third Round:

1) Design game for chess

2) Design a meeting scheduling application like outlook

3) Design a DB for Library

Manager Round:

1) Discussion about what my current work is?

2) Why i want to leave my current company?

3) If i had any questions

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
24\*7 Innovation Labs

### [24]7 Innovation Labs Interview Experience

I had an interview with 24\*7 innovation labs. Their process is telephonic followed by 3 f2f interviews.

#### Round-1 Telephonic

1) Stack reversal in place

2) How Hashmap works

I was called for face-2-face interview on March-19th. I had 2 face-2-face technical rounds and 1 round with Hiring manager

#### Round-II

1) About current project and discussion on why few things were used and if they can be done in other ways.

2) find length of string(assume there is no inbuilt function to find string length)

3) Reverse words in string

4) Reverse words in string without changing the input string and without extra memory

5) Delete nth node in linked list from beginning

6) Delete nth node in linked list from ending

7) Mirror image of a tree

#### Round-III

1) About current project and discussion on why few things were used and if they can be done in other ways.

2) LRU cache implementation

3) Minimum number of platforms required in a railway station

<http://www.geeksforgeeks.org/minimum-number-platforms-required-railwaybus-station/>

#### Round-IV Hiring Manager Round

1) About project

2) Behavioral questions like why are you leaving current company, why 24\*7, what technologies do you want to learn and work on etc ?

3) Current package. Expected package and little negotiation.

On calling the HR couple of times and mailing her about the feedback the HR told that my profile does not suit for their requirements.

I suggested HR to properly screen the profiles based on their resume. Felt bad for being rejected on non-technical reason.

#### Tips:

Go through the questions in geeks4geeks

Interviews are not specific about programming language as they work on multiple languages so choose whatever language you are comfortable with.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
24\*7 Innovation Labs

### Axtria interview Experience | Set 2 (On-Campus)

**Profiles:** TECH ANALYST AND BUSINESS ANALYST

Initial->Percentage based shortlisting(>65%)

**Round1-** >Cocubes test consisting of 3 sections:

**Section1:** Questionnaire(What do you know about Axtria,How would you contribute to it etc) and 1 main question->Explain a situation in which you worked in a team and showed your teamwork skills to overcome a problem->20 mins

**Section2:** English(1 rc,fill in the blanks,word meanings,para jumbles,critical reasoning)

Quant(Profit Loss,P&C,Probability(conditional),Progressions,some geometry)

Logic(Process flow diagram,coding-decoding,letter series,diagram related logic(which figure will follow?))

**Section3:** C++ proficiency test

**Round2:** Purely resume based,some puzzles were also asked like make 27 using 4 4's,make 72 using 4 4's etc

**Round3:** Technical +HR if you have an analytics background study about basic stats formula covariance,correlation and linear regression(not necessary)

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Axtria

### Axtria Interview Experience

Hello everyone! Axtria Inc. came to our campus for full time hiring of final year students. They had shortlisted candidates for the interviews on the basis of online test which consisted of MCQs. The test was divided into six sections of which the very first section was personality calculator which consisted of 60 questions regarding the perceptions and thoughts of people about different things. Only 10 minutes were given to us for it and rest 80 minutes were given for the other five sections which consisted of Quantitative, Logical, Verbal and Technical questions. The paper was quite lengthy, therefore one is required to have fast reading, interpretation and calculations skills. 54 students were shortlisted for further rounds.

#### First Round- Technical + HR(F/F) duration 30 minutes

There were two people in the interview panel. They started by asking my introduction,about my family background and areas/fields that interest me. Then they tested my knowledge about big data and analytics and further asked me about Hadoop Technology. After then they asked me to explain my projects and further asked me questions regarding data structures' modifications and algorithms used or that can be used to modify the project as per their requirements. After then they made me to write a code for the data structures that I suggested them.

At the end, they asked me one puzzle. Although I knew the solution, but still pretended as if I am exposed to that puzzle for the very first time and later, after consuming few odd minutes, solved that puzzle successfully.

Some of the students too faced second round which was completely HR.

Note: Most of the company's clients are foreign based, therefore, the company too focused over the communication skills. Try to explain the projects and other related things in the best possible way.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Axtria

### Moonfrog Labs Interview Experience | Set 4

1. Topological sort.
2. Reverse linked list in pairs. (1->2->3->4 to 2->1->4->3)
3. Print a binary tree in spiral order
4. Reverse an array without using subtract sign '-' anywhere in your code.
5. One DP problem in a 3\*3 matrix which I don't remember exactly.
6. <http://www.geeksforgeeks.org/minimum-number-of-jumps-to-reach-end-of-a-given-array/>

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Moonfrog Labs

### Moonfrog Labs Interview Experience | Set 3

Q1. Given a sequence of integers, find the longest increasing subsequence. Example:

arr = [1, 2, 5, 3, 7]

ans : [1, 2, 5, 7] or [1, 2, 3, 7]

arr = [4, 3, 1, 2]

ans: [1, 2].

Solution:

```
import java.util.Arrays;

/** @author hiccup */
class LIS
{
 static int[] maxLIS;
 static int[] result;

 public static void getLCS(int[] arr)
 {
 if (null == arr || 0 == arr.length)
 return;

 maxLIS = new int[arr.length];
 /* At least LCS is 1 i.e. element is the
 * only one in given sequence */
 Arrays.fill(maxLIS, 1);

 /*
 *
 */
 for (int curIdx = 1; curIdx < arr.length; curIdx++)
 {
 for (int beginIdx = 0; beginIdx <= curIdx - 1; beginIdx++)
 {
 if (arr[curIdx] > arr[beginIdx])
 {
 if (maxLIS[curIdx] < maxLIS[beginIdx] + 1)
 {
 //System.out.print(arr[curIdx] + " ");
 maxLIS[curIdx] = maxLIS[beginIdx] + 1;
 }
 }
 }
 }

 int max = maxLIS[0];
 result = new int[arr.length];
 Arrays.fill(result, -1);

 int cpIdx = 0;
 for (int idx = 0; idx < maxLIS.length; idx++)
 {
 /* Put sequence at cpIdx */
 if (-1 == result[maxLIS[idx] - 1])
 {
 result[cpIdx++] = arr[idx];
 }
 }

 /* Print sequence */
 for (int idx = 0; idx < result.length; idx++)
 {
 System.out.print(result[idx] + " ");
 }
 }

 public static void main(String[] args)
 {
 int[] arr = {1, 2, 5, 3, 7};
 LIS.getLCS(arr);
 }
}
```

[1, 2, 3, 3, 4]

---

Q2. Given a vectors of numbers of fixed length, for example:

v1 = [4, 3, 1, 2] v2 = [2, 4, 3, 5]

The relationship nested between two vectors is defined as follows:

if the corresponding entries of a vector are all smaller than the other vector, after rearranging entries of vector if needed, then first vector is said to be nested in the other. Example

Not nested

v1 – [4, 3, 1, 2] v2 – [2, 4, 3, 5]

v2 – [2, 4, 3, 5] v1 – [4, 3, 1, 2]

After re-arranging:

Nested

v1 – [4, 3, 1, 2]

v2 – [5, 4, 2, 3]

Hence v1 is nested in v2.

Given a pair of such vectors , write a function as follows:

```
function isNested(Vec a, Vec b);
```

Result:

- 1 if a is nested in b
- 1 if b is nested in a
- 0 if nesting is not possible.

---

Q3. Given a list of numbers in random order. Is it possible to pair all elements in the list in such a way that no two pairs share an element and the sum of elements in a pair is divisible by 101. Example:

v1 [ 1, 100, 1]

Ans: No

v2 [1, 100, 100, 1] [2, 98, 101, 1]

Ans: Yes

v3 [1, 200, 100, 100, 2, 1]

Ans: yes

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Moonfrog Labs

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## Moonfrog Labs Interview Questions

### Round 1:

1> given a number, and an encoding technique like 1-> A, 2-> C.... 26->Z, How many different valid encryption can be done. Like 123 can be decoded as ABC or LC or AW. so the count is 3

2> given an array of -1, 0, 1 in an unsorted manner. sort it in order of n time complexity

3> How to get the top 10 occurring words from a file which is dynamically changing

### Round 2:

1> traverse a tree in spiral order.

2> traverse a tree in spiral order using a stack and a queue

3> given a string in form of a linked list. check if it is palindrome or not .

### Round 3:

1> Given an array which contains value in range 0 to N^2. sort it in order of N time complexity.

2> Find the largest monotonically increasing subsequence.

3> Given a binary tree, check if it is a binary search tree or not.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Moonfrog Labs

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## Moonfrog Labs Interview Experience

Moonfrog Labs Interview Experience

Recently I got interviewed at Moonfrog Labs. Here is my interview experience.

### Round 1(1 hour):

The interviewer was very friendly and helping. She started with my introduction and discussed a bit about my current project.

Q1. Check whether a graph can be converted to a tree or not.

First we have to discuss the approach and then code on paper.

Q2. Design a jigsaw puzzle.

Discussion on this went for long and I have to write the class diagram and definition for few functions which I mentioned in my design.

### Round 2(1 hour):

Q1. Reverse a singly linked list (Both iterative and recursive approach).

Q2. Add 2 numbers represented in the form of linked list.

Q3. Print nodes at a given distance K from the given node in a binary tree.

Q4. Given an array of integers, at each index I can take steps upto the value at that index. I have to find the minimum number of hops required to traverse the complete array.

For example: input[] = {2,5,3,6,8,1,3}

From index 0, I can take 1 or 2 steps. From index 1, I can take 1,2,3,4 or 5 steps and so on.

#### Round 3(30 minutes):

Q1. Two players are playing a game in which each have to pick 1, 2, 3 or 4 coins in each turn. There are n coins in total. Design a strategy to win the game.

Q2. <http://codeforces.com/problemset/problem/487/A>

I was not able to solve this question.

I did not receive the offer but it was a good experience. I would like to thank geeksforgeeks for providing such an awesome platform for interview preparation.

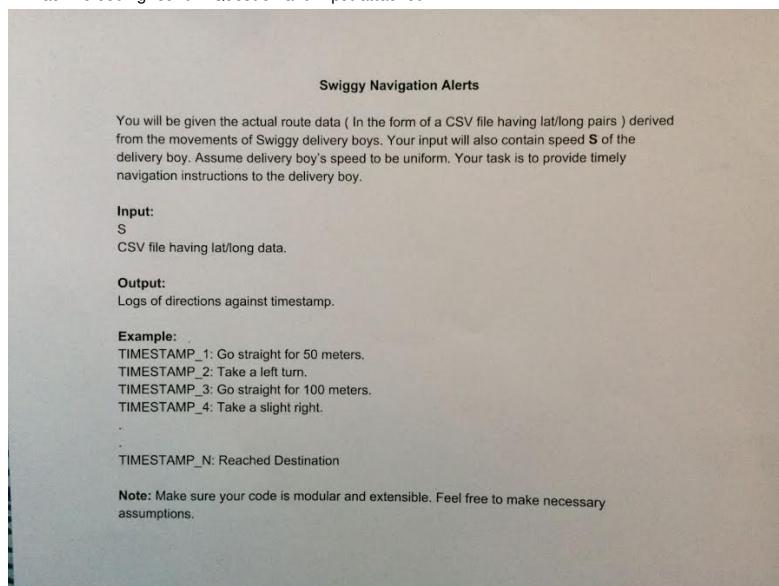
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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Moonfrog Labs

### Swiggy Interview Experience | Set 3 (For SDE-2)

1. Online coding test – HackerEarth
2. Machine coding round – Question and Input attached.



3. F2F – DS & Algo Round

- a) Tail recursion for Fibonacci – <http://www.geeksforgeeks.org/tail-recursion/>
- b) <http://www.geeksforgeeks.org/write-a-function-to-get-the-intersection-point-of-two-linked-lists/>
- c) Sorted Array, count frequency of all numbers in less than O(n)
- d) Longest Palindromic Substring

4. F2F – Design Round

Design a catalog system – Restaurants, Items, Categories, VariantGroups like Size, Variants like (S,M,L), AddOnGroups like Extra cheese, AddOns like White Cheese, Yellow Cheese. Price of item will vary on variant selected and even addon price will vary on variant selected.

Discussion about work done, how to make systems robust, fallbacks for system failures.

5. F2F – Hiring Manager Round

Discussion about work, challenges, ownership, why swiggy?

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## GATE CS Corner Company Wise Coding Practice

Experienced  
Interview Experiences  
Swiggy

### Swiggy Interview Experience | Set 2 (On-Campus)

#### **First Round (Online Coding on HackerRank)**

4 problems

Time -90 min

1. Stock Buy Sell to Maximize Profit

**Input:** 1 3 100

**Output:** 196

link- <https://www.hackerrank.com/challenges/stockmax>

2. Given A string you need to print all subset of that string

**Input:** "abc"

**Output:**

```
"a"
"b"
"c"
"ab"
"ac"
"bc"
"abc"
```

3. Check if a given sequence of moves for a robot is circular or not

Input: path[] = "GLGLGLG"

Output: Given sequence of moves is circular

Input: path[] = "GLLG"

Output: Given sequence of moves is circular

link- <http://www.geeksforgeeks.org/check-if-a-given-sequence-of-moves-for-a-robot-is-circular-or-not/>

#### **Second Round (F2F Interview) 45 min.**

1. First he asked me to design the database for food shop, then he asked me to minimize the complexity of database and then he asked me some DBMS Query related to Join Operation.
2. Given a Sorted array in which all elements are repeated except one element. Find non repeated element in O (log n).
3. Some Questions On DNS server and IP address.
4. What is cache Memory? What is TLB? And uses?
5. Which policy you will use to swap pages? Implement LRU?

#### **Third Round (F2F Interview) (70-80) min.**

1. Discussion on project

2. What is Encryption? How you can use it in your project?

3. What is Block cipher and Advanced Encryption Standard (AES)? If someone knows that you are using

Polybius Cipher then what is the complexity in decrypting your original data (information)?

4. He modified "Stock Buy Sell to Maximize Profit" problem i.e. you can't buy or sell stock continuously and you can skip any day to sell or purchase.

**Input:** 2 100 2 3 500 2

**Output:** max profit 596

3. Diff between Mutex and Semaphore?

4. There is stream of infinite number you need to find the median of number?

**Input:** 1 5 10 15 20 22 35 ...inf

**Output:**

```
Median of first number 1
Median of first 2 numbers 3
Median of first 3 numbers 5
Median of first 4 numbers 7.5
Median of first 5 numbers 15
```

....

....

5. There are 4 resources and 4 process .Is there any condition in which Deadlock occurs?

6. Find an Element in A Sorted Array which is rotated any number of times.

7. Again he asked me about Robot problem (1st round 3rd question).

8. What is synchronization? If a process has opened a word file in write mode and preempted before closing it, at the same time another process is trying to open that file in write mode .Will it Open or Not?

#### **Fourth Round (Online Interview on Skype) 60 min**

1. Any challenging task you did in last two Years?

2. Write a code For Expression Evaluation?
3. If i type [www.facebook.com](http://www.facebook.com) and clicked on search button, what will happen in background?
4. Tell me about data structure that DNS server uses? How DNS search for IP address?
5. O ( $2^n$ ), O (n!) Which one complexity is better and why? Prove mathematically.
6. How Hashing works? Why its complexity is always O (1).
7. Again he asked about my Project.

#### **Fifth Round (HR round) 20 min**

1. Tell me about yourself?
2. How was your online interview round?
2. Why you want to join Start-up like Swiggy even you have other companies also?
3. Do you have any question?

Then i asked 3-4 questions.

Thank you GeeksforGeeks

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Swiggy

### **Interview Experience with Swiggy**

Swiggy is a fast growing startup, based out of Bangalore. I recently interviewed there for the post of SDE-1 and would love to share my interview experience.

#### **First Round: Machine Coding**

(One question, 60 min I guess)

**Had to write 'complete, bug-free' code on our laptops, language of our choice**

Given multiple tuples in the form of (A,B) where A is the parent and B is the child in a binary tree, find if the input is valid or not. 4 error conditions were provided:

1. If a parent has more than 2 children,
2. If duplicate tuples entered,
3. If the tree has a cycle,
4. If more than one root possible.

For violation of multiple validity conditions, print the condition coming first in the above order.

If the input is valid, print the tree in a serial representation. For eg: If input is (A,B), (B,C), (A,D), (C,E) , output: (A(B(C(E)))(D))

#### **Second Round: F2F Interview**

1. Explain the code from the machine coding round. The guy made me run the code on an online compiler to have a look at the errors, and then ran some test cases as well.
2. Detailed discussion about previous experience. Had to explain my work in the current company end-to-end.
3. A question on arrays: Given an array, print all possible contiguous subsequences whose sum is divisible by a given number x.

#### **Third Round: F2F Interview**

1. Detailed discussion about current company, work, etc.
2. Implement LRU cache. Didn't make me write the code, but discussed in detail about all possible data structures that could be used, complexities of different operations in different implementations.
3. Given a server that has a 900 MB file and a client that has a maximum available space of 100MB, sort the file on the client.

#### **Fourth Round: Discussion with the co-founder**

Had a nice little chat with the co-founder about the work, culture, their vision, etc. Seemed quite impressive.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Swiggy

### **Thoughtworks Interview Experience | Set 4 (On-Campus)**

Thoughtworks Technologies India Private limited, visited our college July 2015, we had tremendous experience at recruitment process throughout.

(pretty Long Article, plz bare with me till end, at the end you will find it useful)

Experience:

**Round one: Rapid Programming:**

(Hands On Programming not Online, you can Use your Laptop) In this round they will ask to solve 5 programs in 30 min.

This round is for testing your speed of programming and this is major elimination round. You should be able to solve at least 3 programs out of 5. in this round they ask simple questions like prime no, String manipulation, anagram etc minimum sum, maximum sum etc. If you have good practice of programming then it is easy to crack this round.

*In Our college we 210 people participated and out of that we 52 people shortlisted.*

**Round Two: Object Oriented Programming Round:**

(Hands On Programming not Online , you can Use your Laptop)

This round is to test your Object Oriented programming skills. In this round they asked to solve one program in 90 min. You should be able to make use of abstraction, polymorphism and inheritance in your design.

Thoughtworks is a company which gives emphasis to good design skills. In this round they will see your programming approach/design. Some thoughtworkers also help during solving problem , they seat with us look how we approach towards solution.

In This round they will not see only Output of program but will emphasize on how good your code is, how much extensible is, how much language constructs we have used.

In my case my program was giving Exception, Still i have shortlisted for next round.

*Among 52 people we 21 get shortlisted for next round.*

<https://www.thoughtworks.com/insights/blog/you-need-understand-problem>

Some Problem Statements i found on Internet when i was studying for it.

1) Mars Rover Problem Statement:

<http://www.techinterviewpuzzles.com/2010/09/mars-rovers-thoughtworks-puzzles.html>

2) iPod Inventory:

<https://github.com/ashish161/Inventory-MinCost>

3) Hotel management:

*Problem Statement :*

A well renowned hotel has three branches in miami. Namely x,y and z (Actually they gave names). Each has two types of customers. Regular and Rewarder. Also each branch has its own ratings x is given a 3 star rating while y has 5 star rating and z has 4 star rating. Each hotel has specific rates for weekend and weekdays. x charges \$100 for regular customers on weekdays and \$120 on weekends While it is \$90 for rewarder on weekdays

and \$60 on weekends. Similarly y charges \$130 for regular customers on weekdays and \$150

on weekends. While its \$100 for rewarder on weekdays and \$95 on weekends. While z charges \$195 for regular customers on weekdays and \$150 on weekends. While its \$120 for rewarder on weekdays and \$90 on weekends.

Now when the customer requests for a particular detail you need to find which hotel would yield the customer profit.

In case of tie between hotels compare the ratings and provide the result.

Input format: regular:16Mar2010(sun),19Mar2010(wed),21Mar2010(Fri)

(This is the format of the question but not sure about the values).

4) Sales Tax:

Basic sales tax is applicable at a rate of 10% on all goods, except books, food, and medical products that are exempt. Import duty is an additional sales tax applicable on all imported goods at a rate of 5%, with no exemptions.

When I purchase items I receive a receipt which lists the name of all the items and their price (including tax), finishing with the total cost of the items, and the total amounts of sales taxes paid. The rounding rules for sales tax are that for a tax rate of n%, a shelf price of p contains ( $np/100$  rounded up to the nearest 0.05) amount of sales tax.

Write an application that prints out the receipt details for these shopping baskets?

Input 1:

1 book at 12.49

1 music CD at 14.99

1 chocolate bar at 0.85

Input 2:

1 imported box of chocolates at 10.00

1 imported bottle of perfume at 47.50

This are some problem statements i provided , you surf on net to have more.

To crack this round you have to have sound knowledge of Object oriented Principle. This is also a major elimination round.

I programmed Sales tax problem in this round got shortlisted for Next round.

*Out of 52 we 21 got shortlisted.*

**Round Three: Technical Interview 1:**

This round started very next day of first two rounds so to crack this round i prepared whole night as my revision was remaining.The Interview panel was of two peoples.Interview started with as usual introduce yourself question? In answer i given emphasis as my favorite subjects and what project i did till that time. So interview started with project. I explained my project idea and how i given solution.

They directly went to database design of project and asked me to give database design. I drawn ER diagram and explained well but my design was not so normalized so they asked me to convert the same design to normalized form. So i converted to well normalized form then they asked me some nested and complex queries on same design.Then interview moved to Data structure as i already said that my favorite Subject is DS. The first was on array and asked me to write code or algorithm. you have given array, find magic number(it is number in array which have same index as number). After giving solution they asked me to find complexity of same code.(When you write code in front of them they will observe your coding style) Then next question was general problem and you have to give solution as algorithm which was again same as above bit difficult. the pattern i observed here is complexity of questions goes on increasing as u move further in interview. Then they went to Tree and asked some question, and one of them was find weather tree is complete or not?give solution and find complexity, i given recursive solution but unable to find complexity.

Then they asked me that do you like "OOP" i said "YES", then again they asked to design tree Data structure using OOP principle. I tried my best to solve same.

My interview was not so good still they liked my design so got shortlisted for next round. Out of 21 we 11 people got shortlisted.

**Round Four :Technical Interview 2**

Before starting of interview they collected our resume and depending upon that assigned special panel:

The interview Started with OOP problem solution: They given me the problem of card game asked to give programming solution. I started giving solution they also helped me lot to solve the same problem. The same discussion went around 40 min. To solve problem , after getting satisfied they ended up discussion.

After that, as i was working as president of Walchand Linux Users' group in my college and it was mentioned on resume so interview went to linux. Some of questions on linux they asked:

Which OS you use on your laptop?

Why you like linux rather than Windows?

What is apt-get in linux?

What happen in background when you install package or application on linux?

Which command is used to list out all files in directory explain with some option?

What are permissions to file in linux and command to assign it?

Which command is used to see all running all program?

Which command is used to get process id of process, and how to end that process?

How to kill process if we are not able to kill using normal >kill pid command?

What is piplining in linux?

How to make use of piplining and give some example command making use of piplining?

and so on..

With this questions my interview ended from linux, they they asked some HR questions like Why you want to join Thoughtworks? Etc.

As thoughtworks doesn't work much on Linux platform still they asked on linux that means "they will not see totally what they want but also what you have unique with you"

#### Some Of Observation and Suggestions of Interview Questions:

Be loyal in interview give them respect.

If you didn't get question properly, then ask multiple time.

Be confident, they are very friendly.

If you are not comfortable then take your time to be.

Don't answer the questions directly, first analyse that what they expect from you and then answer.

If you don't know at all they frankly say,"Sir/mam i didn't gone through this concept but i will study this afterwards" rather than saying "Don't know"

If you know some part of answer but unable to remind then you can take time and also ask from hint sometime.

Don't give fake answer, they can reject you on same time. And don't try to make them fool.

This round was so good and i got shortlisted!!!!!, among 11 we 6 get shortlisted for next round;

#### Round 5: Logical Reasoning Test:

In This round they gave us booklet of questions, the questions were on flowchart and we have to find the answer.

Search for flowchart on Internet Practice them they are so easy.

At WCE we 6 people got shortlisted and all cracked round.

#### Round 6: HR Interview :

This round was on Skype and on General social discussion. My interview started at 11 pm and ended at 1 am.

In this interview they asked me opinion on some social issues, like BJP, Madarsa issue, India Bangladesh agreement, casteism in india etc. It was general discussion.

They will observe your attitude, and also check how social you are.

*After This whole process of Thoughtworks we 6 people were waiting for result and at second day we got result as all 6 people got selected !!!!!!*

Thoughtworks is very good company and called as india's google. Prepare well for it,,,,

Best Of Luck!!!!

I got Offer for joining in May 2016 after finishing my college. now working in TW, The Best place to work, Best peoples to work with.

This article is contributed by **Mahadev Vyawahare**. If you like GeeksforGeeks and would like to contribute, you can also write an article using [contribute.geeksforgeeks.org](http://contribute.geeksforgeeks.org) or mail your article to [contribute@geeksforgeeks.org](mailto:contribute@geeksforgeeks.org). See your article appearing on the GeeksforGeeks main page and help other Geeks.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Thoughtworks

## Thoughtworks Interview Experience | Set 3 (On-Campus)

Thoughtworks visited our campus there were three rounds.

**Round 1:** It is divided into two parts:

a).Short Coding Round

b).Long Coding Round

#### a).Short Coding Round:-

In short coding round they concern only about output. Time limit of short coding round is 20 min.

Problem Statement: – You are given a dictionary (a set of words). They will enter a set of characters you have to print all the words that can be formed using these characters.

i.e

```
dict: { "Rat", "mat", "bat", "chat",
 "cat", "tab", "fab", "batt" }
chars: t a b c
```

output:- bat, cat, tab

Out of 140 only 14 students qualified for next round.

**b). Long Coding Round:-**

In this round they also concern about approach, how u name the variables, function, oops approach.

Time limit of this part is 90 min.

Problem Statement: – In a movie theatre 2 shows are running. You are given available seat of both show. There are some groups who want to book the tickets so first ask the show no. and then check whether seats are available or not if available then book their seats else ask them to enter seats again.

After each successful booking print total available seats and total booked seats.

**Show 1:**

**Available seat:-** A1,A2,A3,A4,A5,A6,A9

**Show 2:**

**Available seat:-** A1,A2,A4,A5,A6,B1,B3,B4,B5,B6,B7

**Group1:-**

**Enter show no:-** 1

**Enter seats:-** A1, A4

**Print:-** "Successfully booked"

**Available seat:-** A2,A3,A5,A6,A9

**Booked Seat:-** A1,A4

**Group2:-**

**Enter show no:-** 1

**Enter seats:-** A1, A3

**Print :-** seat A1 **not** available please **try** again.

Out of 14 students only 7 are qualified for next round.

**Round 2:-**

**Technical Interview :-**

After introduction they asked about projects. I did my final year project in android so they asked me why you use Json , what is json, how you store your database.

Then they asked about favourite subject i told them DSA.

They asked me my fav. Data structure I told them linked list. Then they asked few questions i.e

Insert a node in linked list.

How you implement stack using linked list.

Delete nth node in linked list.

Delete second last node in linked list

Delete second last node in doubly linked list.

Which language do you prefer for coding.

Difference between C and C++.

Are you comfortable with SQL, Oracle database?

Any project on OOPS?

Out of 7, only 1 student selected for HR round.

**Round 3:-**

HR round:-

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Thoughtworks

## Thoughtworks Interview Experience | Set 2 (Off-Campus)

Geeksforgeeks has helped me a lot. In order to help other students I would like to share my experience.

**Step 1:**

I applied through a "ThoughtWorks women hiring challenge" contest organized by Hackerearth. In contest there were 10 mcqs on oops concept and computer fundamentals and 2 normal coding questions out of which we were supposed to solve only one.

**Step 2:**

After I got selected in the Contest I got an assignment consisting of two standard questions of thoughtworks and I was supposed to submit code of any one of them.

My questions were:

1. Merchant's Guide to the Galaxy

2. Conference Track Management

If you google for Thoughtworks standard questions, You will get the list of all the question along with their solutions.

After I submitted my code, I got a call to come to their office to proceed for further rounds.

#### Round 1: Code pair Round

One Thoughtworks's developer sat with me and asked me to modify the code (which I had submitted in assignment) as per her instructions.

#### Round 2: Logical Test

It was a 75 min test consisting of 11 flow chart problem. Problems were a little confusing and time taking so if you do it with patience, they are easy to solve.

#### Round 3: Accuracy Test

This round was for testing the speed and accuracy. There were 50 very simple questions and time given was 12 min. Solving 30 uestions was sufficient as the accuracy was more important. There was negative marking for both wrong answer and for skipping any question.

#### Round 4: Technical interview 1

1. Brief Discussion on project
2. Discussion on linked list and array
3. How you can achieve fast access in linked list.
4. Question on binary search tree.
5. How will you balance a binary search tree?
6. Find the height of a tree.
7. Check for duplicate elements in binary tree.
8. Design a file system for OS.
9. One puzzle

#### Round 5: Technical interview 2

1. Detailed discussion on project
2. Few questions from electronics subjects to test my knowledge in my field.
3. Question on database design and SQL query.
4. How the friend's list are maintained in Facebook.
5. Few questions from extracurricular activities which were mentioned in my Resume.

#### Round 6: P3 round (Three pillars of Thoughtworks)

General discussion on some social issues like Farmer's Suicide and Uber Cab rape case. (In this round you need to express your views but you need to show some empathy as well)

#### Round 7: Leadership Round

Started with the introduction and then she gave me some situations that how will you handle in that case.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Thoughtworks

## Thoughtworks Interview Experience | Set 1 (On-Campus)

Last week thoughtworks visited our campus there were three rounds.

### ROUND 1:

Q1) Draw following pattern.

|    |    |    |    |    |    |    |  |
|----|----|----|----|----|----|----|--|
| 1  |    |    |    |    |    |    |  |
|    | 2  | 3  | 4  |    |    |    |  |
|    | 5  | 6  | 7  | 8  | 9  |    |  |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |  |
|    | 17 | 18 | 19 | 20 | 21 |    |  |
|    | 22 | 23 | 24 |    |    |    |  |
|    | 25 |    |    |    |    |    |  |

Sol.) <http://code.geeksforgeeks.org/7bdUSi>

Q2) Draw following pattern.

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 4 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| 4 | 3 | 2 | 2 | 2 | 3 | 4 |   |
| 4 | 3 | 2 | 1 | 2 | 3 | 4 |   |
| 4 | 3 | 2 | 2 | 2 | 3 | 4 |   |
| 4 | 3 | 3 | 3 | 3 | 3 | 4 |   |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 |   |

Sol.) <http://code.geeksforgeeks.org/tF6lx>

**ROUND 2:**

(Graphics doesn't matter the code should be right. Languages : C, C++, JAVA)

Q1) Make a snake game.

Q2) Make a snake and ladder game.

**ROUND 3:**

Basic HR questions.

I hope you'll find this useful.

Yoo guys but I wasn't eligible for interview(low percentage), but I collected these questions from my friends who took part in interview process.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Thoughtworks

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### Wooqer Interview Experience | Set 1 (on-Campus)

Recently Wooqer visited our campus and took the following rounds for the final selection.

**Round 1:**

Written aptitude round containing basic questions on C and C++ programming. The questions were easy.

Around 20 students were selected for second round.

**Round 2(WRITTEN coding):**

1. The list of stock prices are given after consecutive 1 second. You have to select two stock prices which should be bought and then sold respectively to attain a maximum profit. You have to print the maximum profit.

I/p: 2,6,9,15,89,100

O/p:98

2. Donot remember the entire question but involved hashing and involving good approach on strucures and structures using array.

Around 10 students were selected after the written coding round.

**Round 3(HR Round):**

1. Tell me about yourself.

2. Tell me your hobbies.

3. Tell me your strengths.

4. Why should i hire you.

5. Why do u want to join Wooqer.

6. What so u know about Wooqer?

7. Then he asked my CGPA and JEE MAINS Rank and JEE Advanced Marks.

8. Finally he asked do u hav any questions for me?

I have prepared these questions well and the interviewer seemed happy after this.

As expected i was on the top and was one of 4 chosen for next and final technical round:

**Round 4(Technical):**

1. WAP to check if a given binary tree is a binary search tree?

<http://www.geeksforgeeks.org/a-program-to-check-if-a-binary-tree-is-bst-or-not/>

He also discussed about binary search trees and asked me to write the full code.

2. WAP to check the duplicates in a given array containing N elements from 0 to N-1. I told him using hashing and then using modified binary search. He did not ask me to code.

3. He aslo asked me why i want to join wooqer?

4. Finally he asked me if i had any question? then i ask how any company trusts wooqer before providing data. Then he very nicely explains it to me.

I had done really well in this round also.

I want to thanks geeksforgeeks for helping me acquiring this intern.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Wooqer

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### Numerify Interview Experience | Set 1 (On-Campus)

First written test was conducted on CoCubes platform,consisting of two parts:

Part 1: Aptitude,Verbal,

Part 2: 30 MCQ's consisting of output questions of java,c++.Also from DBMS,CN,OS.

Then after selection from written test,next round was Assignment round,we had to code in java or C++.

1.Given is a (mxn) matrix with values comprising of 0 and 1. 1 defines a path while 0 is a void. By traversing from top (0,0) (top-left) position using up, right, down and left position, is it feasible to figure out if there is a valid path to the final (m-1, n-1) (bottomright) position. You cannot step on an already traversed tile more than once. If there is a valid path, can the same be printed?Print all possible paths.

Input:

```
4.5
1,0,1,1,0
1,1,1,1,1
0,0,1,1,0
1,0,0,1,1
```

Output:

Yes

```
[((0,0), (1,0), (1,1), (1,2), (2,2), (2,3), (3,3),(3,4)),
((0,0), (1,0), (1,1), (1,2), (1,3), (2,3), (3,3),(3,4)),
((0,0), (1,0), (1,1), (1,2), (0,2), (0,3), (1,3), (2,3), (3,3), (3,4))]
```

#### Interview Round:

Results of Assignment round were mailed to us and selected students were called for interview round.

He started by discussing assignment question and variances of it, he asked approach to find the Shortest path in Assignment question.

After this, he discussed on all my projects in detail which I had mentioned in my C.V.

Then he gave me DBMS questions to solve one by one:

1. Design a database schema to store Student marks for each test in the class per term. The information also should store the Professor who is in-charge to conduct that test. On this data, design a schema to secure data for view as follows:

Professor can view data of all the students

Student can view data pertaining to himself.

Student can view Low, Average and High score of the class for each subject without the name of the student to compare his score with.

2. He showed me two tables on laptop, First table with two cols: Boss\_id, Emp\_under\_id. second table two cols: Emp\_id, Designation.

Write query to display hierarchy for any select employee based on designation, he asked what keys will you give to which cols and why? Explained the query.

3. He asked there is a large document given with lakhs of sentences, write a query to display count of corresponding each distinct word. (This was an easy one).

Other interviewer started asking Java Questions:

1. OOPS concepts explain with example inheritance, polymorphism.

2. Abstraction, Data encapsulation why it is used.

3. He asked in detail about Static keyword in Java, what are static blocks and why they are used.

4. Why the signature of main method in Java is (Public static void) and if you remove public/void/static what errors will it give.

5. Diff between threads and processes? Diff ways of creating threads in Java?

6. Explain multiThreading in Java, he went into detail of this. He asked can you start a thread multiple number of times?

Then he gave me very simple code to write:

Given Slabs of percentages of tax, write a code to calculate tax for provided input:

0-2 lakhs -> 3%

2-5 lakhs -> 5%

5-8 lakhs -> 7%

Above 8 lakhs -> 12%

He asked me to explain the code.

Last question was a puzzle:

Bridge and torch puzzle, There are four people who want to cross a bridge, and they have a single torch which they need to carry while crossing the bridge.

Time taken by four people A,B,C,D is 2,2,5,5 mins respectively, to cross the bridge. When two people cross the bridge together, they must move at the slower person's pace.

Calculate minimum time needed for all four to be on the other side of the bridge.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Numeracy

## Infosys Interview Experience Set (On-Campus for Specialist Programmer)

The first was a coding round on hacker rank IDE, there were 2 questions to be answered in 90 minutes.

**Question 1 :** There are switches that can be controlled by a remote, n such switches are connected in series and at the end of there is a bulb, the remote has a button that toggles the state of the switch (on to off and vice versa), but the remote only works in switches which have an electric connection to them, A switch is connected when all the previous switches are turned ON, and the bulb is on when all the switches are ON, At first all the switches are off and only the first switch is connected,

Input- N (number of switches) , $1 < N < 30$

K(number of times the button is pressed)  $1 < k < 10^7$  output - 1 (if the bulb is on) , -1 (if it's not) hint : figure out a simple math formula where the ans is 1 for value of K is  $k = p^* \text{pow}(2, N) - 1$  [for all  $p > 1$  and  $p*\text{pow}(2,N) < K$  ].

**Question 2 :** there are N employee sitting in consecutive cubicles , we have to send a few of them to onsite , but each time we send one employee onsite , his cubicle becomes empty , now the other employees from both side of that empty cubicle stops working until they are given a gift .

the gifts are given in both sides of the empty cubicle until we reach the end or found another cubicle ,

Input – number of cubicle , and index numbers of people to be sent

output- min number of gifts needed

hint: we have to find the order in which we will sent the people on site , find the index that's in the middle or near about middle and send him out , keep doing the same for left and right sub array , there are many other ways of doing this by using binary trees .

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Infosys

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## Verifone Interview Experience |Set 1 (For Software engineer)

I had interview with VeriFone India Bangalore for Software Engineer position.

### Round 1: Written test (40 minute)

Two Programming questions and 24 Objective type Questions

1. Find occurrence of each character in given String
2. Write a query to find the details of Employee from past 7 days (SQL Query).
3. Valid interfaces signature
4. Exception child to parent.

### Round 2: (Team Member)

1. What is Thread, ways of creating thread?
2. What is synchronization?
3. Vector and List difference.
4. TCP/UDP difference
5. How to debug in Eclipse?
6. Web.xml tags name
7. What is Socket?
8. Hash code and Equals Method implementation for user defined class.
9. Enum declaration
10. Collection Framework Hierarchy
11. Exceptions Hierarchy.
12. JDBC Connections Code and type of Connection.

### Round 3: (Team Lead)

This Round Questions were asked on data Structure.

1. More focus on real time server and client connections, how TCP and UDP works.
2. SQL functions , Trigger, Stored Procedure
3. Jdbc Vs Hibernate
4. Server and Client TCP/IP program
5. Puzzle related to link list.
6. About Project, how FTP works?
7. Spring MVC Annotations Tags name and Package name.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Verifone

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## enStage Bangalore Interview Experience for Software Engineer position

### Round 1: Engineer Manager

1. Asked About project (End to End)
2. I have used Multithreading in my applications, so asked why Multithreading?
3. Multithreaded program using Thread and Runnable.
4. Applications server and Web server Difference
5. Project Architect.
6. Class design for project module
7. How to create a good database design?

**Round 2: (Director)**

This Round Questions were asked on Project and Payment Gateways.

1. In this rounds mainly focus on project, and the technology used.,
2. Types of encryption technique
3. About payment Gateways authentication.
4. Roles and responsibilities
5. Why do I want to join?

**Round 3: (Technology Head)**

This Round Questions were asked on data Structure.

1. HashTable and HashMap difference.
2. Log 4J explanation
3. Spring MVC framework.
4. Difference between Forward and sendRedirect (Servlet)

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
enStage

### TinyOwl Technologies Interview Experience | Set 1 (On-Campus)

Here is a brief description of my Interview Experience of TinyOwl Technologies

**ROUND 1: ONLINE TEST (Hackerrank Platform)**

1 coding question to be done in 1 hour. Difficulty: Easy

- 1) Given a set of strings, we have to determine whether the strings represent valid IPv4 addresses/IPv6 addresses or neither of the two. (Basically, it was a String manipulation question).

**ROUND 2: TECHNICAL INTERVIEW 1 (20 min)****Difficulty: Easy**

- 1) Given an array with integer data items, we need to find the minimum number of jumps needed to reach the end of the array where the number of cells we can jump at each step is equal to or less than the integer data item at that array index.
- 2) To find the lowest common ancestor of two nodes in a binary search tree.
- 3) Basic questions on Databases, Tables and SQL queries.

Questions based on resume.

**ROUND 3: TECHNICAL INTERVIEW 2 (1.5 hrs)****Difficulty: Average**

- 1) Implement a queue using stacks.
- 2) Breadth-first search in a Binary Tree.
- 3) Search an item in a matrix where all the elements are in ascending order both row and column-wise. Implement it using the best time complexity(worst-case).
- 4) Basic implementation of a priority queue.
- 5) Ranking of search results based on input keyword.
- 6) Questions related to web error status codes, server applications.
- 7) How to monitor CPU/Memory usage of various processes in Linux.

Questions based on resume.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
TinyOwl

### Barracuda Networks Interview Experience

Recently I applied to Barracuda Networks and following is my experience.

**Round 1:**

It was a 1 hour duration paper consisting of questions from C/Computer Networks/Operating System/Puzzles. Most of the C questions were regarding the Output of given code.

**Round 2 (Technical Interview):**

In this round I was asked :

Linked List questions

**Puzzles**

1:  $(x-a)^*(x-b).....(x-z) = ?$   
ans: 0 as  $(x-x)$  is one of the terms

2: abc  
+abc  
+abc

= ccc (ans: a=1, b=8, c=5)

Program to print patterns

```
For n=3 (so I had to write code for general n)
*
*
*
*
*
*
```

Then he moved on to my projects.

#### Round 3 (Technical Interview)

Some C output programs.

Puzzle of measuring 4L from 3L and 5L jars

Find a 10-digit number where the first digit is how many zeros in the number, the second digit is how many 1s in the number etc. until the tenth digit which is how many 9s in the number.

Questions related to Operating System concepts (threading, caching, scheduling)

Networking (like how does ping work, how did LAN function etc)

Addressing schemes in computer system.

#### Round 4 (HR)

It was just to get to know you. In case you have any other offers. How soon can you join? Why didn't you join the other company from which you had offer?

#### Round 5 (taken by MD)

If you've made it till here, you're almost done.

Questions about my strengths, weaknesses, why should we hire you etc.

Why I didn't join the company I had offer from?

Then he explained about the different profiles in the company.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Barracuda Networks

## Why I didn't go for lucrative offers of Ibibo/ZoomCar and decided to go for an entrepreneurial journey in the current Startup I am working for

### ZoomCar Interview experience:

Few weeks ago, I got a mail from Zoomcar HR saying that the CTO of the company wanted to have In-person interview with me. I was a bit shocked and confused, Since Zoomcar is now mid-size startup , having a tech-team of 50+ people. But since the CTO directly called me for the interview so I decided to go and visit him.

#### First Round with CTO

Duration : 1 hour 30 min

1. General Questions about the key roles which I am playing currently like leading tech team in the current startup i am working for, advising startups and advising students on programming.
2. How I built the Bi-directional syncing architecture in my current startup, then he put some constraints to improve it to make scalable and reliable.
3. How I build the Multi-tenant server architecture in current working startup.
4. We discussed on haproxy,Master-Slave configuration,Replication and redundancy.
5. Basic Questions on Rails architecture and REST .
6. Basic Algo Questions :
  - a.Implement queue using two stacks ,in the most optimized way possible.
  - b.Remove duplicates from linked list .
7. Basic questions from Ruby about block , proc and lambda.

#### Second Round with Technical Lead

Duration : 1 hour

TL entered into the conference room and went through my resume .

1. He asked me about my Google interview experience.
2. We discussed about my college project Search engine. He asked about the data structure to store index and algorithms involved in building search index , he also asked me about how google stores their index on multiple machines .
3. He asked me how to build a spell correction if there were no dictionary, then he asked me to implement Trie . Finally we discussed on how Google spell correction works , discussion went on bayes theorem and NLP.
4. He also asked me a few more data structures question on hashmap,stacks,Linkedlist,Heap,B-tree etc.
5. We also had a discussion about Zoomcar server-side architecture .
6. He also asked me some advance ruby concepts like metaprogramming , modules , etc

Finally, CTO entered the conference room and asked me about my expectation, since I hadn't prepared my mind to go and crack the interview, so I roughly gave them one BIG number, next day I got a call from HR saying that they are ready to hire me for the same.

BOOM!

IBIBO Interview experience :

All interviews were taken by Tech Head of the product team.

#### **First Round :**

1. Which is more secure get or post.
2. Discussion on REST architecture.
3. What are the different dynamic ways to call a function.
4. How modules and Class store in memory.
5. Discussion on meta-programming in ruby.
6. Find the missing and repetition number in an array.
7. Discussion on Bi-directional sync architecture apps and server.

#### **Second Round :**

1. Asynchronous function call in ruby.
2. Threads in ruby.
3. Modules and Classes in ruby.
4. Symbol and variable in ruby and python.
5. How Zookeeper works.
6. How to delete nodes in a heap.

#### **Third Round :**

1. Closures in javascript.
2. Basic Jquery questions.
3. Single and Multi-column index in mysql
4. How prototype works in javascript.
5. Active Record and Action controller in Rails.
6. Discussion on my college project Search Engine.
7. The Interviewer also told me about work culture at ibibo office .

#### **Fourth Round :**

Build a Rails app for authentication of users which consumes Rest api and oauth2 implementation. There were some other constraints also in terms of UI like page should refresh and UI should be attractive etc.

After being interviewed and getting feedbacks from HR of both the companies, I was bit confused whether I should go for these companies or I should work for growing startup , So I had a talk with my founder over drinks that I really wanted to groom myself as an entrepreneur , but if i join any of them , I will grow as a developer.

So my founder gave me an opportunity to groom as co-founder and lead in tech, Operations and represent the company to investors for fund raising.

So I recommend all the students that you should invest early stage of your career working amongst passionate people in a small companies where you will be have more responsibilities and you will be able to prove yourself that will help you in grooming more compare to other big tech companies.

You can know more about me at [www.codedoctor.in](http://www.codedoctor.in), Happy Coding

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Ibibo  
Zoomcar

## **Interview with WOW Labz for MEAN Stack Developer**

Interview was for position of MEAN Stack Developer.

#### **First Round**

5 Questions. Relatively Easy ones just required use of if and for.

#### **Second Round with the CTO.**

Talked about my Resume. One question from Algorithm and Data Structures on Graph and hopping.

Question : Given a finite set of three letter words How will you find out minimum number of hops required to reach from one word to the other.

Conditions :

Hops should be minimum.

Resulting word should be in the set.

Ex

Input ['sat','cat','rat','tap','stt']

'sat'

'stt'

Output 1

#### **Questions on MEAN**

Ques 1 : What apps have you created in Node and How ? How much Angular did you use?

Ques 2 : Explain session and cookie in your code.

Ques 3: How does session remember details of every member that logs in. Like thousand people open flipkart. Now what they choose, what they see is being stored. and also there cart. On code level how will you achieve it?

Ques 4 : What are callbacks ? Why callbacks came into existence?

Ques 5 : Scope of variable in javascript.

Ques 6 : Classes in Javascript.

Ques 7 : Which driver you use to interact with mongo from Nodejs.

#### Round 3 :

HR Round with Product manager.

General questions about current and expected pay.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
WOW Labz

### CommVault Systems Interview Experience | Set 3 (On-Campus)

Commvault had recently visited our college. They were looking for both software developers as well as people for QA. Both had similar packages. Coming to the selection process, we were given a choice of opting for any one profile, days before the online test. I opted for the DEV profile. Everyone who applied were eligible for the test provided their cgpa was more than 8. There were 3 rounds in total. My description covers only the process for dev profile. QA had a completely separate process.

#### Online test (2 hrs) :

The online test had 6 programs to be solved, 3 in c/ c++ and 3 in java. The 6 questions had a total weightage of around 100 marks. They were pretty easy and had to be solved in 90 mins. Questions:

One was direct sorting

One was resizing an array dynamically

One was making a circular linked list into 2 halves

Coming to java, one was replacing all duplicate characters in a string with its next character and final string should not have any duplicates.

One was finding kth item in a BST

One was finding no of even, odd, and prime numbers in an array

Partial outputs were considered. Then there were 16 aptitude questions with 1 mark each. But only 20 mins. Aptitude was time taking but its weightage was less so it wasn't a problem. We can't rely on aptitude to get past the online test.

21 were selected from the 450 members who applied for dev profile.

I got through the first round by getting outputs for 5 programs both full outputs and partial outputs together. People who had similar score in c and java were only selected.

#### Massive Coding round(9 hrs) :

This is a massive coding round for the 21 of us who were shortlisted. They wanted us to create a de-duplication engine that acts as a file storage, retrieval, and handling system. It must take some files as inputs, take data from it in chunks of 8 byte size and store it in some efficient data structure of our choice. The data structure should be robust and must not store duplicate chunks. Instead, it has to make a reference to the original chunk that is repeated.

They gave us 1 and half hr to come up with the most efficient design. Every 1 hour or so they kept sending off people whose design is not so good. They gave us some helper functions and header files as well. They kept helping us with the code and helped solving minor issues as well. They kept monitoring our performance throughout the round. I stayed till 8 hours and by the time i was sent away, there were only 7 people left.

By the end of 9 hours only 4 people made it.

#### Personal interview(final round) :

The 4 people who made it, gave a personal interview which was technical stress test, immediately after the second round. It was to test their limits of confidence in the subject and how they can handle extreme pressure.

On the whole, it was an amazing experience,(especially the second round) and it was not easy. Honestly speaking it was a bit of an extreme process of selection. I have never faced or even heard of such a selection process before. Only people with past experience in such type of projects, very strong determination and patience can make it through. I loved the whole process and i am glad i was able to experience it.

A big thanks to geeksforgeeks without which i wouldn't be able to prepare for placements.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
CommVault

### CommVault Systems Interview Experience | Set 2

CommVault System recently visited our campus.. Here is our interview Experience

#### First Round(Coding):( time 90mins)

First round was a coding round. There was 1 demo question, and 5 real questions. Coding had to be done in their own environment. Partial marking(for partial passing of test cases) was there. Questions were:

1) Allocate memory to a 2d array dynamically and return the pointer to that array..

2) Reverse all bytes of an integer

Example 1234 where 1,2,3,4 are bytes should be reversed as 4321

(Reversing the bytes )

- 3) Reverse all the words present in the sentence
  - 4) Find the kth smallest element in a BST
  - 5) Given a linked list reverse every k nodes of a linked list..
- 150 wrote this round and around 30 were shortlisted for the second round

#### **Round 2: (long coding) (7.5 hrs)**

Unix file system implementation

With operations such as create a virtual memory for a file (allocate virtual mem in blocks)

Deleting a file.

Recovering the old instances of a file based on time stamp value.

Etc..there were many such functions...

After every hour looking at the progress few people were rejected straight away..

I was one among 5 who coded for 7.5 hrs..

Finally they shortlisted 2 candidates from the 5 of us..

Luckily i was eliminated ☹ 😊

This unix file system question in round 2 is a traditional question asked in CommVault for Years now..

People aspiring for commvault do practice this question.

#### **Round 3:**

The 2 shortlisted students had a technical interview covering basics and finally they gave an intern for one guy

This guy was later called to their office in banglore and had further rounds ↴

Finally waz given a hard earned job offer.. ☺

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
CommVault

## **CommVault Systems Interview Experience | Set 1**

My CommVault Experience –

#### **First Round(Coding):**

First round was a coding round. There was 1 demo question, and 6 real questions. Coding had to be done in their own environment. Partial marking(for partial passing of test cases) was there.

Questions were:

1. Given 2 integers m, and n (decimal system), write a program to perform right shift on m , n times.
2. Given a stack (implemented using linked list), and some pre-defined functions : push(int), pop(), and isEmpty(), write a recursive function to reverse the contents of the stack. (No loops allowed).
3. Given a string s, and a mask string m, delete all characters in s that were common to s and m.
4. Given a 2-D array of x's and o's, write a function that first rotates the matrix by 90 degrees clockwise, and then pushes all x's to the bottom and o's to the top in every column.

**For eg, if** given matrix was: x o o

```

o x x
x o x

```

**After 90 degrees rotation:** x o x

```

o x o
x x o

```

**After pushing x's to botom:** o o o

```

x x o
x x x

```

5. Given preorder and postorder of a binary tree, write a function to find the inorder of the same tree.

6. Polynomials are represented as linked lists in the following manner:

Each node has 2 members, the coefficient(coeff) and the exponent(exp). Nodes given in decreasing order of exponent. For example, linked list:

(5, 4)>(2,3)>(3,1)>(4,0)

represents the linked list:

5x^4 + 2x^3 + 3x + 4

So, given two polynomials as 2 linked lists, return the sum of these 2 polynomials as a linked list.

25 students were shortlisted in this round.

#### **Second Round:**

This was a 7 hour coding round. We had to complete their code for a virtual file system. There were certain milestones which had to be completed. At the end, only 4 students were shortlisted.

### **Third Round(Tech & HR Interview) :**

Tech Interview:

First, I was asked to walk through my CV. They asked some basic questions about my projects, and I answered. Next, I was asked 3-4 hard puzzles. After that, coding questions, mainly from OOPS, DS and Algorithms.

HR Interview:

The HR interview was mainly about my CV. I was asked about my projects and roles held, and what all work I had done. It was pretty basic.

Finally, 2 of us were selected.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
CommVault

# **Alcatel Lucent (Nokia) Interview Experience | Set 2 (On-Campus for Testing and Software Development)**

Round1: aptitude

Quant  
Verbal  
Computer programming  
Logical reasoning

Difficulty: easy

Coding Two questions

- 1) arrange first half array in increasing and then other in decreasing order.
- 2) finding generalized HCF of a array.

Round 2: Technical Interview

OS questions were basic like how to create a process, thread, about semaphores.  
data structures questions on Stack, Pointers,  
what is memory leak?  
questions on projects

Round 3: HR

i didn't get through but as i asked my friends it was just a intro kind of session.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Alcatel Lucent

# **Interview Experience with Alcatel Lucent (Bangalore) for Software Engineer**

Round 1:

Interviewer was very cool guy, he started with general discussion about work and company. Later on he started with Technical Skills.

1. Operator Program output (i.e. i++, -i, i,++i).
2. Strings equal method and "==" programs Output.
3. Single Design Pattern (Lazy and Eager Loading)
4. Consumer Producer Problem, Using Thread
5. Create a Java class which can validate HTML file.
6. Reverse Of Link list without using API
7. Stack implementation
8. Basic of serializations.
9. Sorting of IP address, using Java IP libraries.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Alcatel Lucent

# **Zopper Interview Experience | Set 2 (Off Campus for Backend Developer)**

1st Telephonic Round:

Questions around Python like decorators, flask framework, REST API were asked.(As my prior experienced was on it.)

1) Find if two linked lists intersect at a point.

#### 2nd Telephonic Round:

Similar to 1st round. No DSA ques was asked. All around python.

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Zopper.com

## Zopper.com Interview Experience

#### Round 1 : Statement Round

We were 5 people and given a problem statement and we were asked to design application or think about how should be the application and present our Idea individually.  
My topic was "design parking app which will show the available parking slots and fare in a particular area"

#### Round 2: Technical Interview 1

1. What are ACID properties with real life examples.
2. what is Linked list and reverse the linked list using single pointer/ 2 pointers.
3. What is RDBMS.
4. what is virtual memory
5. what are primitive data types? what is bitwise operators?
6. what is primary key? unique key?
7. Can unique key be a primary key?
8. What is foreign key? can foreign key be Null?
9. what is normalization? why should we do normalization?
10. normalized form is better or storing in a single table/ 2 tables is better?
11. create database of IPL
12. write a query to find name of a player with maximum number of runs in a match on given date and given venue.
13. query 1 2 3 4 5 6 7 8 9=100 solve this by placing or without placing any operator.
14. one more puzzle of making the probability of ball selecting... etc.

#### Round 3: Technical Interview 2

1. OOPS concept with real life examples.
2. what is class n object. comparison with real life.
3. program to swap numbers without using temp variable.
4. abstract class, friend class, and other questions related to class concept.
5. Inheritance and types.
6. WAP to print series, with printing characters if divisible by 3, 5, 3&5.
7. Some queries and concepts of RDBMS.
8. OS concepts
9. Puzzle of no of iteration to find light weight ball out of 9 balls.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Zopper.com

## Delhivery Interview Experience

Two tech rounds with HR discussion was done at Delhivery. Complete process took almost a week.

#### Round 1:

Ques 1: Brief about yourself.

Ques 2: Find all pair of elements in an array which sum as given integer x.

Ques 3: Find index in an array such that sum of all elements on its left is equal to sum of all elements to its right.

Ques 4: Find third highest salary from employee's salary database.

Ques 5: What is JAX-RS?

Ques 6: How to make string mutable in Java? (initializing string using new will create it in heap which is not immutable but interviewer was interested to hear about string builder and string buffer )

Ques 7: What was the entire stack used in your current project?

Ques 8: How to include changes of other person in your branch (git)? What is –rebase in git? Some more questions of merge conflicts.

#### Round 2:

Ques 1: Asked about current project.

Ques 2: Project was in nodejs so asked about why it is useful and in what scenarios callbacks are used ? How to run functions simultaneously ?

#### Round 3: HR round

Asked why you want to switch? What you are looking for ? etc etc

#### Round 4: PI test

It was predictive index test to determine compatibility with current employees. It was sort of psychometric analysis test. (Not a big deal)

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Delivery

### Palantir Technologies Interview | Set 1

The interview was scheduled after I passed the coding challenge.

The coding challenge was kinda simple, it was a grid, with each cell connected to its neighbors with some cost, you are allowed to move right and down, and you are required to calculate the minimum total cost for some employees (defined on the grid) to reach the bottom corner.

The grid size was a max of 1000\*1000, so a simple Dijkstra could solve it.

The interview started about 20 minutes late due to technical problems with Skype connection, so the interviewer dived in quickly to the technical question.

So the technical question was as follows:

We want to create LRU Cache, a data structure that stores pairs , and has maximum capacity, after which, any insertion process should remove the least recently used element.

An element is considered used when it's first inserted to the cache, and if its value was retrieved.

The interviewer wrote the body of the class, and my task was to implement it.

The first idea I got was to use a doubly-linked list, where any insertion process to the cache means we insert a new element as the head of the linked list, and of course the least recently used element is at the tail of the list.

The insertion worst case run-time was O(1), but the retrieval method was to run in O(n).

I was then asked to find a better way to improve the running time of the get method, and I suggested we use a hashtable to store the pairs , but then we would still need another way to store the order of usage of every element.

I suggested we can use a heap, to easily retrieve the least recently used element, but the interviewer asked me to combine the idea of the hash table with the idea of the linked list to get a better implementation.

So, the idea I got was to create both a hash table to be used in the get method, and a linked list to store the precedence of each key.

So, for each key, we have 2 entries, 1 entry in the hash table, and another one in the linked list, so I created another hash table, that given the key, it returns the node of that key in the linked list.

I started writing the code and kept updating it whenever we find a bug.

My final code was as follows:

```
// This is the text editor interface.
// Anything you type or change here will be seen by the other
// person in real time.

/*
 * Cache of at most maxCapacity objects, referenced by identifiers of
 * type <K>. When the cache needs to free up space, it drops the
 * least-recently-used object.
 */
class LruCache<K, T> {

 class ListNode
 {
 public K key;
 public ListNode next, prev;
 public ListNode()
 {
 next = prev = null;
 }
 public ListNode (K key)
 {
 this.key = key;
 }
 public ListNode (ListNode next, ListNode prev)
 {
 this.next = next;
 this.prev = prev;
 }
 public setNext (ListNode next)
 public getNext
 public setPrev (ListNode prev)
 public getPrev
 }

 public class LinkedList
 {
 public ListNode head, tail;
 public int size;
 public LinkedList ()
 {
 head = tail = null;
 }
 public void add (K key, T value)
 {
 ListNode node = new ListNode (key);
 node.value = value;
 if (head == null)
 head = tail = node;
 else
 {
 node.next = head;
 head.prev = node;
 head = node;
 }
 size++;
 }
 public T get (K key)
 {
 if (head == null)
 return null;
 else
 {
 for (ListNode node = head; node != null; node = node.next)
 if (node.key.equals (key))
 return node.value;
 }
 return null;
 }
 public void remove (K key)
 {
 if (head == null)
 return;
 else
 {
 for (ListNode node = head; node != null; node = node.next)
 if (node.key.equals (key))
 {
 if (node == head)
 head = head.next;
 else
 node.prev.next = node.next;
 if (node == tail)
 tail = tail.prev;
 else
 node.next.prev = node.prev;
 size--;
 return;
 }
 }
 }
 }
 private Map<K, Integer> keyIndexMap;
 private Map<K, ListNode> keyNodeMap;
 private int maxCapacity;
 private int size;
 private int index;
 public LruCache (int maxCapacity)
 {
 this.maxCapacity = maxCapacity;
 keyIndexMap = new HashMap<K, Integer>();
 keyNodeMap = new HashMap<K, ListNode>();
 index = 0;
 size = 0;
 }
 public T get (K key)
 {
 if (keyIndexMap.containsKey (key))
 {
 index = keyIndexMap.get (key);
 return keyNodeMap.get (key).value;
 }
 else
 {
 index = keyIndexMap.size();
 keyIndexMap.put (key, index);
 keyNodeMap.put (key, new ListNode (key));
 keyNodeMap.get (key).value = null;
 return null;
 }
 }
 public void put (K key, T value)
 {
 if (size < maxCapacity)
 {
 index = keyIndexMap.size();
 keyIndexMap.put (key, index);
 keyNodeMap.put (key, new ListNode (key));
 keyNodeMap.get (key).value = value;
 keyNodeMap.get (key).next = head;
 if (head != null)
 head.prev = keyNodeMap.get (key);
 head = keyNodeMap.get (key);
 tail = keyNodeMap.get (key);
 size++;
 }
 else
 {
 if (keyIndexMap.containsKey (key))
 {
 index = keyIndexMap.get (key);
 keyNodeMap.get (key).value = value;
 keyNodeMap.get (key).next = head;
 if (head != null)
 head.prev = keyNodeMap.get (key);
 head = keyNodeMap.get (key);
 tail = keyNodeMap.get (key);
 }
 else
 {
 index = keyIndexMap.size();
 keyIndexMap.put (key, index);
 keyNodeMap.put (key, new ListNode (key));
 keyNodeMap.get (key).value = value;
 keyNodeMap.get (key).next = head;
 if (head != null)
 head.prev = keyNodeMap.get (key);
 head = keyNodeMap.get (key);
 tail = keyNodeMap.get (key);
 }
 }
 }
}
```

```

 size = 0;
 }
 public LinkedList (ListNode node)
 {
 this.head = this.tail = node;
 }

 public void removeNode (ListNode node)
 {
 if (node != list.getHead())
 {
 ListNode prev = node.prev;
 ListNode next = node.next;
 if (prev != null)
 prev.setNext(next);
 if (next != null)
 next.setPrev(prev);
 else
 list.setTail (prev);
 }
 else
 {
 if (head == tail)
 head = tail = null;
 else
 head = head.next;
 }
 }
 public void setHead (ListNode node)
 {
 if (head != null)
 head.setPrev = node;
 node.next = head;
 node.prev = null;
 head = node;
 }
 public ListNode getHead
 public void setTail (ListNode node)
 {
 if (tail != null)
 {
 node.prev = tail;
 tail.next = node;
 }
 tail = node;
 node.next = null;
 }
 public ListNode getTail
 }

/*
----- (K1, T1) <- 1 (1, K1) (LRU)
----- (K2, T2) <- 2 (2, K2)
(K3, T3) <- 3 (3, K3) (MRU)
*/
private final int maxCapacity;
private HashTable <K, T> valueTable;
private HashTable <K, ListNode> nodeTable;
private LinkedList list;
/*
 * Returns object with identifier <key>, stored in the cache.
 * This object then becomes most-recently-used.
 */
public T get(K key) {
 // fill in
 if (!valueTable.contains(key))
 return null;
 ListNode node = nodeTable.get(key);
 list.removeNode(node);
 list.setHead(node);
 return valueTable.get(key);
}

/*
 * Puts <object> in the cache. At the time it's put in
 * it is the most-recently-used.
 */
public void put(K key, T object) {
 // fill in
 ListNode newNode = new ListNode (key);
 list.setHead = newNode;
 list.size++;
 valueTable.add(key, object);
 nodeTable.add(key, newNode);
 if (list.size > maxCapacity)
 {
 ListNode tail = list.getTail();
 valueTable.remove (tail.getKey());
 }
}

```

```

 nodeTable.remove (tail.getKey());
 list.removeNode (tail);
 list.size--;
 }
}

```

After we finished the technical question, the interviewer moved on to discuss the projects on my resume, and asked which project was most enjoyable and why. My answer was for the Ocean Simulation project, because among all projects I have done in college, that was the one I most used algorithms and tried to make the software as smart as possible.

1 thing is, I asked the interviewer about interns life at Palantir, his reply was "Are you applying for an internship?"

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Palantir Technologies

### MetLife Interview Questions

MetLife is a start-up in medical e-commerce industry. Interview process is 1 online coding test followed by 2 f2f interviews.

Could not recollect the online coding test problems.

Below are the interview questions

#### Round-1

- 1) Find all anagrams in a given sorted dictionary
- 2) Given pack of cards represented as A1,A2...A13 and B1,B2..B13, and C1,c2,...c13 and d1,d2..d13.  
You are given a file which has 51 card numbers. Only 1 card is missing. Find the missing card.
- 3) How do you write an order service which scales horizontally. Into how many services can you split this. An architecture/design diagram and explanation is required

#### Round-2

- 1) <http://www.programmerinterview.com/index.php/puzzles/25-horses-3-fastest-5-races-puzzle/>
- 2) <http://www.mathsisfun.com/puzzles/weighing-9-balls-solution.html>
- 3) Write JSON Parser. What are the Data Structures used for this?
- 4) Write DFS code. What are the Data Structures used for this?
- 5) <http://www.geeksforgeeks.org/largest-sum-contiguous-subarray/>
- 6) In an array all elements are repeated twice except one element. Find the element.  
eg: 2, 3, 4, 4, 3 — In this 2 is the element which is not repeated.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
MetLife

### Taxi4Sure Interview Experience

I had attended taxi4sure drive. Their process is written test followed by n f2f interviews.

Written test

- 1) Given an array of students whose ranks can be 0 or 1. Sort the elements so that all the students with rank 0 come before 1.  
Bonus points if algo is in-place
- 2) Find the first student from left side with rank 1
- 3) Write the algo to sort the students based on rank if the possible ranks are 0,1,2

I have given counting sort algo but looks they did not like my solution so was not proceeded further.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Taxi4Sure

### Lenskart Interview Experience for Application Developer

I had recently given Interview at Lenskart.com for Application Developer

First Round

Telephonic with HR on some basic stuff.

Next was the round where i was given some below questions

Q1. Given 2 arrays of integers, find whether they will form the same binary search tree.

Exp :- 2,1,3 and 2,3,1 will form the same binary search tree.

Q2. Given a dictionary of words, find all possible sentences that can be formed from a string with no spaces.

Exp : Iamcoolguy

Answer: I am cool guy.

Q3. Write a code to find all subsets of a given set:-

Exp: {1,2,3} will give {1},{2},{3},{1,2},{1,3},{2,3},{1,2,3}

Q4. Design a parking lot

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Lenskart

## CommonFloor Interview Experience | Set 1 (Placement Questions 2014)

Company : commonfloor.com (MaxHeap Technologies)

Criteria : Open to CSE , EE , EC , MA ; No CGPA Criteria

**Qualifier Round: on hackerearth.com**

1 hr 30 min : 5 Objective Questions and 1 Coding Question.

- 1) Definition of Foreign Key (DBMS).
- 2) No. of colors needed to colour any Planar Graph
- 3) Minimum Hamming Distance to detect error ....
- 4) No of nodes in a complete binary tree of height h
- 5) Equality of two regular expressions (Identity based).

Coding Question :

You are given the vertices , edges , start vertex and end vertex of a graph .The graph is directed and can have loops .Each edge is of length 1 . You task is to find the min distance b/w start and end vertex if it is reachable , else print (-1)\* (#Vertices reacheable from start vertex)

#Vertices

BFS is obvious .Only thing is that Graph must be implemented as **Adjacency List** rather than **Adj Matrix** else it causes **Memory Limit Exceeded** error.

**Tech Interview Round 1: (Approx 1 hr)**

- 1) Problem Statements of N Queens Problem , Sudoku Problem and strategies for solving them
- 2) Problem Statement of Tower of Hanoi , Write Code to solve it and extended it to 4 towers
- 3) Sort an array of zeros and ones
- 4) Find the first non repeating element in an array and Various Approaches (Like No additional mem , one traversal)
- 5) 25 horses - Minimum Races Puzzle
- 6) Find all the triplets from an array that sum to a given number. Report their indices.

Discuss various approaches like naive , sorting etc..

- 7) Problem which can be mapped to Finding maximum Lexicographical subsequence from a string.

**Tech Interview 2: (Approx 1 hr)**

OS Funda :

- 1) Def of Process , Threads , their diff , Multi Threading and a discussion about them
- 2) What is Virtual Memory and discussion on Memory Management techniques
- 3) What is Race Condition? What is Shared memory ?
- 4) What is Critical Section ? Peterson sol?
- 5) 2 Processes and their codes are given . (Indirect)Find the Critical Section

Android (I had my intern and BTP on Android ):

- 1) General discussion abt Android app that I did and my project

## 2) Activity Life Cycle and diff methods

DBMS :

### 1) Indexing and types

### 2) Primary Index and Composite Index

### 3) Discussion about SQL

ALGO :

1) Find whether a string is a substring of another .[I tried KMP but ended up explaining the Naive Approach].

2) Discussion on why my code didnt pass all test cases ==> Ways of representing a graph , pros and cons of diff ways, Several situations and suitable rep of graphs.

3) Question which can be mapped to finding Longest Common Subsequence. Write Complete working Code.

4) Basics of Binary Search Trees , Defined a new bst with an additional attribute size (sum of nodes of left child , right child + 1). Find the Kth smallest node . Explain and write working

HR Interview : (2 HR ppl , Approx 1/2 hr )

1. Introduce yourself , What do you know abt Commonfloor , Why do you want to join?

2. Suggest Some changes and also new features to add to Commonfloor website .

3. Detailed Discussion about my internship

# How did I develop the ecommerce application ?(Like division of work , Coordination of work, Asked me to show the app live on my Phone !!!!)

# Discussion abt Apache Cordova vs Android { Basically it was like my talk }

4. Discussion about my B Tech Project (about Power Consumption by Android Applications) and basic questions about Gantt Chart and Gantt Project (Part of my BTP)

5. Questions about my DBMS Academic Project "Carpooling" .Enhance it into a business model leading to maximum profits (I told features to make it better and the other business that

6. Personality Questions like "Tell me one quality why I should hire you ?" , "Your quality which you dont like the most"

My Turn: I asked about work culture , timings , etc..

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## GATE CS Corner

### Company Wise Coding Practice

# Interview Experience at Compro Technologies, Delhi

I recently had an interview with Compro Technologies, Delhi based firm, for Associate Software Developer. <http://www.comprotochnologies.com/#home>

The process took 4 rounds .(via TalentGrids)

## 1) Online Aptitude and Technical Round

Aptitude test had 30 questions to be done in 30 mins. There were regular aptitude questions.

Technical round was flooded with java based questions and C and DS based questions.

## 2) On Site Screening Round

2.a) Write a program to find a given substring in a string.

I told him the regular  $O(n^2)$  approach and then about KMP algorithm. He seemed impressed.

b) find number of vowels in string

c) reverse a given string

d) Sum of all the numbers present in a string

2.b) Sequence solving 2 , 7 , 28, 63 , 126, 215 , ?

2.c) PUZZLE :- given 25 balls and one with a defect such that weight is less, find in minimum measurements, given a weighing balance.

2.d) given 3 boxes containing labelled BLACK, WHITE or BLACK WHITE , having only either BLACK, WHITE or BLACK WHITE balls in each. Initially they were all correctly labelled, but someone messed up the labels such that they are all in the wrong place. How many balls u need to draw and from which box so that u can tell the exact position of each label.

2.e) U are at the intersection of a road that forms a fork ( Y ) . One path leads to the city of Truth speaking people and other to the city of Liars. A liar stands at the intersection, what question would you ask him to reach the city of truth speaking people.

I cleared this round for another F2F round at Delhi.

## Third Technical Round:-

3.1) Tel me about yourself

3.2) What data structures have u studied.

ans :- Int, Char, float,(YES , they are also data structures) arrays , Linked List ,Stacks , Queues, Trees

3.3) What is the difference between array and linked list ?

3.4) Write program to reverse a given string.

3.5) Reverse the string only word wise. i.e "I am a good person " -> "person good a am I "

3.6) Puzzle :- in a strange island, there are three different colored toads, Blue, Green , and Red , such that whenever two toads of different color meet they change their color to the third color. Is it ever possible that all of them will become of same color, if initially there are 12 B , 17 G , 19 R

3.7) some friends went for a holiday at a hill station. In total , there were 13 days it rained and 12 lovely evenings and 11 lovely mornings. If it rained in the morning, the evening was lovely, if it rained in the afternoon , the morning was lovely. How many days did the trip last.

3.8) he asked to measure a time of 15 minutes from two sand timers of 11 minutes and 7 minutes.

## Fourth Technical Round

4.1) Walk me through your Resume.

4.2) Explain the difference between call by value and cal by reference.

4.3) Is this a valid expression for function declaration void fun(int &a, int &b); ?

4.4) write a program to find a loop in a linked list. i had to find the element where linked list was looped.

4.5) write a program to find the intersection of two linked list

<http://www.geeksforgeeks.org/write-a-function-to-get-the-intersection-point-of-two-linked-lists/>

4.6) Puzzle :-

8 people want to cross a river via boat only. They are mother , father, policeman, criminal, 2 daughters, 2 sons.

The boat can be driven by Police, mother or father only.

The boat carries only 2 people at a time.

The criminal if left without police can hurt someone but wont run away if he is alone.

The daughters left without mother would be hurt by the father.

The sons left without Father would be hurt by the mother.

If one a riverside mother is absent and father arrives by boat, he can still hurt the daughters and vice versa.

Find a way to take them all to the other side safely, without hurting anyone.

4.7) Delete a node from a BST.

<http://www.geeksforgeeks.org/avl-tree-set-2-deletion/>

Thanks Geeksforgeeks for providing a sensible collection of questions with proper solutions.

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## GATE CS Corner Company Wise Coding Practice

# Juniper Interview Experience | Set 2 (On-Campus for Internship)

## Written round -90 mins

There were 39 questions in this test conducted on hackerrank platform

15 aptitude questions

20 technical questions

4 coding questions

Aptitude questions were moderate.

For technical questions you should know basic concepts of C/C++, OS & networking. Questions were hard

Coding questions were

- Given a singly linked list of 0s and 1s find its decimal equivalent

**Ex 0->0->0->1->0->0->1->0**

**Ans 50**

(You have to code only in C/Java)

- Given two sorted array merge them

(C/Java/python)

- Balanced parenthesis with slight modification

(Java only)

You should know about regex

- Next permutation of string with slight modification

(C/Java only)

You need to solve at least 2 coding questions and few technical questions

20 were shortlisted from 150 people

## 2nd round (F2F technical interview)

Duration around 30 mins

They asked about my projects

My strong subjects ( I said DS)

They asked codes which I couldn't code in written round

Then various sorting algorithms and discussion about them

Socket programming ( I told them I don't know much about it)

I told them that I really love to work with projects that's what they told us in PPT

& that's it

## Some other questions asked to my friends

OS: process and thread related basic concepts examples , synchronisation problem

DBMS: normalization in detail example

Use , denormalization and basics

OOPs : multi threading in c++ & java

Networking : OSI & TCP/IP model

Switch,hub,router and what happens in browser when we type URL

Basic networking questions

DS & algo : basic level questions

Sorting algo , matrix multiplication ,

Reverse of string , insertion sort in linked list etc

Thank you geeksforgeeks !!

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Juniper Networks

## Juniper Networks Interview Experience

Written Test: Aptitude + CS Questions (mostly DS + Networks and some OS) + 2 Code questions.

F2F 1:

- 1) C Language questions. Learn C thoroughly.

- 2) Implement insert in a binary tree

F2F 2:

- 1) Explain C programming stack.

- 2) What is segmentation fault. What is core dump. How to debug from core dump files

- 3) Count number of set bits in a binary number.

- 4) Most questions on C and debugging.

F2F 3:

Completely on projects. Also explained the kind of work they are doing there.

F2F 4: With team manager

Explain TOP command. Same discussion regarding projects

F2F 5:

Repeat of 3rd round. I think he is a VP. More in depth discussion on projects and stuff.

Poor communication from company side. Very irresponsible. If you are appearing, check with them regularly regarding the status of your interview and candidature.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Juniper Networks

### Persistent Systems Interview Experience (On-Campus)

**Written Test:-**

**A. Objective:**

They conducted a written test having 50 questions. Time: 1 hour.

Questions asked from 1. (pointers) C, 2. networking(tcp/ip basic protocols), 3. c++ (overloading, theoretical questions), 4. OS (job scheduling, deadlock, paging), 5. aptitude (5 or 6 questions), 6. DS (BST, linked list, stack, queue), 7. may be some questions are from dbms i guess (public key)

Time was less but questions were tricky.

No negative marking

**B. Coding round:**

A data structure question was asked, we have to write full code in 20 minutes but no need to write the executable code.

**C. Essay:**

They gave a topic (how to improve traffic conditions in India) and we had to write an essay in 10 minutes. They selected 19 or 20 members for interviews and I am one among them

**Interview**

Interview consists of 2 rounds: first round is technical round followed by HR round. In technical round he asked me questions from C, C++, OS, DS, Networking. In this particular interview they tested my basic knowledge in different subjects rather than in-depth knowledge in single subject. Interviewer is senior project manager and he is very friendly

I remember some questions

1. Difference between C and C++.

2. What is resource management.

3. What is error handling and have you experienced it practically?

4. What is data structure and why we use different data structures

5. He asked me questions about GUI and API (I said I don't know much about them)

6. He asked me about my previous projects.

7. Diff between call by value and call by reference. (didn't ask the question directly, he gave me some code and asked me questions like what is local variable, what are arguments and how does that function work)

8. Gave me one example of polymorphism.

9. What happens if we enter a URL in a web browser how does it display the page.

10. Do you know basic protocols of each layer in TCP/IP model.

11. Mutex concept in OS.

**HR round was just a formality.**

1. Tell me about yourself

2. Are you a team player

3. What do you know about persistent systems

4. What do you do if your team mate doesn't cooperate with you

5. He asked me about gap year

6. About work location preference

Thank you so much GeeksforGeeks team. (BST and pointers topics are very helpful)

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### Persistent Systems interview experience (on campus)

Persistent system came to our campus for recruitment. I faced so many problems before the interview because i searched a lot about the interview process and type of question asked in the written paper as well as in the interviews in persistent sys but I didn't find anything about it, meanwhile my seniors helped me a lot. Hope that my experience would be definitely help u in all the selection process.

#### First Round Written Test:-

- There was a written test having 50 question in 1 hour in which every topic had been covered. 5to8 questions were asked from the aptitude part those were avg level quas and rest of the questions were asked from the software section.
- There was no verbal reasoning question.
- Most of the question asked from networking, Dbms, OS. also software testing quas are important.
- Some of questions were from ds and algo, those were quite easy.
- Keypoint :time management plays a vital role because question were not tough but provided time was less.

#### Coding round

A simple data structure question was asked ,need to write full code for it.If u got selected in the objective paper only then coding paper would be checked.

Total 30 students selected out of 200 students. I ws one of them

#### 1st Technical interview:

It was about 50 min interview. started with C , gradually increases the level of quas .

1. As i entered in the room, He said me to have a seat and then started to see my resume meanwhile asked me "tell me about yourself".
2. Deep dissussion on my projects those were mentioned in the resume.He was quite impressed to my projects and the way of explaining it.
3. Basic oops concepts like what is polymorphism,abstraction, encapsulation and give the daily life examples of it.
4. what is buffer overflow?
5. How to implement queues using stacks?
6. How to implement stack using queues. Only he wanted to know my approach.
7. Difference between c++ and java?
8. difference between tcp and udp?
9. some basic sql queries like join (inner ,outer ).
10. reverse a linked list with recursion full code was needed.
11. He asked 2 standerd puzzles, i knew both of the puzzles but i pretended like it was the first time i m soving it . I took 10 mins in solving it. He was fully satisfied with my answers .
12. asked some basic quas of OS like difference between process and thread, what is paging ,page fault, thrashing.

he was happy at the end as said really nice talking to you.

#### 2nd Technical and HR interview:

1. Tell me about yourself
2. U are a electrical engineer then how could you prove your interest in softwere field?
3. What are your future plans?
4. some simple c questions like what is the use of static,auto variables
5. compiler vs interpreter
6. Segregate 0s and 1s in an array? expecting atleast 2 methods.
7. what do you know about us ?
8. he said if u wanna ask smthing you can then i asked about my job roles and type of projects I will be dealing with. He explained everything vividly

Total 6 students are selected . I was one of them

#### keypoint:-

Resume is very important. You should prepare each and every point that is written in the resume and fell free there, dont be nervous. Show your confidence . Always remember "they r here for your selection,not for your rejection".All the very best

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### Rockstand.in interview experience

Recently i applied online at rockstand the process took three days to complete.

There were 4 rounds for this process at their office.

**1st round**– shortlisting from resumes. They shortlisted who have good hand in each technology (c/c++ java asp php mysql html css)

**2nd round** – it was technical MCQ round. There were 7 sets of paper each containing 15 question (level – difficult) those sets were c,c++,java,php,asp,mysql,python.

cut off was moderate.

### 3rd round – coding round tie breaker.

10 coding questions i remember few. we have to do 3 questions and 1 question was compulsory to do.

1. <http://www.geeksforgeeks.org/a-program-to-check-if-strings-are-rotations-of-each-other-or-not>
2. find intersect of two sets containing digits
3. swap kth node from beginning of the linked list to the kth node from the end.
4. return second largest element from an array.
5. implement linked list addnode() at last deletenode() count() middle element()
6. create GUI and data base connectivity in mysql and show it on page( i did on php)
7. implement BST.
8. Merge sort and find median of sorted array
9. implement Cache

based on this round shortlisting was done.

### 4th round – F2F technical plus HR

1. discussion of project deeply
2. ask me to code a module of my project.
3. asked for favourite language in web development i said php so asked to me design GUI and database connectivity. retrieve data show it in the form of table. few mysql commands.
- for loop in php
4. discussion of my coding round question. he was impressed because i attempted 8 out of 10 questions.

i thanks geeksforgeeks for helping me in every step.

**tip**– learn the things don't cram them because interviewer is smart enough to catch you out tho.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Rockstand

## Philips Interview Experience | Set 4 (On-Campus)

Philips came in our campus on 20th dec. and the interviews on 22nd dec. The Initial shortlisting was done on the basis of CGPA. The cutoff is 7

### Written Round:-

- 1) English :- 25 questions (25 min)
- 2) Computer Ability :- 25 questions (35 min)
- 3) Logical Reasoning :- 15 questions (15 min)
- 4) Quantitative :- 15 questions (15 min)

The questions were of average difficulty. It was all about managing time. Computer Ability section had questions related to Data Structures, C output, basic DBMS and OOPs concepts. And Quant, LR and English can be prepared from Indiabix

16 people were shortlisting after this round.

### Technical Interview[55-60 min]:-

1. Tell me about yourself?
2. What kind of person you are?
3. Tell me about your achievements till date?
4. What are things that you have learned from your family and also asked about my family background?
5. This interview was mostly based on resume discussion. He asked me to describe my project.
6. Difference between C and C++.
7. Questions on OOPS Concepts and real life examples in the interview room,
8. Use of static function?
9. What is IPC? What is race condition?
10. What is Deadlock ?
11. What is trigger? What is stored procedure? Diff. between trigger and stored procedure?
12. What is bubble sort? What is binary sort? Which sort is better between bubble sort and binary sort?

What is quick sort?

Then he give me 6 numbers for sorting 11 54 23 89 23 45 using bubble sort and asked me to write the algo. Of bubble sort for sorting these numbers... I wrote the code within 5 min. and he asked me to trace the code manually and show the comparisons?

What is best case in bubble sort and what is the time complexity of bubble sort in best case?

13. Do you have any questions?? I inquired about the current Philips project in healthcare?

Then he handshake with me and said good luck for next round. He seemed impress with my performance in the technical round.

### HR Interview[25-30 min]:-

1. Tell me about yourself and achievements?
2. Brief explanation of my projects?
3. Then she asked me a puzzle-How can you represent days of month using two 6 sided dice? 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 29 one dice should show 2 and another should show 9.
4. What is the worst problem that you had faced in your life? And how did you overcome from it?
5. She asked me about my family background.

6. What is your future plans??
  7. Why job not M.Tech, MBA.?
  8. Do you have any question?  
Then she gave me an employment form . :);:)
- Total Selections- 10 ☺

#### Tips:-

1. For written test prepare yourself from indiabitix.com and geeksforgeeks.org and time management is very important in the written test.
2. They were focusing on candidate Skills and personality.So take it easy & communicate really well.
3. Philips asked puzzles so be prepare for interview puzzles from geeksquiz.

Thanks geeksforgeeks.org for my interview preparation. ☺

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Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Philips

## Philips Interview Experience | Set 3 (For Philips Innovation Campus)

The Initial shortlisting was done on the basis of Resume.

#### Written Round

- 1) English :- 25 questions (25 min)
- 2) Computer Ability :- 25 questions (35 min)
- 3) Logical Reasoning :- 15 questions (15 min)
- 4) Quantitative :- 15 questions (15 min)

The questions were of average difficulty.It was all about managing time.Computer Ability section had questions related to Data Structures,C output,basic DBMS and OOPs concepts.And Quant,LR and English can be prepared from Indiabitix

18 people were shortlisting after this round.

#### Technical Interview

- 1) Swap two numbers without using a temporary variable -quite an easy one i know :p  
<http://www.geeksforgeeks.org/swap-two-numbers-without-using-temporary-variable/>
- 2) He checked my OOPs concept and asked questions on Polymorphism
- 3) Give a practical example of polymorphism that exist in the interview room.
- 4) What is inline function?When and why it is used?
- 5) Questions on arrays like WAP which takes i/p & print numbers between 5 to 10.I guess,this was to check how attentively i was listening the questions.
- 6) SQL questions were there.(Joins and transaction)
- 7) He asked me about the layers of ISO-OSI model of Computer Networks
- 8) He asked me about my projects and internship- This was the deciding part in my interview

#### Puzzles

- 9) 2 Eggs and 50 floor puzzle. Find N(Threshold floor),while minimizing the number of drops for the worst case
- 10) 6 lion can kill 6 lamb in 6 mintues.How many lions are required to kill 600 lambs in 6 minutes?
- 11) Suppose there is a N-floor building and there is a certain threshold floor number from where the egg starts to break if thrown.What is the minimum number of eggs required to know the threshold floor number?

#### HR Interview

- 1) Tell me about yourself- Experiences and achievements?
- 2) Asked me about family background
- 3) What are the good qualities in you?
- 4) Do you have any questions?- I enquired about how much they welcome new ideas of freshers.  
He seemed quite convinced

Total Selections- 8

#### Tips

- 1) As they are hiring for Philips Innovation Campus.If you have any innovations and if you are able to present it well then your chances are really high. I used my projects as a weapon & it worked.Further having research projects adds a bonus as you will be working for R&D here.
- 2) They were focusing on candidates Communication Skills and personality.So take it easy & communicate really well.
- 3) They didn't filter anyone due to GPA in the interviews.So,be confident even if u have got less one. :p

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Philips

## Philips Interview Experience | Set 2 (On-Campus for Software Engineer)

Philips Came For Campus in our Institute CV Shortlisting.

**First Round:**

- 1) English :- 25 questions (25 min)
- 2) Computer Ability :- 25 questions (35 min)
- 3) Reasoning :- 16 questions (15 min)
- 4) Quantitative :- 14 questions (15 min)

18 Short-listed For Interview among 36:-

**Second Round(Technical):**

1. Tell me about yourself?

2 .He asked What are your Favourite Subjects?( I Said DS,OS,DBMS,STL In C++,PYTHON).

But started With Network Questions.

3. what are the layers in OSI models?

4. what are protocols?

5. In which layer we parse a string?

6. What is Ping?

7. Asked About all Layers.

8. Did u do online coding,tell me your handle?

9. Missing no. find out with decreasing order sorting?

<http://www.geeksforgeeks.org/find-the-missing-number/>

Solved With STL and he asked optimise it so Removed 1 Loop and Told Him XOR method.(He Said :- Very Interesting)

10. What are Semaphores in Operating Systems?

11. Tell Me About What Types Of Algorithms U used In Online Coding?

I was Expecting More Coding Questions But he asked only 1.

- 12.Solve a puzzle:-

<http://www.programmerinterview.com/index.php/puzzles/2-eggs-100-floors-puzzle/>

Final question It was.It Was Very Basic For me And Answered All Questions perfectly.Selected For Hr Round.

**Third and final round (HR):-**

1. Tell Me About Your Background?

2. Which Movie Did u see Recently?(I said Yesterday Transcendence And 2 Weeks Ago Intersteller).

3. Tell me the story?(I explained the story).

4. What are your strengths and weaknesses?

5. Why u Want to Join Philips?

6. He asked what times it takes from Your place to Your College?(I said 8-9 hours).

7. How MUCH Distance? (i said Around 500 km).

8. So How many Times U goes Home?(I said in flow that Yearly 3-4 Times).

9. He Was surprised And Said Means in 4 years U went home 15-16 Times? (I Didn't Know that It was negative point for me and i Said "Around Yes"(But Really I didn't go 15-16 times ).

(Its reason for rejection and Second Time For me when I didn't handle Hr question).

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Philips

## Philips Interview Experience | Set 1 (On-Campus for Software Engineer)

**First Round:**

- 1)English :- 25 questions (25 min)

- 2)Computer Ability :- 25 questions (35 min)

- 3)Reasoning :- 15 questions (15 min)

- 4)Quantitative :- 15 questions (15 min)

18 short-listed among 36

**Second Round(Technical):**

1. Inner join and Outer join (with Example and Sql Queries for the same)

2. What are inline functions? What the use of it? Why it is used?

3. What is destructor in c++? What is the role of it?

4. deallocation vs free()

5. Real life example of polymorphism (within the interview room)

6. Array vs List

7. .dll vs .exe

8. factorial of a large number(<http://www.geeksforgeeks.org/factorial-large-number/>)

9. Puzzle:- <http://geeksquiz.com/puzzle-7-find-the-jar-with-contaminated-pills/>

10. Puzzle:- Prisoner and Policeman Puzzle

11. What are stored procedure in MySql? (<http://geeksquiz.com/commonly-asked-dbms-interview-questions/>)

Rejected after Technical round(2nd round)

**Third and final round (HR)**

Final selections:8

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Philips

### NTT-DATA Interview Experience | Set 1 (On-Campus)

NTT DATA came to my college in the month of February and I was in 8<sup>th</sup> Semester of my engineering. This company came for the selection of engineers from computer science, Information technology and Electronics and communication department only. Selection process was conducted by NTT Data for filling requirements of post of Associate Software Engineer.

#### Eligibility Criteria:-

- Student with at least 60% marks in his / her 10<sup>th</sup> and 12<sup>th</sup> class from any of the recognized board of India.
- Minimum CGPA of 6.2 (equivalent 70%) was required with no current backlogs at the time of Interview.

#### Section Process:-

##### Round 1:- Written Examination

Written test was conducted by Aspiring Minds (AMCAT). It was a simple computer based test which includes aptitude, verbal reasoning and logical reasoning section as it was very general part of company selection process. Another section which was very interesting was Computer section which includes computer engineering and computer programming questions. These questions were related to output, string in C, operating system, computer network, software engineering, SQL and data structure.

Out of 700 students, nearly 155 students were shortlisted for Group Discussion Round.

##### Round 2:- Group Discussion

These 110 students were distributed among 13 groups which included nearly 12 members in each group. For Group Discussion our group of 12 members were called into GD Room. They gave us a blank paper for writing and summarizing our views. This GD part was of 30 minutes which was divided in Common discussion (10 Minutes), Individual points (1 minute per person) and rest of time was given in concluding Group discussion and to come up with common views. Our topic of GD was "Privatization in Defense Sector". We were divided into against and favor of this topic so that we can discuss.

Based on Group discussion nearly 4-5 members from each group were shortlisted for interview process which constituted nearly 60 members out of 155.

##### Round 3:- Technical Interview

This round was one of the most interesting rounds because I was aware about most of questions asked to me related to computer science. The main focus of interviewer was to know about my basic understanding of computer science core subjects and the whole interview was around to C, DS, Algorithms and database. He was asking question from operating system about banker's algorithm, Booting process, CPU scheduling, semaphore, threads, process and memory management. OSI Layer, routing and subnet masking (Problem) was the main topics which they covered from computer network. They asked about cryptography and Feistel Cipher which was from my elective subjects. Rest of the question basically includes algorithms and SQL queries and I had discussed mine approach with the interviewer based on inputs and outputs of given problem.

After 1 hour round of Technical Interview, candidates were again shortlisted.

##### Round 4:- HR Round

This was one of the shortest rounds and it was taken by two Ladies (Japanese and Indian). They asked general question from my resume and about extra co-curricular activities after my introduction. They also asked few tricky questions and puzzles which you can practice from any of the puzzle book of Shakuntala Devi or GeeksforGeeks.

##### Round 5:- Technical Round

It was the last round of the selection process and it was about the projects and internships. I explained all the things related to my project, like my role, coding, architecture, functional and nonfunctional requirements, test cases, logic, database design, Web-technology, research paper related to it and future perspective of project for society in nearly 15 minutes. Then I spend nearly 5 minutes on my SEO based internship in a startup. That's it.

Engineers do not needs to sign any of the bond that's a good thing about NTT Data.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
NTT-DATA

### Times Internet Interview Experience | Set 3 (For Mobile App Developer)

I applied through employee referral for the post of Android App developer Intern

They gave us one week task to build a simple android app to list all the apps installed on user smart phone in recycler view and delete the user selected apps in one go using Accessibility service (Only Bonus Task in Assignment). This task to be done from Home

They gave us one week time and called for an FTF Interview at Times Internet, Noida Film City Office

**Round1 (1.5 hour):** I was introduced to 1-2 year experienced Android Developer

He asked about my project in well detail. Why I did this project? He even tested all my previous app from Play Store and asked questions for the same.

He asked me to explain the most challenging project in Android.

He asked assume a situation when you want to display least used app of user smart phone then how will you implement it?

I told him that we can make a service which will run in background and make a count of all the application launched by the user. The one with Zero count in let say 10 days is least recently used app.

He said with your approach it will take minimum 10 day, what if I want this information at 0th Day just when app is installed?

After 5 min I gave him two approaches as follows

- In our servers we can list some most common un-used app based on Analytics.
- We can calculate User Data of the app and sort the apps based on that

He said do you know about this no \*#\*#4636#\*#\*

I quickly told him yes that I read this on Quora other day

I told him the approach we can apply using above number to calculate the recently used apps using accessibility service but I told him that it won't be perfect solution.

He was satisfied

He asked me what you know about Rooting? What happen when we root a smart-phone? Have you rooted your smart-phone?

After that he said OK you will be next interviewed by 4-5 year experienced developer of Ganna.com

#### **-Round 2 (1 hour)-**

After 5 min 3 people came in they introduced themselves and asked my favorite language.

I said for programming C, C++ and for development Java (Android)

Q1. One of them asked to implement Hash map using Set in Java.

I told him that I am not that good in Hash map in Java but I told him that I know unordered map and unordered set in C++. He said Ok go on explain it.

Q2. After that another guy asked me to write code to find mirror of the binary tree on paper.

Told him the approach He was satisfied.

Q3. Print the following pattern

```
*

*
```

-Explained

Q4. They asked me given an array print the element with second last occurrence frequency

ex. 4 3 6 3 1 5 6 3 8 8 8 8

Output: 3

I told him  $n^2$  approach. He asked me to reduce the complexity till  $O(N \log N)$

After 5 min I gave him an approach by sorting all the elements in  $O(N \log N)$  and then traversing the array by maintaining 4 variables (Max count and Second Max Count and 2 characters)

Final solution with  $O(N \log N) + O(N)$

He seems satisfied

#### **Round 3 (1 hour):**

The same guy from Round 1 came and told me that I did well in previous round. Cheers!

After that there was a rapid fire round and questions were like

What is ADB, Fragments Life cycle, Activity Life Cycle, 9 patch image, Receivers in Android, How to share the values from one intent to other , what's the difference between Recycler View and List view? Why Recycler is fast? Retrofit, Volley, AsyncTask (I mentioned them in my resume) and lot more questions

I was not able to answer all of them and straight away told them I don't know and I am making a guess.

He said don't worry Cool

He told me about the project they are working on in well detail and asked general question like What's your future plans, Rate yourself on scale of 10.

Big thanks to GeeksforGeeks for helping me with Data Structure and Algorithms. You guys are doing great.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Times Internet

## **Times Internet Interview Experience | Set 2 (Experienced)**

### **Round 1:**

Discussion about projects and work

Search in a rotated sorted array <http://www.geeksforgeeks.org/find-minimum-element-in-a-sorted-and-rotated-array/>

Implement stack with find minimum in O(1)

<http://www.geeksforgeeks.org/design-and-implement-special-stack-data-structure/>

**Round 2:**

Spiral printing of a matrix<http://www.geeksforgeeks.org/print-a-given-matrix-in-spiral-form/>

LCA of Binary Tree<http://www.geeksforgeeks.org/lowest-common-ancestor-binary-tree-set-1/>

Boggle

<http://www.geeksforgeeks.org/boggle-find-possible-words-board-characters/>

DFS implementation

**Round 3:**

It was a machine coding round.

I was asked to hit an API and get some information on the basis of results needed to do some manipulation in result to show result on some specified format like sorting on basis of some parameters

**Round 4:**

It was a discussion round with Manager. discussion about why want to leave current company and other project related discussion.

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## GATE CS Corner Company Wise Coding Practice

Experienced  
Times Internet

## Times Internet Interview Experience | Set 1 (On-Campus)

**Round 1 Test**

Duration 90 Minutes

No. of Questions 22 questions

Test Sections

Section 1: Data Structures, Hash maps, Tree Traversals, Basic pointer questions and Aptitude

Section 2: 1 Coding question based on DFS

**Round 2**

**Technical Interview (35-45 min)**

**Interview Questions**

Question 1: Introduce yourself.

Question 2: Being from a non-CS background (Civil Engineering branch), he asked me which coding language i am best at.

Question 3: Find the second largest prime number from a given array of positive integers. Also return it's index in most optimal way

Question 4: Given an array of positive and negative integers, find the first missing positive number in the most optimal way.

Question 5: Which data structure would i use to program a jigsaw puzzle program and what methods would i use to solve the puzzle.

**Round 3**

**Puzzle Interview (40-45 min)**

**Interview Questions**

Question 1: Asked me questions based on my CV

Question 2: If a person travels from point A to point B at 20 km/h and returns at 30 km/h, calculate the average speed without using pen and paper.

Question 3: Asked the above question with different speeds to travelling.

Question 4: Given 8 balls of the same properties and one of these balls is defective and is heavier than the others. Calculate the minimum no. of steps to find the defective ball.

Question 5: Asked the above question, but this time we don't know whether the defective ball is heavier or lighter than the others.

Question 6: 20 red balls and 16 blue balls are present in a bag. 2 balls are removed, if they are of the same color, then they are replaced by a red ball. If they are of different color, then they are replaced with a blue ball. Find the last ball to remain after the entire process.

Question 7: What is polymorphism with examples.

Question 8: What is operator overloading?. Give an example.

Question 9: Differentiate between method overloading and method overriding.

Question 10: Do you have any question for us?.

**Round 4**

**HR Interview (20 min)**

**Interview Questions**

Question 1: Questions based on my resume

Question 2: What do i know about Times Internet and the work that happens in TIL.

Question 3: Why was i opting for a job as software developer though i was from Civil Engineering background.

**General Tips**

Be confident, think loudly, never panic and have a smile to your face always. You have already prepared hard for the recruitment process, it is just the confidence that matters. Don't lose hope, there are many opportunities for you. Practice a lot of code and put geeksforgeeks as the homepage.

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## GATE CS Corner Company Wise Coding Practice

## Eze Software Interview Experience | Set 2

I gave three round at EZE Software. A profile was on .Net and location was Hyderabad

1) Hacker Rank Test Two coding Problem

2) F2F Problem on Skype:

- Find a middle in Link List
- All operations of Stack with logic and application
- two query on the base of joint
- Queue logic and applications
- the angle between 2:20 in clock
- Scenario Design your own tech Park

3) Round was also skype from Boston with two guys

-they gave an introduction about EZE Software

-asked puzzle of 9 balls one has less weight the other find out in two try using weighting machine.

-what do you do in your free time and your interest.

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## GATE CS Corner Company Wise Coding Practice

## Eze Software Interview Experience | Set 1

The recruiter approached me via linkedin and sent me an Hackerrank test. After clearing it, i was invited for f2f interviews at their Hyderabad office.

**F2F-1 : With One lead developer**

- A discussion on my current work and my role in it.
- I was given 'Least Common Ancestor' problem and was asked to write code on white board and trace the same for various test-cases.
- Array vs Linked-List for implementing stack and was asked to write code on board for both approaches.

**F2F-2: Two interviewers were present.**

- Discussion about Classes Vs Interfaces and the differences in Practical Usage.
- Discussion on memory layout for ArrayList and Hashmap.
- Fibonacci-series with DP and then was asked to reduce the no of lines of code to minimum.

**F2F-3: A senior guy, probably India Head.**

- An overview of my current project and a few follow-up questions.
- Basic Questions on SQL.
- A discussion on their product and role being interviewed for.

After that, the HR business partner spoke to me for a few mins about the Salary expectations and stuff.

Overall, it was a pleasant experience. Some one who has a good knowledge of OOP and DS basics, should be easily able to get through.

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## GATE CS Corner Company Wise Coding Practice

## Eze Software Interview Experience | Set 1

**Coding round:** HackerRank link was sent to email ID. Challenge lasted for 45 minutes. There were some coding questions and some MCQ questions coding questions

1. Implement the function to ceil the the number of integral point
2. Cloning of a Object using Java

**MCQ questions :**

These are very basic in nature. you can answer easily if you minimum programming knowledge. Totally 50 marks question and I got 45. Hence called to F2F interview.

Reached Eze software group and security clearance for entrance took almost 15 minutes of time.

**F2F 1st Round :**

Asked about **design patterns**. I told 4 types of design pattern. Then He asked me explain about Builder design pattern. The moment I started with Restaurant example, he asked me to stop and said that he heard this example so many times so try another example. I explained registration example. Seems he was not fully OK with my example. This round went for 20 minutes.

**F2F 2nd Round :**

He has drawn following table on board

#### Employee Designation Manager

|   |            |      |
|---|------------|------|
| A | Engineer   | C    |
| B | CEO        | NULL |
| C | Manager    | E    |
| D | Manager    | F    |
| E | Sr Manager | C    |
| F | Sr Manager | C    |
| G | Engineer   | E    |

He asked me to write a programme which reads line by line and make tree with the hierarchy in the organization and return head node. I tried for some time, I could not do it. Finally He asked me to go.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Societe Generale

## Societe Generale Interview Experience | Set 1 (On-Campus)

The role offered was of Senior Software Developer and the job location was Bangalore. Branches eligible – BE: CSE/IT/ECE/EEE

### 1st Round: Online Test

The first round was an online test consisting of General aptitude, English and technical questions like C, C++ output along with 2-3 questions each from Data Structures, Operating Systems, Databases and Computer Networks. The level of the questions was moderate. C/C++ output questions were a bit tricky.

46 students were shortlisted from over 250 who appeared for the online test.

### 2nd Round: Group Discussion

This was a group discussion consisting of 11-12 participants and one moderator. The topic given to us was – “Social impact of AI”. I was not very confident about my knowledge over this topic so I decided to start the discussion from the limited information I had. An important point to note for Group Discussions is to maintain eye contact with all members of the group and be very clear and precise about the point you are trying to explain.

15 students were shortlisted from four groups after this round. 3 students were selected from my group.

### 3rd Round: Face-to-face Interview

Started off with a brief introduction about myself and my background. The interviewer asked about any on-going projects. I explained him about a Digital Image Processing project that I am presently working on. Then the interviewer presented a coding question: “There is a text file that contains different numbers. My task was to sort the numbers and ignore any number which occurs more than once. Also, numbers only in the range of 0-9 were to be considered.”

I gave him the standard solution by reading elements from a text file and then removed duplicates before sorting the numbers. There was no time limit so I give him the basic  $O(n^2)$  solution, he did not ask me to optimize it either. Then a few HR question were asked like Why Societe Generale, etc.

### 4th Round: Face-to-face Interview

This interview started off with lots of discussions over the role of technology in the field of finance and banking. He questioned my about my knowledge in the field of finance. The interview was pretty vague and average up until this point. Then the interviewer gave me a real world situation. A railway track is given and a diversion track is also provided. I had to figure out all possibilities of collisions with trains moving in the same as well as opposite directions. Also I was asked to plot sensors at different points so that collisions may be avoided. Then he asked me to find out the different positions on the railway track where I should place red lights so that trains may be alerted beforehand about an upcoming train and stopped.

Next, I was asked to provide an algorithm so that a computer never loses a game of tic-tac-toe. Then the interviewer changed the problem and asked me to provide an algorithm to check a game of tic-tac-toe and check all possibilities of different players winning. I was asked to generalize my algorithm for an  $n \times n$  tic-tac-toe game rather than a  $3 \times 3$  one. The interviewer was more interested in my approach and logic rather than the actual data structures and algorithm that I provided.

A few HR questions were asked and he explained a bit about the work culture at Societe Generale.

### 5th Round: HR Interview

This was the final round and I was again asked to explain my Digital Image Processing project. Then the HR asked me questions like – Why do you want to join our company, what do you wish to improve about yourself before stepping into the corporate world, etc.

At the end, 5 students were selected for Full Time Placement offers.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Societe Generale

## Societe Generale Global Solution Interview Experience | Set 1

### 1st Round: Aptitude

25 General aptitude and 25 technical questions, 75 mins.

Tips- Manage time efficiently, don't even try something new during the test 😊

#### 2nd Round: Group Discussion

**Topic:** Start-Ups are a boon or a bane – made to speak against start-ups. My points – a well-established company gives you job security. Not all start-ups make it big. There are many start-ups built from the same idea, nothing new so success probability itself is low.

2nd Topic: Robotics in Banking- first made to talk against the topic then reversed it and made to speak for the topic.

GD took about 30 mins.

Tips- Make eye contact with everyone in the group, it makes you look more confident. Try to be polite, don't get too excited at any point. Be a good listener. Help your group mates, especially the members who are finding it hard to talk.

#### 3rd Round: Technical Interview

- Program to reverse a string.
- Made to write an SQL query .
- Difference between C/C++, C++/Java.

Questions on anything on the resume. I had mentioned I learned the basics of CSS, so was asked about CSS, I told him what I knew and added that I only learned the basics and if I were doing a project which needed it I'd learn more. Similarly, was questioned on HTML. Then the interviewer asked if I knew XML. Questions based on the workshops attended. Then asked me what domain I like programming in, I said I like development and I don't like system programming. Then on projects. What I know about SG.

Overall, the technical interview was damn chill, only basic questions were asked.

#### 4th Round: HR Interview

Tell me about yourself. Questions on your resume. Question on artificial intelligence. Because I mentioned that I like math, he asked me what the mathematical method to find the shortest path between nodes is. I tried to use brute force and explain it, wasn't satisfied. Then I used Bellman Ford, that was also not satisfactory. I got a little tensed now, but the lady HR was like, "Its okay J". Why I would like to work in SG.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Societe Generale  
Societe Generale Global Solution

## Amdocs Interview Experience | Set 5 (On-Campus)

Amdocs visited our college for full time Software Engineer profile. Selection process was consist of 3 round.

#### Round 1:

Total of 150 students appeared in online test out of which 31 are selected for next round.

#### # 1st Round Topics:

- 1.1) Quantitative Aptitude
  - 1.2) Logical reasoning
  - 1.3) English comprehension and general questions
  - 1.4) sql/pl-sql (queries)
  - 1.5) unix (commands)
  - 1.6) OS and C outputs (some C conceptual questios too)
- 1.7) 2 Coding questions ( 1. WAP to print all prime numbers from 1 to n, 2. WAP to print all distinct number in an array (e.g. if array is 1,3,5,4,7,3,4,7 then o/p is : 1,3,5,4,7)

NOTE: first you will have to choose in which language you will code (option was c and java)

#### #2nd Round:

interviewer started with asking me about my family background and then from where you did BCA.

2.1) He asked me to rate myself in all subjects out of 5 ( in C,C++,DBMS,SQL,PL/SQL,Networking) (i didn't rate 4 in any of the above subjects so he asked me tell a subject (or a field) in which i can rate 4). i told puzzle solvig. He asked two simple puzzle....

(2.1.1) You have a 7 inch gold bar and you have to give 1 inch bar daily to a servant working for you (he works for 7 days). what will be the minimum cut so that you can give the wage to servant. ( i answered then he asked what if the bar is 15 inch and servant works for 15 days (answered)).

(2.1.2) what will come at question mark?

2+5 = 10  
6+6 = 72  
8+9 = 136  
4+11 = ?

(there is an error in the question "2+5=14"... i corrected that and then answered )

#### 2.2) Now he switched to Technical part

what is structure, difference between structure and union,

what is void pointer,

const pointer, pointer to const,

selection sort complexity ( worst case, best case, he was trying to confuse me )

program for Perfect number,

2's complement of -5,

merge sort (only explanation and complexity)

Dangling pointer

Data structure to reverse string ( other than stack)

Data structure used for networking

what is multiplexing and demultiplexing

what is signal

what is cursor

Difference between 'where' and 'having' (dbms)

Difference between 'truncate, drop and delete' (dbms)

what are aggregate function(dbms)

Simple queries related to Self join

then he asked do you have any questions i asked about the the technology the company is working on, he told me about some of the technologies.

(DS questions can be asked as linked list questions were asked to one of my friends)

### #3. HR-Round

1. Tell me about your family background

2. why amdocs?

3. Do you want to do any further study?

4. issue with job location ?

5. why there is variation in percentage of marks

Out of 31, 14 were selected.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Amdocs

## Amdocs Interview Experience | Set 4 (On-Campus Software Engineering Associate)

### Eligibility Streams:

- BE - ECE, CSE & IT
- ME – ECE (Wireless communication)
- M.Tech. – CSE & IT
- MCA

### Eligibility Criteria:

- Throughout first class i.e.  $\geq 60\%$  in (10th,12th, Graduation and current course)
- No current Backlog.
- Good communication skills.
- Must not have appeared for Amdocs Recruitment process in any Campus/Off Campus process.
- Location – Gurgaon/Pune

Salary: 6 LPA + Annual Bonus\* + Benefits\* (\*As per Amdocs policy)

### ROUND 1 (ONLINE TEST):-

A total of around 350 students from BE (CSE, IT, ECE), ME (CSE, IT, ECE) and MCA. The online test was conducted on "AMCAT" platform by "Aspiring Minds". It had the following 6 sections:

1. Personality/Psychometric – 80 questions – 20 minutes
2. Quantitative Aptitude – 16 questions – 18 minutes
3. Logical Reasoning – 14 questions – 16 minutes
4. English – 18 questions – 16 minutes
5. Coding – 2 questions – 45 minutes
6. Linux, PL/SQL, C – 30 questions – 20 minutes

Total time: 2 hours 15 minutes

Before beginning of the test, the student had to choose the language for the coding questions out of C/C++/Java.

### Coding question #1:-

- Write a program to print pattern as the following output as per the given input.

Sample Input:-

4

Sample Output:-

1

2\*3

4\*5\*6

7\*8\*9\*10

7\*8\*9\*10

4\*5\*6

2\*3

1

- Coding question #2:-Write a program to print all the prime numbers till 'n' (input).

Sample Input:-

11

Sample Output:-

2,3,5,7,11

84 students were shortlisted from Round 1.

#### **ROUND 2 (TECHNICAL INTERVIEW):-**

The questions were asked on the basis of resume. It focused a lot on projects. It lasted for around 25-30 minutes.

1. What is your dream and passion?
2. How are you able to manage all your projects, semester courses and so many positions of responsibilities at the same time?
3. Out of all the projects that you have developed, explain your favorite project.
4. You have scored over 90% in class 10th and 12th, then why is your college CGPA so less?
5. What is your proficiency in the following technologies?
  - a) Languages : C, C++, Java, XML, Visual Basic
  - b) RDBMS : Oracle SQL, MySQL
  - c) OS : Unix, Linux, Windows
6. Which languages do you use for competitive programming and for development?
7. Out of C++ and Java, which language do you prefer as an OOP language?
8. Will you be able to learn Linux/Unix before the date of joining?
9. Where do you see yourself in the future?
10. Where are you from?
11. Which school did you study from?
12. What is your biggest achievement till date at the intra-school level?
13. Which is the most important position of responsibility that you have held till date?

75% of the students shortlisted from Round 1 were sent for Round 3 after Round 2.

#### **ROUND 3 (HR INTERVIEW):-**

1. What are your strengths and weaknesses?
2. Have you been ditched by someone? Have you learnt any lesson from it?
3. Are you shy? How can you overcome it?
4. What is your biggest achievement in life till date?
5. Briefly tell me something about your family background?
6. Do you have any siblings?
7. Being a single child, what is your responsibility towards your parents?
8. Being a single child, do you think you are pampered too much?
9. Do you enjoy being a single child?
10. Where do you live?
11. What is your native place?
12. Who lives in your native place?
13. You will be posted in either Gurgaon/Pune which is very far from current place of living as well as from your native place, so how will you perform your responsibilities towards your parents?
14. Why Amdocs?
15. Where do you see yourselves 5 years down the line?
16. Do you have leadership qualities?
17. How well do you work in a team?
18. Have you faced any problems while working in a team anytime?
19. Suppose you are the team leader for a project in the company. How will take inputs and ideas from your team members for the project?
20. Are you?
  - Flexibility to work across any technology/ platform used by Amdocs
  - Flexibility to work in any phases of SDLC
  - Ready to work in Shift operations
  - Flexible to work in Pune, Gurgaon or any other Amdocs location.

Give your answer in Yes/No.

21. Are you flexible to travel in case it is required? If yes, justify your answer with a valid point except the point that "I love travelling" which I hear always.

22. What is your mother tongue?

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Amdocs

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### Amdocs Interview Experience | Set 3 (On-Campus)

**TOTAL 3 ROUNDS:**

**ROUND 1::ONLINE TEST...topics**

- (a) quantitative aptitude
- (b) logical reasoning
- (c) unix(technical part)
- (d) **sql / pl-sql(technnical part)**
- (e) english comprehension and general questions
- (f) coding ( 2 easy question in 45 minutes).if u have an average coding skill than its easy for you.
- (g) operating system questions.(technical part)
- (h) psychometry test.
- (i) C **outputs** (technical part)

**ROUND 2:: TECHNICAL INTERVIEW**

NOTE:-the interviewer asked me everything that was not in my resume...question asked are as follows:

#### 2.1.GENERAL QUESTIONS IN C / DS / ALGORITHM

- (a) what is auto variable?
- (b) what is void pointer?use of it?
- (c) use of const in C?
- (d) what are register variables?
- (e) **n – queens problem with algo?**
- (f) **linked list creation?**
- (g) what data structure do we use in computer networks?
- (h) which data structures use to **reverse a string** ?

#### 2.2.QUESTIONS IN DATABASE

- (a) query based on self join.
- (b) transactions in ATM MACHINE.
- (c) difference between truncate , delete , drop table.
- (d) some other very easy sql queries.

#### 2.3.QUESTIONS IN NETWORKS

- (a) describe OSI model.
- (b) TCP/IP model
- (c) protocols used in respective layers with their functionalities.

#### 2.4.QUESTIONS IN JAVA

- (a) program on this keyword
- (b) inheritance
- (c) run time polymorphism
- (d) default constructor

#### 2.5.PUZZLES

- (a)bar puzzle
- (b)coding decoding puzzle(medium)

#### 3.ROUND 3::HR INTERVIEW

- (a)Introduce yourself
- (b) tell me about your family
- (c) which location do you prefer?
- (d) why AMDOCS?

The panel was interactive and interview experience is awesome for this company.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Amdocs

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# Amdocs Interview Experience | Set 2 (On-Campus)

Written test details –

Aptitude (quant)- 12 ques (16 min)

Logical Reasoning- 12 ques (14 min)

Coding test (C/C++/Java)- 2 ques (45 min)

Unix/ Sql (PL-SQL)/ C- 30 ques (30 min)

Apti and logical reasoning were quite easy, In Coding test first you have to select any one language in you wanna code then ques will be based on that language. Last section involves 10 ques each from the above mentioned topics. For Unix, you can take help of tutorials point.

Overall level of test was good and you can't skip any question means you have to answer it , then only you will be directed to next question.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Amdocs

# Amdocs Interview Experience | Set 1 (On-Campus)

### Round 1:

1.Quantative (16 ques in 16 min)

2.Reasoning(14 in 14 min).

3.English(18 in 16 min).

4.Coding(2 question in 45 min).

(I)Print pattern(for N=4)

1  
3\*2  
4\*5\*6  
10\*9\*8\*7

(II) Merge two array and sort them(can't use inbuilt function) Take care of TLE.

5.Sql+dbms(10 question) +unix(10 q)+c+ds(10 quest) in 30 min.

—>16 Shortlisted

### Round 2: Technical(1 hr)

1. What is inline function? Advantages of it.

2. Explain process state diagram.Explain degree of multiprogramming.

3. Tell me about fragmentation(told about internal as well as external). How external fragmentation can be prevented?

4. Entry control loop and Exit control loop.

5. What is an Abstract class?

6. What is pure Virtual function? Why we need it?

7. What makes a DBMS a RDBMS(told about E.F.Codd and 12 rules)

8. What is binary search tree? Insertion and deletion in BST(required codes).

9. Garbage collector in java and in c++.

10. Difference between calloc ,malloc and realloc.Why they are used?

11. Asked about new and delete operator in C++.

12. Asked about memory leak.

13. What is polymorphism?Explain types of it.

14. Difference between #include and #include "stdio.h"

15. What is encapsulation? Explain with an example.

16. What is the difference between overloading and overriding?

17. What is Stored procedure and triggers in sql and difference between the two.

18. How is Python better than any other language?What is the major advantages of it.(Project)

19. Explain your ongoing project. What is normal distribution? (Project)

20. Write code for the Insertion of a node into a circularly linked list?

21. What is Tower of Hanoi and how to solve it.

22. Draw a tree which is Perfect tree and another, Complete tree.

23. Behavioural Question: If in a team of 10, 6 employee do not work what will you do at your level?

### Round 3:HR(15 min)

1. Where are you from?

2. What are your Goals in Life?

3. Tell me about your strength? Give me an example for the same.

4. Joining location:Pune or Gurgaon

5. Tell me about your Family background.

6. Why Amdocs?

7. What is Amdocs?

Total selects: 7

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Amdocs

### HSBC Interview Experience | Set 3 ( On Campus – Software Developer)

First of all a big thanx to you guys, you are really awesome, without any mean you are supporting each and every person , thank you alot I recently got placed at HSBC , i would like to share my interview experience

HSBC recently visited our campus for hiring software developers (Full Time). Depending on your performance in all the process they classified two types of sub profiles: "Acer" and "Strikers", Acer was their top profile for that hiring.

#### 1st Round-(Aptitude + Programming Fundamentals)

- This round was of around 1hr 45 minutes. There were following sections in this test: [Aptitude](#), [Data Structures](#), [Algorithms](#) & [Java](#) (Core). Java questions were of quiet good level and they tested core java knowledge/concepts. Since I was good at java, and having good experience in working with java I was able to score good in Java section, out of 100-120 students 38 were shortlisted for the next Round.
- For this round I would suggest to attempt suitable number of questions from each section so as to clear section wise cutoff and give more time to java questions. Practice question on threads, multiprogramming, and some core in-built java functions, etc.

#### 2nd Round- (Coding round)

Time duration for this round was 30 minutes, it comprised of 2 basic coding questions.

- 1st: Reverse a number
- 2nd: Find a triplet in a given array such that product is a given number X (all numbers were present only once, i.e. non repetitive). Students who cleared at least one question were called for interview in next round. Around 30-35 students were called for next round.

You might be surprised of the fact that such easy question were asked but this time HSBC came for hiring mainly developers as they are going to build solutions on various new technologies.

#### 3rd Round – (Technical Round)

I was called amongst the first 8 students to be interviewed. It started with the mostly frequently asked question "Tell me about yourself" I answered about that (be honest here, and be prepared for this question in almost all interviews). Then she started asking from my resume, she asked me about the research paper I have written, and then she started asking about my projects. I had around 30-40s of video for the demonstration of each and every project, (Picture says 100 words, but a videos says 1000 !!) and she was very much impressed by my projects and the way I presented them to her. Most of the time she was discussing my projects and kept asking me about the technologies I have used and a short description on the same.

- She then asked me some basic java questions like is java purely object oriented?, what is base class of java? Etc. I answered some of them about which I was confident of.
- She asked me difference and similarity b/w a pointer and an array, and some basic questions from c/c++.
- She then gave me some analysis problem :  
**Q 1.** Suppose the entire architecture of their company's software (banking) is divided in 4 components A, B, C, D and 4 types of customer say 1, 2, 3, 4 are visiting the same, day in and day out. Two type of customers are facing delay in the service, how can you determine which component is having problem and which is not? She gave me 2 minutes to think upon that and write down the points on a paper.

#### My solution:

- i. Have a live calculation of throughput of each of the component (i.e. no. of requests completed / no. of requests received).
- ii. Since all types of requests would go to each component through a waiting queue, we can set a limit on waiting queue, whenever the no. of requests/jobs increases than the specified even we can trigger detecting that delay is occurring in this component.
- iii. Since in each banking transaction, there would be a time stamp of each component on the transaction we can have ideal time limits for each component to process a given transaction and whenever that time limit exceeds we can trigger an event indicating that delay is caused, etc. She was satisfied with my solution and then came upon another problem.

**Q 2.** Suppose there is an existing solution on any imaginary platform, say a desktop application and we want to move it to new technology say Android, she asked how you would move the same and what would be your considerations regarding the same.

**My solution :** I said that first of all I would strongly focus on the reason as to why I we would move to a new technology , I would then focus mainly on the things because of which we are moving to new technology, as the new technology might have some advantages / disadvantages I need to first focus on the advantages of the new technology , say android, which is based on java so It would be nice to use inbuilt modules written in core java but on the other hand I would also need to focus on the things in which the new technology is weaker in for e.g. Android is not suitable for performing high computations like machine learning, so I need to build some more efficient codes for the existing one in order to counter the disadvantage of new technology, mainly I suggested that I need to move the application layer only not the entire architecture.

I was then shortlisted for the next round after waiting for 1-2 hours.

#### 4th and 5th Round – (Technical + HR Round)

In this round I was having two interviewers, one HR and one from Technical part. As soon as I entered the room they asked me about the project which I had done 2 years back as I gave the least description about the same project in my resume. Technical manager tried to prove that why won't my product work but I tackled every situation he have and finally he agreed that this product would work successfully with a smile and a little laugh ☺ . Now he started asking about my other projects, as I had mainly android application as my projects, and that too were in my mobile at that time and for others I had made a video and uploaded them on YouTube for a better presentation, I asked them if I can show them the videos, they were very happy on the same and asked me show them, they was very pleased with the way I had presented my projects in videos. Then they asked me to practically demonstrate the applications that I had in my mobile at that time, I showed them my applications on machine learning, whistle detection, live exercise tracing etc and they were quiet impressed by all those. Then I told them about my research paper that I have written. Finally HR manager started me asking questions like why do you want to work for us? I gave them very honest answer that because of the good market and stability they are having it would be good for me to be safe there and have a brighter future in working with such a big company, He then asked my some emotions questions like : What would you do if your boss insults you in front of everyone? With what aggression would you reach out your boss in case you have better alternative than your boss has told you to work on? How would you tackle high pressure from your manager? Etc. I answered them calmly and he was quiet satisfied with my answers.

I would suggest you all that be honest and try to take the interviewers' to your strong point.

Finally after waiting for about 1 hour results were announced, and I was selected for "Acer" profile. A total of 8 students were selected, 2 for "Acer" and 6 for "Strikers" profile. Thanks a lot **GeeksForGeeks**. It helped me a lot on working out questions that are certainly asked in Interviews.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
HSBC

### HSBC interview Experience | Set 2 (On-Campus)

Interview experience:

2 profiles , one for legacy technologies one for new age technologies(big data, cloud computing,data analytics)

#### Round 1:

Written round consisting of 5 sections verbal(passage / article consisting of 20 blanks),analytical/aptitude(very basic questions),attention(very easy),C&Data Structures(easy includes sorting, graph, output questions),Java(involved a bit concepts interface ,threading , collections ).

It had sectional cut-off and java section was really the deciding factor.

#### Round 2:

Coding round:

2 questions: 30 minutes

1:Given a string count number of consonants, vowels and '?','!','\*'.String consists of only lower case characters.

2:Given a 2D matrix as

```
0 0 1
0 0 0
1 0 0
```

O/P:

```
1 1 1
1 0 1
1 1 1
```

constraints:in-place algorithm

Explanation:change the row and column of  $a[i][j]$  to all 1's if its equal to 1.

i<sup>th</sup> row with all 1 and j<sup>th</sup> column with all 1 as shown.

They will judge you on time and space complexity as the questions were easy.

#### Round 3:

Technical Interview 1:(both legacy and new age)(1 & 30 hour)

Q1: Tell me about yourself.

A1: I gave a good reply and he asked about my habit of reading tech articles as i mentioned.Then i explained about Quantum computing and it took 20 minutes.

Q2: From my CV about my projects(in detail) and internships.

Q3: Gave certain problems about DDOS and possible solutions one being your server limit is 10000 and the hacker sends in 1000000 bogus requests how will you handle such situation.

A2: I explained about the Firewall concept but he wasn't satisfied.

Q3: Explain the use of your projects/technologies in Bank enterprise.

Q4: Asked about the situation to solve the problem of pass-key loss in internet banking(He asked about what problem you face in internet banking to which i said this problem)

A5: I proposed a good solution to which he seemed impressed.

Main focus was on the CV.

#### Round 3:(30 minutes)

Technical Interview 2:(only for new age)

Q1: Why do you want to work with HSBC ?

Q2: Explain about the projects.

Q3: What technology you want to work upon and Why?

#### Round 4 :

HR Interview

Q1: Tell me about yourself

Q2: Situation:You are in a team of 5 and 1 of them has a conflicting thought upon a project.What will you do?

Q3: How do you perceive people?

Q4: Situation: 10 people say that a person X is really annoying and you have to share a room with him .What will you do?

Q5: Any questions ?

Finally they selected 3 for the New age technologies(they call them ACERS) and 5 for the Legacy technologies. Best of luck to everyone.And Thanks @geeksforgeeks.org

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
HSBC

### HSBC interview Experience for SDE

HSBC came to our college for SDE profile Hiring.

#### 1st Round:

Four Coding Questions to be done in 2 hours;

1. Quick Sort on Doubly linked list
2. Sort n numbers in range from 0 to  $2^n - 1$  in linear time
3. Find length of longest consecutive path from a given string character.
4. Given two strings str1 and str2 and below operations that can be performed on str1. Find minimum number of edits (operations) required to convert 'str1' into 'str2'.

After 1 hour results were announced. Among 80 students of CS/IT, they shortlisted 7 of us. The people who were able to do 3 or more codes were shortlisted.

#### 2nd Round:

Technical Round (Very Tough )

1. what does space complexity means?
2. What is Dijkstra Shortest path Algorithm.
3. The Activity selection problem- full working code
4. K centres Problem- – full working code
5. Prims MST for adjacency list representation- – full working code
6. Given a string 'str' of digits, find length of the longest substring of 'str', such that the length of the substring is  $2k$  digits and sum of left k digits is equal to the sum of right k digits.- – full working code
7. Given a string, find the longest substring which is palindrome.- full working code

if the given string is "forgeeksskeegfor", the output should be "geeksskeeg"

if the given string is "abaaba", the output should be "abaaba"

if the given string is "abababa", the output should be "abababa"

if the given string is "abcbabcbabcba", the output should be "abcbabcbba

8. Explain the concept of Reentrancy?

9. Explain Belady's Anomaly?

10. What is Thrashing

11. what are short, long and medium term scheduling

12. Difference between Micro- Kernel and Macro kernel.

13. Typical elements of a process Image.

14. What is Translation lookaside buffer.

After this round, 3 students were shortlisted out of 7 of us.

I was luckily one of them.

#### 3rd Round:

1. Can you explain PDCA cycle where testing fits in?
2. Difference between white box, black box and grey box testing
3. what is usability testing
4. On what basis is the acceptance plan prepared?
5. what is Risk based Testing
6. Which is the best testing Model
7. Difference between Defect and a Failure?
8. When do we use decision table testing
9. He gave me a code and asked to find how many tests are required for 100 % decision coverage
10. What is component testing
11. What is functional system testing
12. When Regression testing should be performed
13. What is negative and positive testing
14. Difference between re-testing and regression testing
15. What is the most challenging situation you had during testing?

After this Round of us only I was shortlisted for the next round.

#### 4th Round:

1. Describe Normalisation with examples.
2. What happens when we paste a web address in a browser
3. Explain different types of joins with examples
4. What is view in DBMS?
5. Gave a 8 -loop nested query and he asked that what the SQL code was doing

6. What is JRE,JDK and JVM?
7. How will you reverse a linked list in O(1) time.
8. Reverse a linked list .
9. Reverse a BST using recursion
10. Concatenate two BST
11. What is a Gateway or a Router
12. What is maximum length allowed for a UTP cable
13. How does a network topology affect your decision in setting a network
14. What is private and public IP
15. Importance of OSI physical layer
16. What is WAN and NIC
17. Importance of implementing a fault tolerance system.
18. What is NoS and DOS?

I was not able to answer the Networks questions properly and so they rejected me too

Thanks a lot GeeksForGeeks. I was able to clear 3 rounds only because of the GeeksForGeeks Website

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
HSBC

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## Tolexo Interview Experience | Set 3 (For Senior Software Developer)

First of all, there is a 70%/7.5 cgpa above eligibility criteria in Tolexo. After this there is one aptitude test and 2 technical interviews + a basic introduction with HR. I got a profile of software developer.

**Round1(Aptitude Test):** It includes 4 sections which includes General Apti (15 questions), Reasoning(15), Technical(20) and verbal(15). These questions have to be done in 75 minutes with no negative marking. The test was taken on mettl.

Practice questions of seating arrangement for reasoning and there is a question in technical section on array address in 2-D array whose answer is 1064 always (it's like soory avansham of mettl). There is sectional cut-off in Tolexo, they won't tell you about it.

After this round 14 candidates were shortlisted who were called for next round.

**Round 2(Technical Interview1):** It includes questions on your project (Android in my case). He asked me questions on Android like why did you use fragments over activity, draw an architecture of your app, how u can transfer data from one activity to another, use of intents, why did you use volley library in one of your project, have you published any of your app on play store which I hadn't and that's all about project. Then he asked me questions on DS which includes

1. Write a code of creation of doubly link list
2. Write a code for preorder traversal of binary tree (both recursive and iterative)
3. Use of link list
4. Use of doubly linked list
5. Check for BST.

All these codes have to be written on a sheet from header files to return 0.

Then he asked me questions regarding OOPs, OS which includes

1. Use of constructors
2. When a constructor is called
3. What happens if we make a copy constructor private ?
- 4 Difference in assignment and initialization
5. What is deadlock and how it occurs.
6. Give ways to prevent deadlock
7. Write a code where deadlock can occur
8. Write code for semaphore
9. What is broadcasting.

That's all for tech1 interview which took one and half hours.

**Round 3(Technical Interview2):** This round took just 20 minutes in my case where as for my friends it took 1-11/2 hours. He first asked me a little introduction of mine and then asked me to write a code for bubble sort which I had written perfectly but then he asked me to optimize it. I wasn't able to think about the solution in one go but the interviewers are so helpful and friendly, he will motivate you and give you hint to reach to the solution. So after 2-3 hints I finally got the solution after which he thanked me and said "now go enjoy".

I would like to thank geeksforgeeks and my seniors for this.

I advise you to do projects in machine learning or big data or Hadoop as these are the hottest topics currently and maintain your cgpa/percentage above 70% or 7.5 cgpa to become eligible for all companies. Don't focus on cgpa it is just for eligibility, it has nothing to do with your selection. First prepare your resume with projects and then do interview prep 4-5 months before campus placements.

I also want to include all the links from where I prepared for my interviews

<http://quiz.geeksforgeeks.org/gate-cs-notes/>  
<http://quiz.geeksforgeeks.org/lmns/>  
<http://www.practice.geeksforgeeks.org/probtags.php>  
<http://www.geeksforgeeks.org/data-structures/>  
<http://www.geeksforgeeks.org/c/>

<http://www.geeksforgeeks.org/c-plus-plus/>  
[http://quiz.geeksforgeeks.org/placements/ \(for apti\)](http://quiz.geeksforgeeks.org/placements/)  
[https://www.youtube.com/channel/UCdU\\_1sJ8SHKVckw8cPUbcCg/playlists \(for apti\)](https://www.youtube.com/channel/UCdU_1sJ8SHKVckw8cPUbcCg/playlists)

It took 3 months for my whole interview preparation from geeksforgeeks though I have also done a lot of geeksforgeeks earlier in winter break for 2 months. Thanks again geeksforgeeks for all of my interview prep.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Tolexo

### Tolexo Interview Experience | Set 2 (For Senior Software Developer)

#### Round 1 (Telephonic) :

- 1) Discussed about previous projects.
- 2) How Node.js internally works.
- 3) What is left joins and how it's works.

#### Round 2 (F2F) :

- 1) How innodb (mysql engine) works and its internal architecture.
- 2) How joins works. More question from DB
- 3) Inorder traversal of binary tree.
- 4) Missing number Problem !!
- 5) Some basic Ubuntu commands.
  - a) How to install : apt-get install package\_name
  - b) How to copy complete folder using terminal.2-3 more basic questions
- 6) Two puzzles
  - a) Standard puzzle: You have 9 coins and a weight machine. Out of which one coin is lighter find that coin in less attempt. Note : instead of 9 coins he asked for 80 coins  
Ans is  $3^4 \geq 80$  i.e. 4  
Divide into 26,27,27 group and apply the same algo as 9 coins.
  - b) There is a dark room and you have 13 head and 8 coins on a table, make two groups as number of tails coins are equal in both groups. (I asked the ans to him and it was too funny when he was trying to explain and no ans)

NOTE : their main focus is on database, prepare it very well and deeply.

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## GATE CS Corner Company Wise Coding Practice

Experienced  
Tolexo

### Tolexo (Indiamart company) Interview Experience | Set 2

First things first you should learn to bring interviewer in your favour every time. I learned this after giving interview of Amazon and I was rejected as I didn't work on it.

#### Online Round (1 hour 10 mins) (31 people)

Consisted of Quantitative Aptitude, Verbal Ability, and Logical Reasoning (15 question each).

Technical Aptitude (20 questions). No negative marking. Happened on mettl.

Quant, verbal and logical was average. (Higher than asked in mass recruiters and less than aptitude questions asked in Amazon).

Technical Aptitude included questions from OS (memory management), DS (basically complexities), RESTful concepts, Computer Networks.

#### Tech Round 1 (40 – 45 mins)(13 people)[Those who think 40-45 minutes is a long time for a round trust me it's not. At that moment time just passes by. ]

1. Tell me about yourself. (This question can bring interviewer to ask what you want)

I told him the basic stuff and at the end I just added a line that I like to work on NodeJS and love to solve puzzles.

He then started asking questions from NodeJS.

2. Why NodeJS was created and its advantages?

I told him it's lightweight, scalable and was created as to code server-side in Javascript. Told him some features as well like event emitter and callbacks. He told me do you know callbacks? (I understood he is going to ask me question about callback now).

3. Asked me a pretty basic question about callback and then event listeners. He was then searching what to ask next. I just uttered that I like DS. (Bring things in your favour everytime).

4. Given a 2D matrix you have to rotate it 90 degree anticlockwise.

Told him approach of creating as same size empty matrix and copy values by rotating the elements. TC: O(mn) SC: O(mn)

He told me to optimize further with space.

After thinking I came up with approach of rotation. (He was satisfied didn't tell me to code)

5. How is the auto-search feature implemented? What DS are used?

Told him about Trie, TST and Suffix tree. He was smiling.

He them told me to first show some iterations of insertion of string in trie and then code it.

I showed him the iterations and just when I was defining the structure lights went off.

6. Given a matrix of 1's and 0's sorted in descending order row wise and col wise you have to find which row has maximum 1's.

I asked about constraints.

Gave him the approach of traversing the matrix and then keep track of max 1's at each row. T.C O(mn), S.C O(1).

He was not satisfied with the approach and told me to optimize. I thought and told him of the rows are sorted then we can do binary search on each row. Asked me the complexity TC O(mlogn). He told me to thing if it can be done in a linear complexity. Thought for 5 minutes and came up with stair search. TC O(m) He told me to code it optimally so that he cannot find any mistakes in it. It took me some time.

7. He then asked me if I was comfortable with SQL queries. I told him no. Then he asked me what layer in OSI model does FTP, HTTP and TCP work. I gave the answer quickly since I revised it in the morning.

He said I am done do you have any questions. I asked him about the callback question in which I got confused a little bit.

#### **HR Round (15-20 minutes) (13 people)**

1. He asked me about the projects which I have done and what technologies I have used.

2. What kind of culture do you want to work in? I told him fun.

3. How would you define fun? Just made up at that moment.

4. 1 weakness

5. Then he asked me to imagine myself as an app developer and I have to develop an app for kids of age 1-5 for toys what feature in app would you not include?

I thought for a minute and said chatbox. (I don't know what I was thinking)

To support my answer I said flipkart introduced it and it went flop.

He said great.

Questions: I asked him if there is a sir structure or first name structure in company.

#### **Tech Round 2 (30 – 40 mins)(6 people)**

1. He introduced himself. I said I am a bit nervous right now and I have not had lunch (It was 7:15 pm). He said no worries be comfortable and asked me about my last tech round.

2. He then asked me about my projects.

I told him 2 projects which I like.

One was Amazon Alexa skill and other was Ideation Tool.

He started with Alexa skill. What Technologies. How does it work. What is Alexa, What is Echo and stuff.

Then he started with the Ideation tool. Since I mentioned that I have used mongo DB in it. He said what's the difference between SQL databases and Mongo DB. When to choose mongo and when to choose SQL database?

I was confused about when to choose and told him about structured and unstructured data. He agreed but he asked me when to choose.

I kept on focusing on scaling and stuff but he was not satisfied.

He told me to think about transactions in database. I knew about transactions but since I was confused I told him I have a vague figure in mind. He told ok don't answer.

3. Asked me about DDL, DCL and DML in databases.

4. Asked me to convert binary string to decimal number with the optimal code so that he could not find mistakes in code.

He though found 1 mistake and told me to optimize. I did it.

5. Given a linked list you have to find if there exists a loop or not.

He asked me to discuss various approaches.

He then told me if there were any questions for him.

I asked how much time you code in a day?

He told me I code everyday even the CEO of company code everyday but time is not fixed.

Result: Selected

PS: The total process lasted about 13 hours starting from me reaching the college in morning.

#### **What to refer for programming:**

1. [www.ideserve.com](http://www.ideserve.com)
2. [www.practice.geeksforgeeks.org](http://www.practice.geeksforgeeks.org)
3. Various online judges

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Tolexo

# **Tolexo (Indiamart company) Interview Experience | Set 1 ( Senior Software Developer)**

Round 1 (Telephonic) :

1. Discussed about previous projects.
2. How Node.js internally works.
3. What is **left joins** and how it's works.

#### **Round 2 (F2F) :**

1. How innodb (mysql engine) works and its internal architecture.
2. How joins works. More question from DB
3. **Inorder traversal of binary tree.**
4. Missing number Problem !! (<http://www.geeksforgeeks.org/find-the-missing-number/>)
5. Some basic Ubuntu commands.
  1. how to install : apt-get install package\_name
  2. how to copy complete folder using terminal.
6. 2-3 more basic questions,
7. 2 puzzle
  1. a) standard puzzle you have 9 coins and a weight machine. Out of which one coin is lighter find that coin in less attempt.  
note : instead of 9 coins he ask for 80 coins .  
ans is  $3^4 \geq 80$  i.e. 4  
divide into 26,27,27 group and apply the same algo as 9 coins.
  2. b) there is a dark room and you have 13 head and 8 coins on a table, make a two group as number of tails coins are equal in both group.  
(I asked the ans to him and it was too funny when he was trying to explain and no ans)

**NOTE :** their main focus is on database, prepare it very well and deeply.

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## **GATE CS Corner Company Wise Coding Practice**

Experienced  
Interview Experiences  
Tolexo

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## **Avaya Interview Experience | Set 1 (On Campus)**

Avaya visited our college for campus hiring. The selection process was as follows:-

### **1 – Aptitude test**

Avaya had its own platform for **Aptitude** test. It had 50 mcqs – 25 questions in technical and 25 in non technical section. MCQs were mainly based on basic maths, logic, computer science, c++ concepts. Time duration was 1 hr. Questions were easy.

16 people were shortlisted for interview.

### **2 – Tech interview 1**

Questions were as follows:-

- Solution to Dining Philosophers problem.
- Difference between mutex and semaphore
- Questions about critical section
- Explain **normalization in DBMS** with example.
- Write SQL query to find top 2 performers in a test.
- Explain different phases of compiler, which data structure can be used for symbol table.
- Some basic linux commands
- Questions related to **hashing**, hash function calculation, significance of hashing, Different techniques for collision resolution in hashing.
- Explain inheritance and abstraction with examples.
- Questions related to compile time and run time polymorphism
- Program 1- **Insert node in doubly linked list**
- Program 2- **Check whether a singly linked list is palindrome or not**
- Puzzle- There are n number of coins. All the coins have same weight except one. How to find that coin?

Then some of us were called for 2nd technical interview

### **3 – Tech interview 2**

They asked me which language I am comfortable with. I chose java .

Questions were as follows:-

- Brief discussion of project work done during Internship and questions based on that
- Questions based on string literal pool concept and immutable class in java.
- How will you implement own immutable class
- Questions related to singleton class
- Questions related to static binding and dynamic binding.
- Checked vs unchecked exceptions
- Question related to serialization
- Interface and abstract class difference
- Program 1 – A square matrix of integers is given. In each row and column, integers are sorted in descending order . Some of the integers are -ve. How to find number of -ve integers in minimum time?
- Puzzle – Switching 100 light bulbs puzzle

#### 4 – HR interview

General Questions on family background, extra curricular activities, why Avaya?, what are your future plans?

Finally they selected 4 people and I was one of them. Thanks a lot to **GeeksforGeeks!!**

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Avaya

## Kuliza Interview Experience | Set 4 (On-Campus)

Recently Kuliza technology conducted interview at NIT campus . The company did not come to campus , they took interview through skype and hangouts .

**First round** consists of 15 mathematics and basic English + aptitude questions . relatively simple.

Then there is 2 coding questions , one related to seating arrangement of boys and girls . Test was on hackerrank and total time was 1 hour .(Timing would be an issue , apti+coding in 1 hour ).

They shortlisted almost 13 students .

#### 1st round interview

It was scheduled in skype , but that was not working in college network , so they have done it in phone + coding through skype chat.

- 1) Deeply about project
- 2) connections , questions about java script and database .
- 3) Future enhancements about projects , (suggestions from interviewer) .
- 4)Algorithm to find smallest element in infinitely long array(use partition , based on binary search) .
- 5) One problem based coding question (send code through skype chat) .

They shortlisted 7 out of 13 .

#### 2nd round( via Hangouts)

- 1) Project questions
- 2) Vertical printing of binary tree .
- 3) One dynamic programming question, kind of more difficult, i approached through brute force, tried 3 different approaches, brain fusing problem that was :-). (Refer geeksforgeeks for DP, Later i found solution from geeks)
- 4) About company
- 5) multi programming and threading
- 6) Ajax

Then they selected 3 candidates, they gave confirmation in next day and offer letter in that weekend !!!

(Make your algorithms and data structures strong, try in a nice way even if you aren't aware about solution , be confident and cool, **refer geeksforgeeks for everything**) .

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Kuliza

## Kuliza Interview Experience | Set 3 (On-Campus)

Recently Kuliza Technologies Bangalore visited our college for recruiting Developers.

#### Online Round:

Its a 2 hour online test consisting of 4 sections.

Section1: 30 min-15 aptitude+basic English questions

Section2: 1hr-2 coding questions. 1st question was easy based on seating arrangement of boys and girls. 2nd question was moderate based on dynamic programming.

Section3: 20min-2 c codes to find errors and rewrite them. Errors may be in syntax or logic of the code. You cannot run these codes as there will be no compiler provided for you. You need to just see the codes and find errors.

Section4: 10min- write 5 popular startups in india and 5 popular startups worldwide

Students who did 2 coding questions were sent to next round. Some students who were able to complete one question and their logic of another question is right are also sent to next round.

They shortlisted 30 students.

#### 1st Technical round(1 hr):

1. Tell me about yourself. Discussion on projects in my resume.
2. What is Singleton class in Java? Implement Singleton Class.
3. Detect a loop in linkedlist and remove it. Asked for the most efficient method for it without counting number of nodes in loop.
4. Find intersection point of linkedlists.
5. Why do we use abstraction in Java?

6. 100 prisoners with red and black hats puzzle.
  7. Given an array find the set a,b,c in array such that  $a^4+b^4=c^4$
  8. How to get a result of 10 from using numbers 1,1,8,5 using operators +, \*, /, -.
  9. What is JSON? Gave some data in the form of JSON and asked to design a relational database to store that data. Some discussion on changes to make if stored in non relational database.
- I answered all the questions. 13 students were shortlisted after this round.

#### **2nd Technical Round(45 min):**

1. Discussion on my summer internship for 15 min. Discussion on another internship and projects in my resume.
2. Discussion on differences between PHP and Node.js(I wrote both in my resume)
3. When to use MYSQL and MongoDB.
4. Find details of employee who has 2nd highest salary. Tried to confuse me with giving some example data and kept on adding tuples. Finally I convinced him that my answer is right.
5. Given a robot how will you design and program it so that it reaches airport from your college. He told that robot doesn't know the directions to airport. He asked this question to know my approach to a problem.
6. Given a 2 linkedlists each representing a number. Add these linked lists. I gave two solutions one using recursion and one using reversing linkedlist. Then some discussion on which method is better in which case.

There was no HR round. Finally they selected 8 students.

PS: Kuliza gives preference to the students who know web and mobile app development. They don't care about the CPI of student. Be strong with basic algorithms and datastructures it is enough.

Thanks to geeksforgeeks which is very helpful for my preparation.

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## **GATE CS Corner Company Wise Coding Practice**

Interview Experiences  
Kuliza

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### **Kuliza Interview Experience | Set 2 (On-Campus)**

Kuliza Technology visited our college for campus hiring.The selection process was as follows:-

#### **1-written test**

Kuliza technology conducted a 2 hour online written test which contains 4 sections. 1st section was aptitude sections, 2nd section was coding sections, 3rd section was finding errors in code and rewrite them(you have to find where are the errors in code and you have solve those errors and have to write right solution). and 4th section was for writing the names of 5 top most startups of india and world.

1st section was for 30 minute and there was 15 questions.question was from english-grammer, probability,work and wages etc.

2nd section was for 1 hour and there was 2 code one is related to possible combinations and other one was related to dynamic programming.

3rd section was for 20 minute and you have to find the errors in 2 code and you have to rewrite the error part.

4th section was for 10 minute and you have to write the name of top 5 startups of world and india.

I did all the mcqs and one code which is related to possible combinations and i corrected both the codes. And i got selected for the interview rounds.

#### **2-Technical Interview**

It was a skype round. first he told me to introduce myself. later he asked that, what do you know about kuliza. Then i told him about the company. Then he started with the data structure he asked me to write the code

for merge sort. i completed code then he asked me to explain working i explained whole code's working.

After that he asked me to explain my project.

I explained whole project then he asked me to write 3-4 sql-queries.

After that he asked me to solve data structure questions.then he asked me to reverse a stack.

sort a stack without using any extra data structure. infix to postfix conversion code.

swap the pair of nodes of linklist with given k value.find an element in sorted and rotated array.

and then he told me i am done with routh do u have any queries.

Then i asked him about the technologies on which kuliza works.

and then finally i got selected for 2nd technical interview round.

#### **3-Technical Interview**

It was also a skype round. first he told me to introduce myself. later he asked me to explain my project.

Then he asked me 2 solve 5 sql queries. I solved 4. and give approach for 5th one he told me that approach is good.

Then he asked me only data structure questions. first he told me that you have an HTML file how u will check it is valid or not. I gave my approach and he was very impressed with my approach. then he asked me to find an element in sorted INFINITE array. then he told me that you have an array which contains numbers from 1-100 but one is missing and one is repeated on place of missing so you have to find both. then he asked me to find LCA and diameter of a binary tree. I solved both the questions. then he asked OOPS concept from definition of OOPS

to dynamic binding with examples. and then he told me i am done with this round do you have any queries. Then i asked for my feedback.

**KEY TO SUCCESS:-** If you wanna come in KULIZA make Data-structure and sql strong. You should be good in java-script ...Be yourself and Be Confident.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Kuliza

### Kuliza Interview Experience | Set 1 (On-Campus)

#### Round 1 : (Online-test) 2hrs

- 10-15 mcqs which consisted of C, C++ outputs, HTML, CSS, data structures questions.
- 3 questions which were to be written in the space provided.
  1. WAP to print multiples of either 3 or 5 but not both in (1-100) range.
  2. List of 10 startups.
  3. Difference between div and span.
- 2 coding Qs which were of medium-hard type. Do not remember the questions exactly but 1q was Dynamic Prog and other was solving given recurrence relation with large input range(had to solve it using matrix method).

They did not visit campus ,all further rounds were telephonic.

#### Round 2 : 30-40min.

- Q. Detect and remove loop in linked list.
- Q. Measure 4lit using 3lit and 5lit jugs.
- Q. Given a sequence of parenthesis. Have to tell if it is balanced or not.
- Q. Highest coin among given 8 coins of which 7 are of equal weight using minimum measures.
- Q. Deleting node in a tree – all cases.
- Q. Stack vs Heap memory allocation.

#### Round 3: 45min.

- Q. Divide a scalene triangle into 5 parts of equal area.
- Q. Given an array sort the array in the descending order of frequencies of those elements. If 2 elements have same freq. element appearing first has to occur first.
  - Example Input: 5 6 4 7 3 6 5 7 6 5 3 Output : 5 5 5 6 6 7 7 3 3 4
- Q. Find minimum element in stack in O(1).
- Q. Implementation of telephone directory .What kind of DS used? Should be able to search by first/last name/Telephone number.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Kuliza

### Financial Software Systems Interview Experience | Set 1 (On Campus)

Recently Financial Software Systems visited our campus for recruitments. There were 4 rounds basically:

#### First round

It was an online aptitude test....there were 60 questions which had to be completed in 60 mins. Most of the questions were very easy .

Around 600 students had sat out of which 204 students were shortlisted for the next round.

#### Second Round

2nd round was a Group Discussion . The topics were general topics like FDI, Social media, should private colleges be taken over by Govt of India etc. GD was not an elimination round for most.

After GD 190 students made it to technical interview round.

#### Third Round

For me the questions were on Java, Database, C++ (basics). Some of the questions were:

- Different types of Join in SQL, difference between C++ and Java,
- name of the operator used in inheritance in c++ and many more.

If you are able to clear the 3rd round you are almost done....The next round was more of a formality round which comprised of me asking questions to the interviewer.

#### HR Round

Finally, HR round took place which comprised of typical HR questions. Finally 25 were selected from my college.

#### Some tips:

1. The company had a service agreement of 3 years for freshers.
2. Be yourself in the interview
3. Have confidence and know the basics

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## GATE CS Corner Company Wise Coding Practice

## Cerner Interview Experience | Set 1 (For Software Engineer)

### Round 1 (50 minutes) : Versant Test

8 sections to test basic English communication skills (Sample test can be taken from here: <https://www.versanttest.com/samples/english.jsp>). Each section contains around 16-20 questions ranging from English speaking in the microphone, attention to detail, hearing skill, typing speed and grammar test, English writing skill, grammar and punctuation test, basic fill in the blanks test, etc. There is a minimum cut-off to clear this round which makes it important.

### Round 2 (1 hour) : Technical interview

First the interviewer introduced himself and gave a brief on the company. Since I had told my major skill as C++ the interviewer (a tech architect), started with asking about basic OOPS concepts.

Rate yourself on a scale of 1-10 in C++, DS and algos.

1. What is encapsulation? How do you achieve it?

2. Different types of memory? What is a stack? What is heap? How C++ decides on which memory to allocate data?

3. What is the difference between malloc() and new?

I told that in malloc you have to explicitly pass the size of the memory you need to allocate, also the datatype, etc.

4. I'm willing to pass the size and type explicitly, does new not call malloc() internally? How is new defined? what is the difference again?

5. What is the difference between free() and delete? Why can't I use both interchangeably? Same questions as above.

6. What are virtual classes? Why do we need it? Write out an example and explain.

7. Write a complete example of multiple inheritance with constructor, functions, destructor for inherited classes. Explain why we can assign derived class reference to a base class object?

8. Interviewer wrote a small code snippet on the paper using pointers and asked me to write the output. Tried to trick using pointers over and over.

9. What is a palindrome string? Write a program to tell me whether a const string\* that I pass to it is palindrome or not?

10. What is stack data structure? How does it work? Implement a stack using C++. Write all its functions.

11. What is a linked list? How do you write a linked list? Why do we use it? What are its advantages and disadvantages?

12. Write a program to find me the middle node in a linked list without using extra space.

13. How does compiler associates virtual functions and solves the call during runtime? – Explained the whole process of vtables along with an example and diagrams.

At last, I had answered all the questions satisfactorily except the difference between new and malloc part where I couldn't convince him. He wished me luck and asked me to wait in the lobby.

### Round 2 (40 minutes) : Tech interview

Interviewer was friendly compared to the last one. He first reviewed my resume, asked me questions from it like about college, my degree, achievements during college, present job, why do I want to switch? What all projects I had done? My github projects, about my native place, why my native state is not so popular despite so many talented people being from there? What am I doing to change it? Who is the CM of my state? Who is the CM of Karnataka? Who is the cabinet minister from my state? The present politics scenario in my state?

After talking about 15 minutes on several topics he finally jumped into tech.

He didn't know C++ for which I was interviewing so he told he would ask questions from higher level languages (I had some ASP.Net and C# experience), etc

1. What is webservices?

2. What is IIS and its configurations?

3. What is multiple inheritance? Does C# supports it? Why not?

4. Explain me in detail the process of compilation for virtual functions.

5. If I have two base classes and both has same virtual function, both the classes are inherited by the same child class and it implements the same virtual function. Now without invoking objects and going to allocating derived reference in base class pointer object, how would I call all the three variants of my virtual functions? He was trying to apply logic of Java here like super.function() which I understood after some discussion and tried to explain that C++ doesn't have a super keyword. Then he grilled how would I call virtual functions of both base classes distinctly without making their objects, etc.

6. Write an efficient program to print all prime numbers till a given number N.

7. What is difference between DBMS and RDBMS?

8. What are the basic properties of a RDBMS? Explain each property.

9. What is normalization? Explain its different forms?

10. Difference between C# and C++? What should we use and when? Why C++ is better?

Lastly he asked if I had any questions for him and wished me luck. At last the HR asked me to leave for the day saying a HR will contact me later for further process, if any.

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## GATE CS Corner Company Wise Coding Practice

# Urmi Systems Interview Experience | Set 1

## First Round

The first round was a offline written test. It consisted of 22 questions . 12 objective and 10 subjective. Questions were from Networks, Operating Systems, Digital Logic, C & C++. Only 5 students were shortlisted after the first round.

## Second Round

This was a Face to Face technical Interview. Questions asked were from networking, operating Systems and Data Structures :

- 1) What is Paging?
- 2) What is MAC?
- 3) Schedulers and Page replacement Algorithms.
- 4) Quick Sort and Merge Sort ( With code )
- 5) Given a pointer to a random node in linked list delete that node.(With Code)
- 6) Recursively reverse Linked List.(With Code)
- 7) Oral Explanation of Binary Search Trees, Stacks and Queues.

Lot of other questions from networking which I wasn't able to answer. More

Focus was on Linked Lists.

## Third Round

Third round was the final round and was the HR round. Regular Questions like:

- Tell me about yourself?
- How were you able to recover after 4 year gap in education?
- What lessons did you learn from your problems?

1 Week later results were announced and I was selected.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Urmi

# Rivigo Interview Experience | Set 1 (On Campus – Software Developer)

Rivigo came at IIT Roorkee for Software Developer Profile on Day1.

## Online Test:

Test was conducted on hackerrank. 4 coding questions 90 minutes. I remember 3 out of 4 questions

1. <http://stackoverflow.com/questions/29236837/find-max-sum-of-elements-in-an-array-with-twist>
2. <http://www.geeksforgeeks.org/dynamic-programming-set-12-longest-palindromic-subsequence/>
3. <http://www.geeksforgeeks.org/given-an-array-of-numbers-arrange-the-numbers-to-form-the-biggest-number/>

I gave 3 technical interviews. Most of the questions were easy. Some questions were based on my internship.

## No HR interview.

Here are a couple of questions from the interview that I remember:

1. Find the second minimum element in an array? It can easily be done by using  $2n$  comparisons but they asked me to reduce the number of comparisons. It can be done in  $(n+\log n)$  comparisons.  $(n/2 + n/4 + n/8 + \dots) = n$  comparisons to find the minimum element in the array (divide and conquer approach),  $\log n$  comparisons to find the second minimum.
2. You are given a k-ary tree. Each node can have less than or equal to k children. Store the tree in an array such that you can create the tree back from the array. Just like a binary tree where the children are  $2^i+1$  &  $2^i+2$ , here the children will be  $k^i+1, k^i+2, \dots, k^i+k$ . I was asked to write a working code for all the questions they asked.

Revise all data structures and algorithms. Also, whatever you write in your resume, be thorough with it.

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## GATE CS Corner Company Wise Coding Practice

Interview Experiences  
Rivigo

# Puzzle 85 | Chain Link Puzzle

You have five pieces of chain, each consisting of three links. You want to make one long chain of these five pieces. Breaking open a link costs 1 Rs, and welding an open link costs 3 Rs.

Is it possible to make one long chain of the five pieces, if you have just 15 Rs?

**Solution:**

Let us name the chains as **1, 2, 3, 4, 5** each having three links.



Take chain **1** and break open all three links:  $1 \times 3 = 3$  Rs.

Take one open link to connect chain **2** and **3**: **3** Rs.

Take another open link to connect chain **3** and **4**: **3** Rs

Take third open link to connect chain **4** and **5**: **3** Rs.

Now you have one long chain ready in only **12** Rs

This article is contributed by **Shivam Gupta**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 84 | Inverted Matrix

|    |    |    |    |
|----|----|----|----|
| 18 | 99 | 86 | 61 |
|    |    |    |    |
|    |    |    |    |
|    |    |    |    |

You have been given the following matrix:

Fill in the matrix, in such a way that the sum of the numbers in each row (horizontally, vertically, and diagonally) is 264, even if you hold the matrix upside down. You are only allowed to use the digits 1, 6, 8, and 9, and each number may appear only once in the matrix.

|    |    |    |    |
|----|----|----|----|
| 18 | 99 | 86 | 61 |
| 81 | 66 | 19 | 98 |
| 69 | 88 | 91 | 16 |
| 96 | 11 | 68 | 89 |

|    |    |    |    |
|----|----|----|----|
| 18 | 99 | 86 | 61 |
| 66 | 81 | 98 | 19 |
| 91 | 16 | 69 | 88 |
| 89 | 68 | 11 | 96 |

**Solution:** The possible solutions are:

You can see that any two digit number formed by 1,6,8, and 9 , if inverted will also be a valid number. Now, the task becomes easy. Start by trying to form two digit numbers, and different sets by selecting any 4 numbers from them which sums to 264.

This puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

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Category: [Puzzle](#)

## Puzzle 83 | Interesting MCQ

Geeks are too good at solving logical problems. But, this time a Multiple Choice Question was put in front of them having only three options .

**Q. There is only one correct answer to this question. Which answer is this?**

- A. Answer A
- B. Answer A or B
- C. Answer B or C

Geeks are stuck at this question. Help them out.

**Solution : C**

**Explanation:** If answer A would be correct, then answer B ("Answer A or B") would also be correct. If answer B would be correct, then answer C ("Answer B or C") would also be correct. This leads to the conclusion that if either answer A or answer B would be the correct answer, there are at least two correct answers. This contradicts with the statement "there is only one correct answer to this question". If answer C would be correct, then there are no contradictions.

Therefore, the solution is answer **C**.

This puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 82 | Different Pairings

Joey has to arrange  $2N$  sandwiches which are wrapped by different color wrapper in  $N$  pairs such that he can feed his  $N$  girlfriends (A hypothetical situation it is where we have to ignore the fact "JOEY DOESN'T SHARE FOOD"). He has to serve them for  $2N-1$  Days. Girls don't like repeated pair of color wrapper of their sandwiches. Design an algorithm for joey so that for  $2N-1$  days no pair would be same.

**Hint:** One can solve problem by using  $2^N$  table.

**Solution:**

Here is one of the way to generate  $2N-1$  sets of different pairs efficiently. For convenience, number the different color from 1 to  $2N$  and place these numbers in a  $2N$  table. The pairs for the first set are given by the columns of this table. To generate the next  $2N-2$  sets, rotate—say, clockwise—all the entries except 1 in the last generated table.

Figure shows the example for  $N = 3$ . The entry 1 is fixed and all other entries are rotated clockwise.

|   |   |   |
|---|---|---|
| 1 | 2 | 3 |
| 6 | 5 | 4 |

|   |   |   |
|---|---|---|
| 1 | 6 | 2 |
| 5 | 4 | 3 |

|   |   |   |
|---|---|---|
| 1 | 5 | 6 |
| 4 | 3 | 2 |

|   |   |   |
|---|---|---|
| 1 | 4 | 5 |
| 3 | 2 | 6 |

|   |   |   |
|---|---|---|
| 1 | 3 | 4 |
| 2 | 6 | 5 |

**References:** The algorithm can be thought of as based on the representation change strategy. Both interpretations of the algorithm outlined above were given by Maurice Kraitchik in Mathematical Recreations [Kra53, pp. 226–227].

This puzzle is contributed by **Antara Purohit**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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## Puzzle 81 | 100 people in a circle with gun puzzle

100 people standing in a circle in an order 1 to 100. No. 1 has a sword. He kills the next person (i.e. No. 2) and gives the sword to the next (i.e. No. 3). All people do the same until only 1 survives. Which number survives at the last?

There are 100 people starting from 1 to 100.

**Solution:** 73rd person will survive at last

**Explanation:**

Here, we can define an array with 100 elements with values from 1 to 100.

- No.1 has a sword. He kills next person (i.e. no. 2) and gives sword to next to next (i.e no. 3).

We have taken array element as a person. 1st person kills the next. So, starting from 1, we'll remove next element i.e. 2.

- Then first person gives sword to next to next i.e. 3. That person will also kill next person and this continues. Means, in array, we need to start with 1 and remove the every other (alternate) element till 100. (all the even numbers will be removed and we'll be left with odd numbers only in array).

**Round 1:** 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99

**Round 2:** 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49, 53, 57, 61, 65, 69, 73, 77, 81, 85, 89, 93, 97

**Round 3:** 1, 9, 17, 25, 33, 41, 49, 57, 65, 73, 81, 89, 97

**Round 4:** 9, 25, 41, 57, 73, 89

**Round 5:** 9, 41, 73

**Round 6:** 9, 73

**Round 7:** 73

This puzzle is contributed by **Jyoti**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle Tags: [Igniworld](#)

## Puzzle 80 | Tic Tac Toe revisited

Ank and Mini play a game of tick-tack-toe. In this game, the players try to get three circles or three crosses in a row (horizontal, vertical, or diagonal).

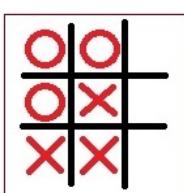
They follow the following rules:

- A player always tries to win: if a player can place his own symbol (X or O) in a row that already contains two of his own symbols, he will do so.
- A player always tries to avoid that his opponent wins: if a player can place his own symbol (X or O) in a row that already contains two of the symbols of his opponent, he will do so.

Of course, the first rule has precedence over the second rule, because the game can be won in this way.

In the game shown on the right, six moves have been made. Ank plays with crosses (X) and Mini plays with circles (O). However, we do not know who started the game.

**Who will win the game?**



**Solution:**

It is clear that if we know who made the sixth move, we also know who can make the seventh move and wins. If Mini (circles) has made the sixth move, there are three possibilities for the situation after five moves:

Possibility 1: Possibility 2: Possibility 3:

|   |   |  |   |   |  |   |   |  |
|---|---|--|---|---|--|---|---|--|
| O |   |  | O |   |  | O | O |  |
| O | X |  | O | X |  |   | X |  |
| X | X |  | X | X |  | X | X |  |

Based on the rules of the game, only possibility 1 could have resulted in the situation after six moves. In that case, there are three possibilities for the situation after four moves:

Possibility 1: Possibility 2: Possibility 3:

|   |   |  |   |   |  |   |   |  |
|---|---|--|---|---|--|---|---|--|
| O |   |  | O |   |  | O |   |  |
| O | X |  | O |   |  | O | X |  |
| X |   |  | X | X |  | X |   |  |

Based on the rules of the game, Ank (crosses) would have made the winning move, which however did not happen. From this, we can conclude that Ank did not make the fifth move and Mini did not make the sixth move. Therefore, Ank must have made the sixth move and Mini can make the seventh, winning move!

To check that Ank could indeed have made the sixth move, we look at the following three possibilities after five moves:

Possibility 1: Possibility 2: Possibility 3:

|   |   |  |
|---|---|--|
| O | O |  |
| O | X |  |
| X | X |  |

|   |   |  |
|---|---|--|
| O | O |  |
| O | X |  |
| X |   |  |

|   |   |  |
|---|---|--|
| O | O |  |
| O | X |  |
| X |   |  |

Based on the rules of the game, only possibility 3 can result in the situation after six moves. Therefore, Ank could indeed have made the sixth move.

**Conclusion:** Ank has made the sixth move, and Mini will make the seventh move and win.

You may also like – [Tic Tac Toe](#)

This puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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### GATE CS Corner

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Category: Puzzle

## Puzzle 79 | Magical Matrix

Two friends Satyam and Ankit decides to play a game. They have 9 cards lying face up with numbers 1 to 9 written on them. They have to start picking up these cards alternately, without replacement. The person with exactly 3 cards which adds up to 15 wins the game. Satyam is given first chance to pick up a card . Does Satyam have a winning strategy?

**Solution:** No

**Explanation:** We see that there are eight subsets of {1,9} that sums up to 15. These are:

{1, 5, 9}, {2, 8, 5}, {3, 5, 7}, {4, 5, 6}, {1, 6, 8}, {2, 4, 9}, {2, 7, 6} and {3, 8, 4}

We can try to form a magic square which should be able to derive all possible combinations that sums up to 15.

8 1 6

3 5 7

4 9 2

Here we see each row , column or diagonals sums up to 15. These rows ,columns and diagonals represents all the possible ways the number fifteen can be arrived at.

We can observe it's like playing a tic-tac-toe on the magic square. We also know one cannot guarantee winning in this game. At maximum, we can have strategy of not losing the game.

This puzzle is contributed by **Ankur Chaudhary**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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### GATE CS Corner

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Category: Puzzle

## Puzzle 78 | The lost bus Number

Jay was an old friend of Rakesh and was coming to visit him from a small town. Jay came over late. When Rakesh asked him the reason, Jay told him that when he was coming to the city in the bus, he had placed his luggage under his seat. While getting off, he had forgotten to take back the luggage and by the time he had realized, the bus had left. So he went to a police station to report about it, which took him time. Rakesh inquired what happened next, to which Jay replied that he does not remember the bus number but there was a certain peculiarity about it – the bus number was a perfect square and when turned upside down, then it was also a perfect square! Jay requested his friend Rakesh to help him.

Rakesh quickly phoned the bus company and came to know they had only 500 buses numbered from 1 to 500. Using this information, Rakesh deduced the bus number within a minute. Can you tell what was the number?

**Solution :** Bus number was 196.

**Explanation :** We know that the only digits which can be turned upside down and still be read as a digit are 0, 1, 6, 8 and 9. The digits, 0, 1 and 8 remain 0, 1 and 8 when turned upside down, but 6 becomes 9 and 9 becomes 6. Therefore, the possible numbers on the bus are 9, 16, 81, 100, 169 and 196. Out of these, 196 is the only number which becomes a perfect square when turned over because 961 is the perfect square of 31. Hence, 196 is the bus number.

This puzzle is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 77 | The better choice

Many students applied for a technical job for a month(April) but only two among them successfully completed the technical rounds. It was time for the final Interview. The interviewer asked both the students whether they would like to have 10 crores rupees for the month or, Re. 1 on day 1, Rs. 2 on day 2, Rs. 4 on day 3 , doubling up everyday till the last day of the month.

Student 1 chose 10 crore rupees. Student 2 chose the other option.

Which student made a better choice and how much was the profit?

**Solution:** Student 2 made a better choice.

**Explanation:** Student 1 chose 10 crore rupees. Congratulations to that student! It is a lot of money but about 97.4 crore rupees lesser than what student 2 had opted for.

Student 2 will get Re. 1 on day 1, Rs. 2 on day 2, Rs. 4 on day 3 ....The amount sequence is a geometric progression – 1,2,4,8,16,.....and so on.

Total no. of terms = 30 (April has 30 days)

G.P. summation formula for n terms having first term a and common ratio r :  $a( (r^n) - 1 ) / (r-1)$

Here a= 1 , r=2, n=30

Sum =  $(2^{30} - 1)/(2-1) = 1073741823$

Profit =  $1073741823 - 10,00,00,000 = 97,37,41,823$

This puzzle is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 76 | Toggling prison cell

There was a prison consisting of 1000 cells numbered from 1 to 1000.

- Each cell can be marked with '+' or '-' sign. Initially, all cells were marked with '-' sign.
- From days 1 to 1000, the jailor toggles marks on the cell from + to – or vice versa.
- On the i-th day ,the signs on cells that are multiples of i get toggled.
- Now in the process of verification on 1001-th day, all cells marked with + signs are opened.

Can you identify the cell numbers with '+' sign?

**Solution:** Cell numbers are 1, 4 ,9, 16, 25, 36 and so on.

**Explanation:**

A cell gets toggled as many times as the number of divisor it has. For example let's take cell number 20, it gets toggled on days 1, 2 ,4, 5, 10 and 20.

- Now we can see that divisors come in pairs like  $20=1*20=2*10=4*5$ . We can see that total number of divisor is even. But this trend is not followed if the number is a perfect square.
- In perfect square , total number of divisors is odd. We see that cells are initially marked with – sign and only cell numbered as perfect square gets changed to + sign as it is having odd number of divisors.

These cells are 1, 4 ,9, 16,25,36,49 and so on.

This puzzle is contributed by **Ankur Chaudhary**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

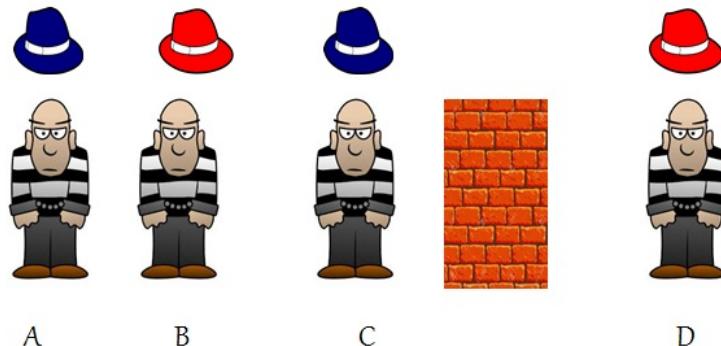
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Category: [Puzzle](#)

## Puzzle 75 | Prisoner's Hat

A Police officer caught four criminals. He plays a game with these four men. He lines up three of the prisoners (A, B, C) in one room and the fourth prisoner(D) is placed in a separate room.

Each prisoner is given a hat to wear. The officer tells them that there are in total two blue hats and two red hats. If any of them can guess the color of the hat they are wearing right, he promises to set all four of them free. They cannot communicate with each other, the only information is that

- The prisoner A can see the colors of hats worn by prisoner B and prisoner C.
- Prisoner B can ONLY see the color of hat worn by prisoner C.



This is the actual arrangement made by the officer

After a few minutes of silence, one of the prisoner gets the answer right, who is it?

**Solution:** Prisoner B gets the answer right.

**Explanation:** Based on the arrangement made by the officer, the only thing that prisoner B can see is prisoner C wearing a blue hat. Prisoner B has no information about the other two prisoner's hat colors.

Then he calculates,

- He can be wearing either a blue hat or a red hat.
- If he is wearing a blue hat, prisoner A should be seeing a blue hat on him (prisoner B) and a blue hat on prisoner C and therefore the remaining two are red hats, he must have declared his answer way before without any thinking, but he is silent. This means that he (prisoner B) is not wearing a blue hat. Hence he figures out that he is wearing a red hat.

This puzzle is contributed by **Harika Mulmudi**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

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### GATE CS Corner

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Category: [Puzzle](#)

## Puzzle 74 | Chocolate love

Priyanka visited a famous monument called "holyghar" located near Himalayas. It was a round structure consisting of 100 steps in spiral stairway to reach top. From top you can have overview of natural beauty surrounding that place. Priyanka thought of reaching the top. She also carried a lot of chocolates with her for kids. In the process of climbing up, with each step a chocolate falls from her bag. When she reaches top, she donates half of the chocolates left with her to small kids. Again, in the process of climbing down a chocolate falls down with each step.

She repeats the same process at five holyghars and now she is left with no chocolates. Can you find out the total number of chocolates she had with her initially?

**Solution:** 9300 chocolates

**Explanation:** Let us begin from the end. We have fifth holyghar to consider first.

- Priyanka climbed down hundred steps so after donating she must be left with 100 chocolates. Now she donates half of total chocolates so before donating she must be having 200 chocolates.
- Now she loses 100 chocolates while climbing up so in total she must be having 300 chocolates before climbing fifth holyghar.
- Now the same procedure is followed for fourth holyghar. So before climbing fourth she must be having  $(300+100)*2+100$  chocolates which amounts to 900.
- Before climbing third, she must be having  $(900+100)*2+100$  which amounts to 2100. Now before climbing second she must be having 4500 chocolates.
- At last , before climbing first she must be having 9300 chocolates. So initially she had in total 9300 chocolates.

This puzzle is contributed by **Ankur Chaudhary**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

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### GATE CS Corner

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Category: [Puzzle](#)

## Puzzle 73 | The Card Game

A blind man is handed a deck of 52 cards and told that exactly 10 of these cards are facing up. How can he divide the cards into two piles, not necessarily of equal size, with each pile having the same number of cards facing up?

#### Solution:

If the original pile has  $c$  cards with  $f$  cards facing up, then the blind man divides them into piles of size  $f$  and  $c - f$ . Then he flips all cards in the pile with  $f$  cards. Let's see why it works for  $c = 52$  and  $f = 10$ . The blind man would divide the cards into two piles with 10 and 42 cards each. If there are  $k$  face-up cards in the 10-card pile, then there must be  $10 - k$  face-up cards in the 42-card pile (because the total number of face-up cards is 10). So by flipping all cards in the 10-card pile, the number of face-up cards in both piles would become equal to  $10 - k$ .

This puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

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Category: [Puzzle](#)

## Puzzle 72 | Diseases and Tests

**Dinoo** is worried that he might have a rare disease. He decides to get himself tested, and suppose that the testing methods for this disease are correct 99 percent of the time (in other words, if he has the disease, it shows that he does with 99 percent probability, and if he doesn't have the disease, it shows that he does not with 99 percent probability). Suppose this disease is actually quite rare, occurring randomly in the general population in only one of every 10,000 people.

If his test results come back positive, what are his chances that he actually have the disease?

1. .99
2. .90,
3. .10
4. .01

**Solution:** The answer is (d), less than 1 percent chance that he has the disease.

#### Explanation:

After discussing the reasons for the surprising probability (below), you should see how changing the parameters affects the outcome. Would the result be so surprising if the disease were more common? How would the probability change if you allow the percentage of false positives and false negatives to be different?

This fact may be deduced using something called Bayes' theorem, which helps us find the probability of event A given event B, written  $P(A|B)$ , in terms of the probability of B given A, written  $P(B|A)$ , and the probabilities of A and B:

$$\begin{aligned} P(A|B) &= P(A)P(B|A) / P(B) \\ \Rightarrow P(B) &= P(A)P(B|A)/P(A|B) \end{aligned}$$

- In this case, event A is the event he has this disease, and event B is the event that he tests positive.
- Thus  $P(B|\text{not } A)$  is the probability of a "false positive": that he tests positive even though he doesn't have the disease. Here,  $P(B|A)=.99$ ,  $P(A)=.0001$ , and  $P(B)$  may be derived by conditioning on whether event A does or does not occur:  
$$P(B)=P(B|A)P(A)+P(B|\text{not } A)P(\text{not } A) \text{ OR } .99*.0001+.01*.9999.$$
 Thus the ratio you get from Bayes' Theorem is less than 1 percent.

The basic reason we get such a surprising result is because the disease is so rare that the number of false positives greatly outnumbers the people who truly have the disease. This can be seen by thinking about what we can expect in 1 million cases. In those million, about 100 will have the disease, and about 99 of those cases will be correctly diagnosed as having it. Otherwise about 999,900 of the million will not have the disease, but of those cases about 9999 of those will be false positives (test results that are positive because of errors). So, if he tests positive, then the likelihood that he actually have the disease is about  $99/(99+9999)$ , which gives the same fraction as above, approximately .0098 or less than 1 percent!

Related Article – [Bayes' Theorem](#)

#### Quiz

This puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 71 | Correct Number to save life

**Gabbar** and his **S a m b h a** are fond of playing number games. But as usual, if Sambha loses the game, he dies. Gabbar and Sambha take their turn to call out a number between 1 to n. They follow the following rules while playing the game:

- Anyone of them can start the game by calling a number between 1 to 10.
- The person who's chance is next, should must call a number by increasing the last number by 1 to 10, both inclusive.

Whosoever, from Gabbar and Sambha calls out "101" first wins. Sambha tries to win this game, as it's the run for his life. Can you help him by providing the right strategy to win the game?

**Solution :**Sambha wants to call 101 first. He can do this if Gabbar calls any integer between 91 and 100 (both included), which will happen if he calls 90. He can go ahead, if Gabbar calls any integer between 80 and 89 (both included), which will happen if he calls 79. If he goes on like this, he would find out that he should call 101, 90 (=101-1), 79 (=90-11), 68 (=79-11), ..... , 2.

Reverse, start with 2, let say that Gabbar calls the least one ahead, i.e. 3, then, 13, 14, 24, 25, 35, 36, 46, 47, 57, 58, 68, 69, 79, 90, 91, 101 are called by them alternatively. If incremented by 10 each time, then 101-2 falls at odd factor of 10 and Sambha starting at the odd turn will finish it at odd turn. By the above two explanations you can say that the right strategy to save his life ; he should start the game by calling 2.

This puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 70 | Tom and Jerry

Once upon a time Tom and Jerry thought of having a race on a circular track. The diameter of the track was 200 yards.

- They both started from same starting point but Tom being confident did not move until he found jerry has moved 1/8 of the distance.
- Now Tom starts to move and it meets jerry on the circular track. Tom finds that at this point of time ,he has moved only 1/6th of total distance. Now the fear of losing the race starts to disturb him.
- He starts wondering how much faster should he move comparatively to win the race. Please help him .

**Solution:** Tom has to move  $85/4$  times faster than his current speed to win the race.

**Explanation:**

Initially, Jerry has travelled  $3/24$  of the distance of circular track .When Tom and Jerry meets, we could find that Jerry has moved a distance of  $17/24$  of the circular track. We can subtract  $7/8$ th of total distance to  $1/6$ th of total distance.

At this time, Tom has moved a distance of  $4/24$ th distance of circular track. Now we can find that rate of travelling of Jerry is  $17/4$  times rate of travelling of Tom. So, basically Jerry is  $17/4$  times faster than Tom. Now, Tom has to move  $5/6$ th of the track while Jerry has only  $1/6$ th left. So, in order to win Tom has to move 5 times faster than jerry's rate which is  $85/4$  to overcome .

Therefore, if Tom moves at a little faster speed than  $85/4$  times of previous speed, he would certainly win the race.

This puzzle is contributed by **Ankur Chaudhary**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 69 |The Number Game

Ankur and Vijay are fond of playing Number games. In one of the games, Ankur has to choose a number X, such that X belongs to [1, 10000] . Vijay has to guess the chosen number as soon as possible. Ankur will let Vijay know whether his guess is smaller than, larger than or equal to the number. The warning is that Vijay loses the game if his guess is larger than Ankur's chosen number two or more times.

Q1. How to make guesses, and how many guesses are necessary?

Q2. What if Ankur is allowed to pick a very large positive number without any given limits ? .

**Solution:**

Both the problems can be treated in the following ways:

**Ans1:**

When Ankur chooses a number between 1 and n, here n=10000, Vijay should start guessing  $\sqrt{n}$ ,  $2\sqrt{n}$ ,  $3\sqrt{n}$ ,  $4\sqrt{n}$ , and so on. The first time his guess exceeds Ankur's number, the range of numbers has been narrowed down to  $\sqrt{n}$  numbers; he then starts guessing sequentially in that range.

**Ans2:** If Ankur guesses an arbitrarily large number n, then Vijay may guess 1, 4, 9, 16, 25, and so on, to discover k such that Ankur's number lies between  $k^2$  and  $(k+1)^2$ . Then guess  $k^2+1$ ,  $k^2+2$ ,  $k^2+3$  and so on. On the whole, this requires  $O(\sqrt{n})$  steps.

This puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

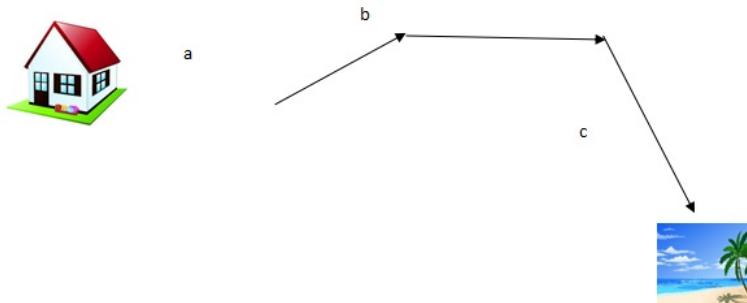
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Category: [Puzzle](#)

## Puzzle 68 | Walking down the hill

I can walk 3 miles per hour uphill and 4 miles per hour on flat land and 6 miles per hour downhill. If I reached beach near by me, walking for 50 minutes and I walked back home in 1 hour, can you calculate the total distance from my house to the beach? (Note: I walk with same uniform speed



**Solution:** This might seem like an incomplete data problem, but it is not.

Let us assume that I walk in total from my home to the beach

a mile's uphill

b miles on flat land

c miles' downhill

The total distance is  $a+b+c$

When walking from beach to my home, uphill will be downhill and vice versa

Therefore,

c miles' uphill

b miles on flat land

a mile's downhill

The total distance is  $a+b+c$

distance/speed = time

By solving the above two, we get two equations

$$a/3 + b/4 + c/6 = 50 \text{ minutes}$$

$$c/3 + b/4 + a/6 = 60 \text{ minutes}$$

$$\Rightarrow 20a + 15b + 10c = 50$$

$$20c + 15b + 10a = 60$$

Now we need the distance  $a + b + c$

By adding the above two equations, we get

$$30a + 30b + 30c = 110$$

$$\text{Therefore } a + b + c = 110/30 = 3 \text{ and } 2/3 \text{ miles}$$

This puzzle is contributed by **Harika Mulumudi**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 67 | Fit Triangle

Sameer asks his friend Kartik a question to test his intelligence.

**Sameer** – You have been given a right-angled triangle ABC, right-angled at B. The hypotenuse length is 10m and the altitude to the hypotenuse from B is 6m.

**Kartik** – Go on.

**Sameer** – Tell me the area of the triangle ABC.

**Kartik** – 30 sq. Metres.

**Sameer** – I knew you would say this, but you're wrong my friend. Try some geometry.

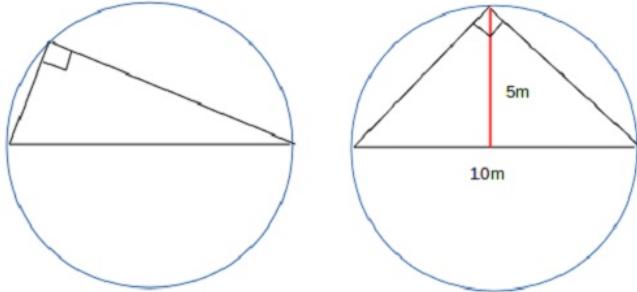
Kartik needs your help to answer this question.

**Answer :** Such a triangle can never exist

**Solution :** At first it would seem that 30 sq. Metres is the correct answer, using the formula

$$\begin{aligned} & 0.5 \times \text{Base} \times \text{Height} \\ & = 0.5 \times 10 \times 6 \\ & = 30 \end{aligned}$$

A triangle with given dimensions can never exist. The maximum altitude to the hypotenuse of a triangle can be half of the length of the hypotenuse. (See pic)



So the maximum altitude can be half of the diameter, which is 10m in this case. Hence the maximum altitude to the hypotenuse can be half of 10m , i.e 5m only.

This puzzle is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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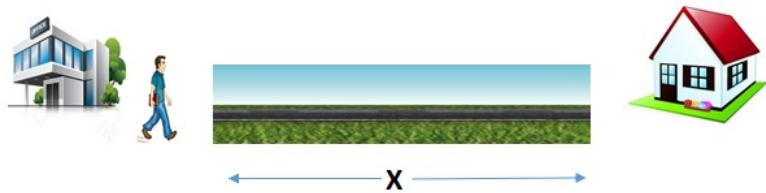
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Category: [Puzzle](#)

## Puzzle 66 | Walk to Office

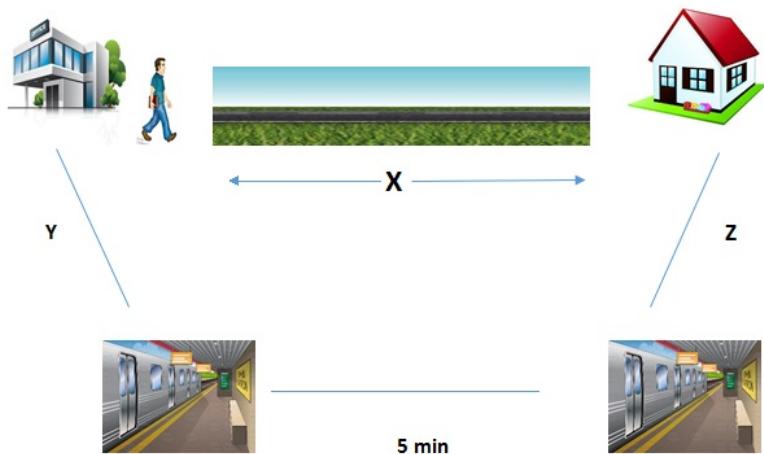
Alex's friend Grace drops her every day to work in the morning to her office, but cannot help to drop her back home in the evening. She walks back home from work every day . But after a few days, As a reward of her sincerity in work, her boss offered her a metro pass. Now she needs to walk only from her office to a nearby metro station and from a station nearby her house to her house . Following this routine, she walks 1/8th times less than before. Assume that she always walks with the same speed, she reached home 15 minutes earlier than usual. If the time she traveled in the metro (apart from her walking) is 5 minutes, what is the total amount of time she used to walk in her older routine (without taking metro)?

**Solution:**

Let the distance she used to walk from work to her home be 'x' and the time take be 't'



Let the distance she walks in her new routine from her office to a nearby station be 'y' and the time she takes be 't1' and the distance from a station nearby her home to her home be 'z' and the time he takes be 't2'



She walks 1/8th times less than before taking the new routine, which implies

$$x - \frac{1}{8}x = z + y \quad \text{---\{1\}}$$

distance = speed \* Time

$$x = v * t$$

$$y = v * t_1$$

$$z = v * t_2$$

From equation {1}

$$\frac{7}{8}(v*t) = v*t_1 + v*t_2$$

$$\frac{7}{8}(t) = t_1 + t_2 \quad \text{---\{2\}}$$

She reached home 15 minutes earlier, which means

$$t - 15 = t_2 + t_3 + \text{Time taken in the metro}$$

$$t - 15 = t_2 + t_3 + 5$$

From equation {2}

$$t - 15 = \frac{7}{8}t + 5$$

By solving the above equation, we get

$$t = 160$$

Therefore, she used to walk **160 minutes** everyday.

This puzzle is contributed by **Harika Mulumudi**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

A king wants his daughter to marry one of 3 young princes, so he devises an intelligence test. The princes are gathered into a room and are shown 2 black hats and 3 white hats. They are blindfolded, and 1 hat is placed on each of their heads, with the remaining hats hidden in a different room. The king tells them that the first prince to deduce the color of his hat without removing it or looking at it will marry his daughter. A wrong guess will mean death. The blindfolds are then removed. You are one of the princes. You see 2 white hats on the other prince's heads. After some time you realize that the other princes are unable to guess the color of their hat. What is the color of your hat?

**Solution:**

There are two possibilities – either the hat on your head could be black or white. There are 3 cases :

- 1) either the king could have chosen 2 black hats and 1 white hat,
- 2) the king could have chosen 1 black and 2 white hats, and
- 3) the king could have chosen 3 white hats.

Let us examine these cases 1 by 1.

**Case 1:** There are 2 black hats and 1 white hat on the princes' heads. In this case, the prince wearing the white hat can see that the other two princes have black caps on their heads and can immediately guess that he is wearing a white cap. This case is obviously not true.

**Case 2:** There is 1 black hat and 2 white hats on the princes' heads. In this case, any prince wearing the white hat (Prince A) can see that one other prince is wearing a white hat (Prince B), while the third is wearing a black hat (Prince C). Now, if he was wearing a black hat (as in case 1), then the prince with the white hat (Prince B) would immediately have guessed the color of his hat. However, this is not true because the other prince was unable to guess the color of his hat. Hence, it is easy for this prince (Prince A) to guess that he is wearing a white hat. This does not happen, as we know that the princes are unable to guess the color of their hats. Therefore, this case is also not true.

**Case 3:** This only leaves us with the case where the king chose 3 white hats. Therefore, any of the three princes can, after waiting for a while, safely guess that they are wearing a white hat.

This article is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 64 | Surround the Villages

In a district called Daulatpur, which is one of the best planned city in the world, there is a certain arrangements of villages. The arrangement adheres the following design patterns:

- All the boundaries of a villages are straight, and all the villages are surrounded by four such boundaries of the same length.
- The length of the line joining the non – adjacent points are equal.
- All the villages are divided into a group of three villages, having a common playground fully surrounded by one boundary of each villages.

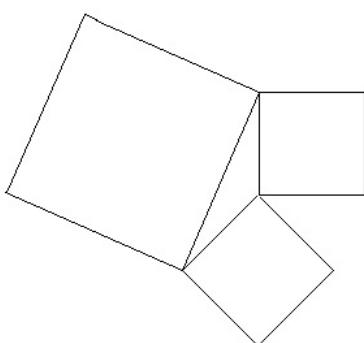
Then, the villages are further categorized into category of special villages. The special villages have the property that area of one of the villages among their group is equal to sum of the area of the other two villages. You have been given that the boundaries of a village may vary from 1 km to 15 km in length.

Find out the sum of the area of the playgrounds for those group of villages which have been categorized into special villages.

*Note: It's given that for each set of boundaries of the villages, only one special group exists.*

**Solution:** 114 Km<sup>2</sup>.

**Explanation:** In the above question, it's given that the boundaries of the villages are straight, equal, and in four in number. The length of the line joining the non – adjacent points => the length of the diagonal of the polygon. As the sides and diagonals of the polygon are equal, this implies that polygon is a square. So , the whole district is collection of given triplets of villages, where area in between the squares is playground.



Now, the question says that the special villages are those villages having the sum of areas of two equal to the third one. Let the side of the villages in a triplet be a, b, & c respectively, which implies that

$$a^2 = b^2 + c^2$$

- Now, from 1 to 15 you have to find the Pythagorean triplets which are (3, 4, 5), (5, 12, 13), (9, 12, 15) and (6, 8, 10) respectively.

- As  $a^2 = b^2 + c^2$ , the triangular playgrounds are right angled. And as there are only one such special group.
- Therefore, the answer is  $(1/2) \times 3 \times 4 + (1/2) \times 5 \times 12 + (1/2) \times 6 \times 8 + (1/2) \times 9 \times 12 = 114$ .

This puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 63 | Paper ball and three friends

It's summer time and three of the college friends, A, B and C went to sports club to enjoy the vacation. They saw an interesting game being played there.

Game name is "hit and win". There was a triangular setup of green ropes on ground. You have to move on the triangular path and on the turn you have to hit other mate using paper ball until only one is left for winning.

- A's chances of hitting is 0.3.
- B has hitting chance of 0.5 .
- C has 100% chance of hitting the target.
- If a person is hit, he is out from path and cannot take a turn.

Suppose order of throwing balls is A, B, C. You being close to A, what strategy would you suggest A for having maximum chance of winning.

**Solution:** A has to miss the target first time purposely.

**Explanation:** Suppose if A tries to hit B and A is successful, then in the next turn C would definitely hit A and A loses.

If A tries to hit C and hits him, then B would go for A. Now if A purposely miss his target then B would go for C, he being more stronger than A. If he hits, its between A and B and A has a first chance to hit. If B misses the target, then C would go for B in next turn and he would definitely hit him and it would be now between A and C but again A has a first chance to hit.

This puzzle is contributed by **Ankur Chaudhary**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 62 | Gold or Silver

There are three boxes box1, box2 and box3 containing gold, silver and mixture of silver and gold respectively.

- Each of the three boxes contain a label on them describing the contents.
- Mr. Hurricane comes and mess up all labels. Now each box is labeled with the name which it exactly doesn't contain.

You are given only **one chance to open a box** and you should guess all the remaining two box contents correctly. Which box will you choose to open keeping in mind that all the three boxes are labeled wrong?

*(There is a chance of the mixed box having all the gold coins towards the bottom and silver filled on the top(or vice versa) to deceive that it is a silver box.)*

**Solution:**

Choose the box labeled as mixed.

**Explanation:**

If the box labeled as mixed is chosen and opened, it can contain gold or silver, cannot contain both because the label written is exactly opposite. Say, If the box contains gold, then two boxes will now left to be guessed. Obviously the box labeled as silver contains mixed.

This article is contributed by **Harika Mulumudi**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

See Placement Course for placement preparation, GATE Corner for GATE CS Preparation and Quiz Corner for all Quizzes on GeeksQuiz.  
Category: Puzzle

## Puzzle-61| Cake and my friend

Praveer 'the most hungry guy' in college went to get some delicious cakes for his friends birthday. When he entered the famous shop "Taste the variety", he was thrilled to see variety of cakes being displayed. He went to the seller and asked for cake. Seller told him that he has a very unique arrangement for cakes. He would be getting **chunk of cakes pieces in boxes of 7, 11 or 17**. Obviously he could purchase exactly 18 pieces by buying a box of 7 and a box of 11. Hearing this, he started imagining the largest number for which it is **impossible** to purchase exactly that number of pieces using above combination. Well as always, his hunger was deviating him from thinking, he asked for your help.

**Solution:-** The largest number that would be impossible to buy using above combination is 37. You can see he could form 7 using a single seven box, 25 using 7, 7 and 11. You have no combinations for number 30. Then numbers from 31 to 36 can be easily formed using above combination. **For 37, he has no options fulfilling his needs.** Further incrementing to 38, he could use 7, 7, 7, 17. Rest numbers above 37 can be formed using above combinations.

This puzzle is contributed by **Ankur Chaudhary**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

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Category: Puzzle

## Puzzle-60 | Colliding Stars

Gyani baba is fond of giving new theories about stars. He discovered that there are two type of stars in this universe; one "X" type and another "Y" type stars. In one of his theories about these stars, he states that if n "X" type of stars collide with m "Y" type of stars, the collision results to formation of  $(m+n)$  new "Y" type of stars, elimination of previous n "X" type of stars, and change of type from "Y" to "X" of previous "Y" type of stars. He termed this whole phenomenon as a "Big Bang". The phenomenon is governed by following rules:

- All the stars collide together at once.
- Further "Big Bang" may occur only after one "Big Bang" has happened. No two 'Big Bang's can happen at the same instant .
- The next "Big Bang" can only occur if all the products from previous "Big Bang" collides together.
- In the year 1800A.D., people on the earth were able to count the total no. of stars in the universe. The total count of stars was 144 in the whole universe.

Find the total no. of "Big Bangs" happened till then, if initially there were only 2 stars ?

**Solution:** 9 "Big Bangs". If initially, there were two stars , then for the number of stars to increase there must have been one "X" type and "Y" type star each. As you can observe from the problem, "Big Bangs" increases the no. of stars as the Fibonacci series- 1, 1, 2, 3, 5, 8, 13, 21....and so on.

Now, if the total count of stars were 144, then it must be a Fibonacci number, as a sum of previous two Fibonacci numbers which are 55 and 89. Since, 55 is the 10th Fibonacci number, therefore the answer will be  $10 - 1 = 9$ , as already 1 "X" type and 1 "Y" type stars were present.

This puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

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Category: Puzzle

## Puzzle-59 | Catch the Thief

**Problem:** Three cars, an Alto, a Zen and a Nano were stolen. There are 3 suspects (Arun, Kartik and Varun). Each stole 1 vehicle. Here is what they say:

**Arun:** Varun stole the Alto

**Kartik:** Varun stole the Zen

**Varun:** I stole neither the Alto nor the Zen

Later on, the police find that the suspect who stole the Alto told the truth. Using only this information, can you identify which suspect stole which car?

**Solution:**

We know that the suspect who stole the Alto told the truth. However, both Arun and Varun claim that they did not steal the Alto. Therefore, neither of them could have actually stolen the Alto, which means Kartik stole the Alto.

This also means that Kartik told the truth and that Varun stole the Zen. Since each suspect stole 1 vehicle, it is obvious that Arun stole the Nano.

This Puzzle is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

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Category: [Puzzle](#)

## Puzzle -58 | Friends after ages

Two old friends, Jacky and Bob, meet after a long time.

**Jacky:** Hey, how are you man?

**Bob:** Not bad, got married and I have three kids now.

**Jacky:** That's awesome. How old are they?

**Bob:** The product of their ages is 72 and the sum of their ages is the same as your birth date.

**Jacky:** Cool... But I still don't know.

**Bob:** My eldest kid just started taking piano lessons.

**Jacky:** Oh now I get it.

How old are Bob's kids?

**Answer:**

3,3,8

**Solution:**

All we have gained from the conversation is that the product of their ages is 72 and the sum lies between (1,31) ; ie; (possible dates a month can have ).

So what are the possible choices?

2, 2, 18 sum(2, 2, 18) = 22

2, 4, 9 sum(2, 4, 9) = 15

2, 6, 6 sum(2, 6, 6) = 14

2, 3, 12 sum(2, 3, 12) = 17

3, 4, 6 sum(3, 4, 6) = 13

3, 3, 8 sum(3, 3, 8 ) = 14

1, 8, 9 sum(1,8,9) = 18

1, 3, 24 sum(1, 3, 24) = 28

1, 4, 18 sum(1, 4, 18) = 23

1, 2, 36 sum(1, 2, 36) = 39

1, 6, 12 sum(1, 6, 12) = 19

But we remember that Jacky still had a problem figuring out their ages. It means there are two or more combinations with the same sum. From the choices above, only two of them are possible now.

2, 6, 6 sum(2, 6, 6) = 14

3, 3, 8 sum(3, 3, 8 ) = 14

Now since the eldest kid is taking piano classes, we can eliminate combination 1 since there are two eldest ones. The answer is 3, 3 and 8.

**Reference:** <http://dailybrainteaser.blogspot.in/2011/07/popular-age-problem.html>

This puzzle is contributed by **Pragya Gupta**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

## Puzzle – 57| Priests in Temple

There are 20 priests in a temple. One day, Lord Shiva appears before them and tells them that some of them have sinned, and that a black spot would appear on the forehead of all the priests who have sinned. The priests are not allowed to look into a mirror or communicate with each other. When any priest finds out that there is a spot on his forehead, he should leave the temple on that day itself. At least 1 priest has sinned. How can a priest find out whether he has a spot on his forehead. What would be the pattern of the priests leaving the temple?

### Solution:

**Scenario 1 (Only 1 priest has sinned):** On the first day itself, the priest who has sinned would see that no other priest has the spot on his forehead and would know that he is the one who has sinned(because Lord Shiva said that atleast one of them had sinned). Therefore, he would leave on the first day. Note that, in this case, the priest left because he did NOT see the spot on anyone's forehead.

**Scenario 2 (2 priests have sinned):** In this case, one of the priests (Priest A) who has sinned would see only 1 priest with the spot (Priest B). However, unlike the first case, this priest (Priest B) does not leave on the first day because he can see 1 priest with the spot (Priest A). Now, priest A knows that since priest B did not leave on the first day, he must be seeing another priest with the spot. The same is true for priest B. Therefore, they both realize on the second day that both of them have the black spot and they both leave on the second day.

**Scenario 3 (3 priests have sinned):** Following the same approach from scenario 2, one of the priests (Priest A) who has sinned would now see two priests with the spot (Priests B & C). However, unlike the second case, priests B and C do not leave on the second day because they can each see 2 priests with the spot (Priest A). Now, priest A knows that since priests B & C did not leave on the second day, they must be seeing two more priests with the spot. The same is true for priests B & C. Therefore, all three realize on the third day that all three of them have the black spot and they all leave on the third day.

In a similar manner, by extension, we can determine that if n priests have sinned, all n of them would leave on the nth day together.

Reference: <http://txti.es/hosted-sites-monk>

This puzzle is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

## Puzzle 56 | Chinchillas Relations

Q. A young pair of chinchillas (one of each sex) is placed on an island. A pair of chinchillas does not breed until they are 2 months old. After they are 2 months old, each pair of chinchillas produces another pair each month (See pic below). Find a recurrence relation for the number of pairs of chinchillas on the island after n months, assuming that no chinchillas ever die.

| Reproducing pairs<br>(at least two months old)                                                                                                                          | Young pairs<br>(less than two months old)                                                                                                                               | Month | Reproducing pairs | Young pairs | Total pairs |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------|-------------|-------------|
|                                                                                                                                                                         |                                                                                      | 1     | 0                 | 1           | 1           |
|                                                                                                                                                                         |                                                                                      | 2     | 0                 | 1           | 1           |
|   |   | 3     | 1                 | 1           | 2           |
|   |   | 4     | 1                 | 2           | 3           |
|   |   | 5     | 2                 | 3           | 5           |
|   |   | 6     | 3                 | 5           | 8           |
|                                                                                                                                                                         |                                                                                      |       |                   |             |             |

### Solution:

Let us denote the number of pairs of chinchillas after n months by  $f(n)$ .

The chinchilla population can be modeled using a recurrence relation. At the end of the first month, the number of pairs of chinchillas on the island is  $f(1) = 1$ . Because this pair does not breed during the second month,  $f(2) = 1$  also. To find the number of pairs after n months, add the number on the island the previous month,  $f(n-1)$ , and the number of newborn pairs, which equals  $f(n-2)$ , because each newborn pair comes from a pair at least 2 months old.

Consequently, the sequence  $\{f(n)\}$  satisfies the recurrence relation

$$f(n) = f(n-1) + f(n-2)$$

for  $n \geq 3$  together with the initial conditions  $f(1) = 1$  and  $f(2) = 1$ . This recurrence relation and the initial conditions uniquely determine this sequence.

If you closely observe, this is the recurrence relation for Fibonacci numbers. (See 'Total Pairs' column in the pic)

Hence, the number of pairs of chinchillas on the island after n months is given by the nth Fibonacci number.

**Reference:** <http://www.maths.surrey.ac.uk/hosted-sites/R.Knott/Fibonacci/fibnat.html>

This puzzle is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

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Category: [Puzzle](#)

## Puzzle 55 | Geek and his Friend

A Geek asks his friend to pay 200 Rs for a cool program written by him. He asks the friend to pay only in following way.

- a) Some 1 Rs Notes. Let x.
- b) Some 2 Rs Notes. Must ten times of 1 Rs Notes, i.e.,  $10x$ .
- c) Rest of the money as 5 Rs Notes ( Minimum number 5 rs notes should be used)

How does the Geek's friend to pay?

#### Solution:

The smallest amount of 1 Rs and 2 Rs Notes the friend may pay is 21 (1 one rupee note + 10 two rupees notes).

So the friend must pay in multiples of 21 to satisfy the first two conditions. And should not exceed 200 Rs.

Multiples of 21 are 21, 42, 63, 84, 105, 126, 147 and 187. Only 105 is multiple of 5. So he must give the balance of 95 in five-Rs bills.

Therefore, the Friend must give 5 one-Rs bills, 50 two-Rs bills and 19 five-Rs bills.

This Puzzle is contributed by **Cassin Thangam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

See [Placement Course](#) for placement preparation, [GATE Corner](#) for GATE CS Preparation and [Quiz Corner](#) for all Quizzes on GeeksQuiz.  
Category: [Puzzle](#)

## Puzzle 54 | Fill the Jug

There are two jugs each of 4 and 3 liters respectively, without any measuring marks. how many minimum steps are required to have 2 liters of water into the 4 litre jug (the jugs can be filled any number of times with water, and they can be emptied any number of times).

Note that this puzzle is different from the one discussed [here](#). Here we need 2 litre water in 4 litre jug (not in any of the two jugs).

Answer: 6

#### Explanation:

- Step 1 : Fill 4-litre jug with water completely
- Step 2 : Fill 3-litre jug completely with water from 4-litre jug, leaving 1 liter in 4-litre jug
- Step 3 : Empty water from 3-litre jug
- Step 4 : Pour the 1-litre that is left in 4-litre jug into 3-litre jug
- Step 5 : Fill 4-litre jug with water completely again

Step 6 : Fill 3-litre jug completely with water from 4-litre jug, since 3-litre jug already contains 1-litre, it takes 2 liters from the 4-litre jug, thereby leaving two liters in the 4-litre jug.

This puzzle is contributed by **Harika Mulumudi**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

See Placement Course for placement preparation, GATE Corner for GATE CS Preparation and Quiz Corner for all Quizzes on GeeksQuiz.  
Category: Puzzle

## Puzzle 53 | The Counterfeit Coin

A box contains n coins, of which 7 of them are counterfeit with tails on both sides and the rest are fair coins. If one coin is selected from the bag and tossed, the probability of getting a tail is 17/20. Find the value of 'n'.

Answer: n = 10

#### Explanation:

Probability of getting a tail can be in two ways

1) Selecting any of those 7 coins with tails on two side is =  $(7/n)$

2) Selecting any one, other than those 7 biased coins is  $(n-7)/n$

Therefore:

$$\begin{array}{l} (7/n)(1) + (n-7/n)*(1/2) = 17/20 \\ | \quad \quad \quad | \\ | \quad \quad \quad | \\ | \quad \quad \quad | \\ \text{probability of} \quad \text{probability of} \\ \text{getting a tail from} \quad \text{getting a tail from} \\ \text{biased coins} \quad \text{fair coins} \end{array}$$

solving above equation, we get n = 10

This Puzzle is contributed by **Harika Mulumudi**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

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Category: Puzzle

## Puzzle 52 | Boy with Marbles

A boy goes to 20 of his friend's houses with 'n' number of newly purchased marbles in his hands. At every house he visits , he gives away half of marbles he have and take one of his friend's marble's and adds it with the one's he is left with , he never had a problem of dividing an odd number of marbles left and finally after leaving the his 20th friends house, he is left with 2 marbles, can you guess the 'n' value?

Answer: 2

**Explanation:** n=2; The boys purchases two marbles from the shop and travels to his first friend's house,where he gives away half of them which is  $n/2=2/2=1$  to his first friend ,and thereby left with 1 marble, and takes 1 marble from his first friend and adds it to the remaining he is left with, which is 1 ,therefore he is now having 2 marbles with him.

Then he goes to his second friend's house and again gives away half of what he have which is again  $2/2=1$  and he is left with 1 marble, and takes 1 marble from his second friend and adds it to the remaining he is left with, which is 1 ,therefore he is now having 2 marbles with him.

And in the same way he continues to all his friend's houses and will return back with two marbles. So, Finally after he comes from his 20th friends house, he is left with 2 marbles.

This Puzzle is contributed by **Harika Mulumudi**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed

above.

## GATE CS Notes (According to Official GATE 2017 Syllabus)

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Category: Puzzle

## Puzzle 51| Cheryl's Birthday Puzzle and Solution

([Wiki](#)) Cheryl's Birthday is the unofficial name given to a mathematics brain teaser that was asked in the Singapore and Asian Schools Math Olympiad, and was posted online on 10 April 2015 by Singapore TV presenter. It is an interesting problem and might be asked in the interviews. It is based on logical deduction. It doesn't require any prior mathematical acumen. It is advised that you try to hustle through the problem yourself without looking at the solution and just to motivate you further to solve the problem, the problem has been talked about in international newspapers like Telegraph and Guardian, so If you are able to solve the problem without looking at the solution you deserve a pat on the back!

**Problem:** It is known that Cheryl's birthday is one of the following 10 dates listed in the table.

May 15, May 16, May 19, June 17, June 18, July 14,  
July 16, August 14, August 15, August 17.

|        |    |    |    |    |
|--------|----|----|----|----|
| May    | 15 | 16 |    | 19 |
| June   |    |    | 17 | 18 |
| July   | 14 |    | 16 |    |
| August | 14 | 15 |    | 17 |

Cheryl tells Albert and Bernard separately the month and the day of her birthday respectively.

**Then following conversation takes place**

**Albert:** I don't know when Cheryl's birthday is, but I know that Bernard doesn't know too.

**Bernard:** At first I didn't know when Cheryl's birthday is, but I know now.

**Albert:** Then I also know when Cheryl's birthday is.

So when is Cheryl's birthday?

**Solution:** It is clear that we'll try to eliminate the 10 choices and finally narrow down to one correct answer based on the arguments given by Albert and Bernard. So let's eliminate the choices argument by argument.

**Argument 1:** Albert says, I don't know when Cheryl's birthday is, but I know that Bernard doesn't know too.

If we look at the dates we observe that if May 18 or June 19 were Cheryl's birthday then Bernard would have known it instantly because there are only one date with 18 and 19. If Albert knows this fact then he is either told July or August Month. Hence all the dates of May and June are eliminated.

Now the remaining choices are

|        |    |    |    |
|--------|----|----|----|
| July   | 14 | 16 |    |
| August | 14 | 15 | 17 |

**Argument 2:** Bernard says, At first I didn't know when Cheryl's birthday is, but I know now.

This eliminates July 14 and August 14 because If Bernard know the exact date, it can't be 14 as that will create ambiguity between July 14 and August 14. These two dates are eliminated.

The remaining choices are

|        |    |    |
|--------|----|----|
| July   | 16 |    |
| August | 15 | 17 |

**Argument 3** Albert says, Then I also know when Cheryl's birthday is.

If Albert knows the date then it has to be JULY 16 because, in August there are two choices and Albert can't be sure of his decision. If Albert is absolutely sure then answer is July 16 and all the august dates are eliminated.

**Answer: July 16**

Reference:

<http://www.cbc.ca/news/trending/when-is-cheryl-s-birthday-singapore-math-question-for-kids-stumps-internet-1.3032029>

This puzzle is contributed by **Ishaan Arora**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 50 | The Boat Wreckage

Let's make this one easy! Ankur with his friends went to river the bank of river Ganges, as the exams are over for fun and recreation. But while crossing to other side of the river, a storm came and he along with fourteen other people are trapped in a boat in the mid of the river. None of them know how to swim, and due to a hole in the base the boat is about to sink in 20 minutes. Their only chance to survival is the five-person raft stowed on their vessel.

But still, there is some ray of hope for these people. A round trip to the nearest side takes nine minutes on the raft. You have to help Ankur by telling that how many people will remain at raft so that he can go away by raft as soon as possible.

**Solution:** The correct answer is 2. You may give a cracking answer by giving the logic that after 2 rounds when  $(20 - 18)$  i.e. only two minutes are left, the rest of five people can leave the boat. But dear, it's a raft and you always need one person to move the raft, and that person has to return back with the raft to rescue other people. So the first time, 5 people went and one returned, again five went and one returned, and when only two minutes were left, five people went and no one returned leaving two people  $(20 - 5) - (5-1) = 5 - 2 = 3$  back in the boat.

1<sup>ST</sup> Trip: 5-1, 11 minutes remaining

2<sup>ND</sup> Trip: 5-1, 2 minutes remaining

3<sup>RD</sup> Trip: 5, Time over

This Puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

### GATE CS Notes (According to Official GATE 2017 Syllabus)

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Category: [Puzzle](#)

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## Puzzle 49 | King and his Elephants

A king dies after writing an agreement to divide the elephant power to his three sons, the first son has to get 1/2 of elephants, second son gets 3/4th of remaining elephants left after giving away to the first son, third son gets 1/2th of remaining elephants left after giving away to the second son. The total number of elephants are 15. All elephants are to be divided without leaving anyone of them behind. Can you solve it?

**Solution:**

One more imaginary elephant can be added to the elephants, making them 16,  
now the first son gets 1/2 of 16=8 , 8 are remaining  
the second son gets 3/4 of 8 =6, 2 are remaining  
the third son gets 1/2 if remaining , 1 is left , which is your imaginary elephant  
therefore no one elephant is left behind and the required proportions are satisfied.

This Puzzle is contributed by **Harika Mulumudi**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

### GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

See [Placement Course](#) for placement preparation, [GATE Corner](#) for GATE CS Preparation and [Quiz Corner](#) for all Quizzes on GeeksQuiz.  
Category: [Puzzle](#)

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## Puzzle 48 | Rectangular Cardboard

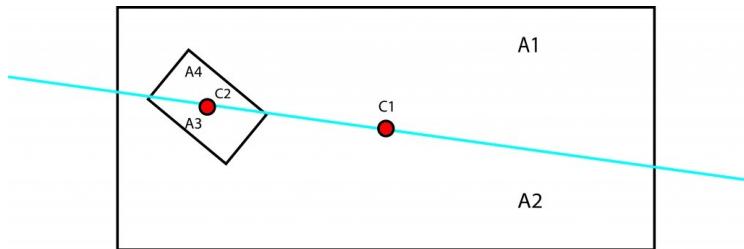
Given a rectangular cardboard with a rectangular piece removed(of any size and orientation) how one can cut the rectangular cardboard in two equal parts with one straight line cut.

**Solution:**

**Using the fact:** "any line passing through the center of a rectangle divides the rectangle in two equal pieces."

One can cut the rectangular cardboard by the line joining the center of the original rectangular cardboard and the center of the removed piece, this will divide the rectangular cardboard in exactly two pieces.

For example: refer below figure



$$A1 = A2 \dots \dots \dots (1)$$

$$A4 = A3 \dots \dots \dots (2)$$

So using (1) and (2)

$$A1-A4 = A2-A3$$

This article is contributed by **Vikash Kumar**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

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Category: Puzzle

## Puzzle 47 | Red Hat vs Blue Hat

A team of three people decide on a strategy for playing the following game. Each player walks into a room. On the way in, a fair coin is tossed for each player, deciding that player's hat color, either red or blue. Each player can see the hat colors of the other two players, but cannot see her own hat color. After inspecting each other's hat colors, each player decides on a response which are one of the following :

"I have a red hat", or "I had a blue hat", or "I pass"

The player's responses are recorded, but the responses are not shared until every player has recorded her response. The team wins if at least one player responds with a color and every color response correctly describes the hat color of the player making the response. In other words, the team loses if either everyone responds with "I pass" or someone responds with a color that is different from her hat color. What strategy should one use to maximize the team's expected chance of winning?

For example, one possible strategy is to single out one of the three players. This player will respond "I have a red hat" and the others will respond "I pass". The expected chance of winning with this strategy is 50%. Can you do better?

**Answer :** A better solution exists for 75% chance of winning.

Eight outcomes

|   |   |   |
|---|---|---|
| 1 | 2 | 3 |
| 1 | 2 | 3 |
| 1 | 2 | 3 |
| 1 | 2 | 3 |
| 1 | 2 | 3 |
| 1 | 2 | 3 |
| 1 | 2 | 3 |
| 1 | 2 | 3 |

**Solution :** With three players and two hat colors, there are a total of eight equally likely outcomes :

One special feature about the distribution is that most outcomes—six of them—include at least one hat of both colors. Only two extreme outcomes don't—the ones with all red hats or all blue hats. We can analyze further. Among outcomes with both hat colors, there logically has to be two hats of one color (the "majority" color) and one hat of another color (the "minority" color). See pic below

Majority and minority colors

|   |   |   |
|---|---|---|
| 1 | 2 | 3 |
| 1 | 2 | 3 |
| 1 | 2 | 3 |

red majority

|   |   |   |
|---|---|---|
| 1 | 2 | 3 |
| 1 | 2 | 3 |
| 1 | 2 | 3 |

blue majority

red majority

blue majority

blue majority

Now, by looking at the other hats, players can identify whether they are wearing a majority color or a minority color. For instance, if a player sees both a red and blue hat, then the player must be wearing the majority color (which could be red or blue). If a player sees two blue or two red hats, then the player must

Majority: can't tell if blue or red  
Minority: knows color is opposite

|   |   |   |
|---|---|---|
| ? | ? | b |
| ? | b | ? |
| r | ? | ? |

|   |   |   |
|---|---|---|
| b | ? | ? |
| ? | r | ? |
| ? | ? | r |

be wearing the minority color, which will be the opposite color of what the player sees. Here is what players can reason among the six choices:

Now the idea is to get the player with the minority hat color to guess and force the other people to pass.

So here is the strategy :

If you see both a red and a blue hat, then "pass"

If you see two red hats, then guess "blue"

If you see two blue hats, then guess "red"

This strategy wins in all six cases with at least one hat of each color. It only loses in the two cases of all-red or all-blue, in which all players guess incorrectly. Here is how players would guess:

| The strategy in action                  |   |   |        |
|-----------------------------------------|---|---|--------|
| Minority color guesses; majority passes |   |   |        |
| b                                       | b | b | → lose |
| ?                                       | ? | b | → win  |
| ?                                       | b | ? | → win  |
| r                                       | ? | ? | → win  |
| r                                       | r | r | → lose |
| b                                       | ? | ? | → win  |
| ?                                       | r | ? | → win  |
| ?                                       | ? | r | → win  |

So the group wins in six of eight possible outcomes— a whopping 75 percent chance.

This puzzle is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

See [Placement Course](#) for placement preparation, [GATE Corner](#) for GATE CS Preparation and [Quiz Corner](#) for all Quizzes on GeeksQuiz.  
Category: [Puzzle](#)

## Puzzle 46 | Rich or Poor

A place has two kinds of residents, Poor, who always tell the truth, and their opposites, Rich, who always lie. You encounter two people A and B. What are A and B if A says "B is a Poor" and B says "The two of us are opposite types" ?

**Answer:** Both A and B are Rich

**Solution:** Let p and q be the statements that A is a Poor and B is a Poor, respectively, so that  $\neg p$  and  $\neg q$  are the statements that A is a Rich and B is a Rich, respectively. Let us consider the possibility that A is a Poor, this is the statement that p is true. If A is a Poor, then he is telling the truth when he says that B is a Poor, so that q is true, and A and B are the same type. However, if B is a Poor, then B's statement that A and B are of opposite types, the statement  $(p \wedge \neg q) \vee (\neg p \wedge q)$ , would have to be true, which it is not, because A and B are both Poors. Consequently, we can conclude that A is not a Poor, that is, that p is false. If A is a Rich, then because everything a Rich says is false, A's statement that B is a Poor, that is, that q is true, is a lie. This means that q is false and B is also a Rich. Furthermore, if B is a Rich, then B's statement that A and B are opposite types is a lie, which is consistent with both A and B being Rich. We can conclude that both A and B are Rich.

This puzzle is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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### GATE CS Corner

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Category: [Puzzle](#)

## Puzzle 45 | Gem in Pockets

Vijay Dinanath Chauhan aka "VDC" was travelling from Bangalore to New Delhi along with his friends. VDC was wearing a Cargo Jeans with finite number of small pockets. And in his pockets, there were packets of gems, not the real ones, actually the Cadbury gems to eat when he reaches Delhi. In each pocket there was "number of packets", that was equal to the "number of pockets". In each packet there was a "number of gems"; and the "number of gems" was equal to the "number of packets". Unfortunately, when he reaches Delhi and gets down from the train, due to huge crowd he lost one of his Cadbury gems packet.

Shocked by the incident, as he loves the gems most, he decided not to eat the gems that day, and donate all of them to the beggars sitting nearby. But when he went to them, they all started rushing towards him to get the gems. He being a good human wanted to distribute those gems equally. Find the number of beggars so that he can

distribute the gems equally?

Note: No. of beggars>1, No. of pockets>1

**Solution:** 6,VDC was silly, he could have eaten the gems any other day! Hahaha, Let the number of pockets be N. The number of gems in each packet is equal to the "no. of packets", and the "number of packets" was equal to the "no of pockets".

There for the total no. of gems =  $N \times N \times N - (N)$  (for the lost packet), i.e. equal to  $N^3 - N$ .  $N^3 - N = N(N^2 - 1) = N(N+1)(N-1)$ . This last expression is divisible by 6 in all cases, since a number is divisible by 6 when it is both divisible by 3 and even. And substituting 2, 3, 4.....and so on, the expression yields 6, 24, 60..... where all numbers are divisible by 6.

This puzzle is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 44 | Girl or Boy

The **Boy or Girl problem** consists of a bunch of questions in probability which has kept the mathematicians on discussion about its possibilities. But different from them, here is one puzzle for you with no ambiguity.

Suppose that I have a friend whose name is Ankur. Ankur has his elder brother who got married 10 years before. But Ankur being a silly guy has the habit of forgetting things; you can say a "Short time memory loss". This summer he is going to meet his brother after 10 years, and he has planned to purchase some clothes for his brother's kids as a token of love. Each and every time he faces a problem he comes to me, so this time also, he came to seek help, and I have not left him empty handed. I told him that as far as I can recall, his brother has two offspring's and one of the boy was born on Tuesday. Now, it's your turn to help him. What is the probability that Ankur's brother has two boys? Assume an equal chance of giving birth to either sex and an equal chance to giving birth on any day.

**Solution:** If you think the answer should be 1/2, you would be wrong. If you knew which child was a boy (say, the younger one), you would be closer to the truth. But since the boy could be either the younger or the older child, the analysis is more subtle. The answer would be 13/27.

There can be four cases, i.e. either his brother has two boys, or one boy(elder) and one girl, one girl(elder) and one boy, or both of them are girls. And there are 7 equally likely possibilities for any one of the children of taking birth on Tuesday for all these four cases. Therefore, the total cases are  $7 \times 4 - 1$ (as there is repetition of two boys two times). The possibility for having two boys with both of them taking birth on Tuesday will be  $7 \times 2 - 1$ . Therefore, the answer would be 13/27. The things can be made more

### Second child

|             |   | s | m  | t  | w  | r  | f  | s  |  | s  | m  | t  | w  | r  | f  | s  |
|-------------|---|---|----|----|----|----|----|----|--|----|----|----|----|----|----|----|
|             |   | b | b  | b  | b  | b  | b  | b  |  | g  | g  | g  | g  | g  | g  | g  |
| First child | s | b | bb | bb | bb | bb | bb | bb |  | bg |
|             | m | b | bb | bb | bb | bb | bb | bb |  | bg |
|             | t | b | bb | bb | bb | bb | bb | bb |  | bg |
|             | w | b | bb | bb | bb | bb | bb | bb |  | bg |
|             | r | b | bb | bb | bb | bb | bb | bb |  | bg |
|             | f | b | bb | bb | bb | bb | bb | bb |  | bg |
|             | s | b | bb | bb | bb | bb | bb | bb |  | bg |
|             |   | s | g  | gb | gb | gb | gb | gb |  | gg |
|             |   | m | g  | gb | gb | gb | gb | gb |  | gg |
|             |   | t | g  | gb | gb | gb | gb | gb |  | gg |
|             |   | w | g  | gb | gb | gb | gb | gb |  | gg |
|             |   | r | g  | gb | gb | gb | gb | gb |  | gg |
|             |   | f | g  | gb | gb | gb | gb | gb |  | gg |
|             |   | s | g  | gb | gb | gb | gb | gb |  | gg |

clear from the image shown below.

This article is contributed by **Praveer Satyam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 43 | Muddy Heads

A mother tells her two children, a boy and a girl, to play without getting dirty.

However, while playing, both children get mud on their foreheads.

The mother says "At least one of you has a muddy forehead". She then asks the children to answer "Yes" or "No" to the question: "Do you know whether you have a muddy forehead?"

The mother asks this question twice.

What will the children answer each time this question is asked, assuming that a child can see whether his/her sibling has a muddy forehead, but cannot see his or her own forehead? Assume that both children are honest and that the children answer each question simultaneously.

Solution:

Let  $s$  be the statement that the son has a muddy forehead and let  $d$  be the statement that the daughter has a muddy forehead. When the mother says that at least one of the two children has a muddy forehead, she is stating that the disjunction  $s \vee d$  is true.

Both children will answer "No" the first time the question is asked because each sees mud on the other child's forehead. That is, the son knows that  $d$  is true, but does not know whether  $s$  is true, and the daughter knows that  $s$  is true, but does not know whether  $d$  is true.

After the son has answered "No" to the first question, the daughter can determine that  $d$  must be true. This follows because when the first question is asked, the son knows that  $s \vee d$  is true, but cannot determine whether  $s$  is true. Using this information, the daughter can conclude that  $d$  must be true, for if  $d$  were false, the son could have reasoned that because  $s \vee d$  is true, then  $s$  must be true, and he would have answered "Yes" to the first question. The son can reason in a similar way to determine that  $s$  must be true. It follows that both children answer "Yes" the second time the question is asked.

This puzzle is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

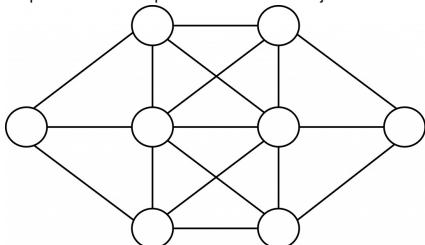
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Category: [Puzzle](#)

## Puzzle 42 | (Placing the numbers)

Place the numbers 1, 2, 3, 4, 5, 6, 7, 8 into the eight circles in figure given below, in such a way that no number is adjacent to a number that is next to it in the sequence. For example 1 should not be adjacent to 2 but can be adjacent to 3, 4, 5, 6, 7, 8. Similarly for others.



We strongly recommend you to minimize your browser and try this yourself first

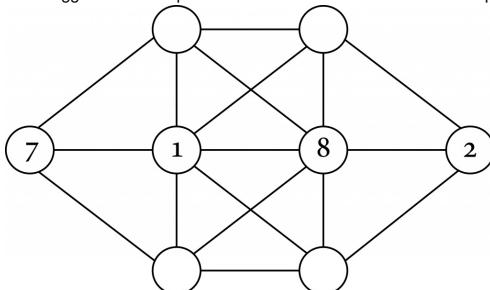
#### Trivial Solution:

Trying for 8!=40320 combination would be tedious task.

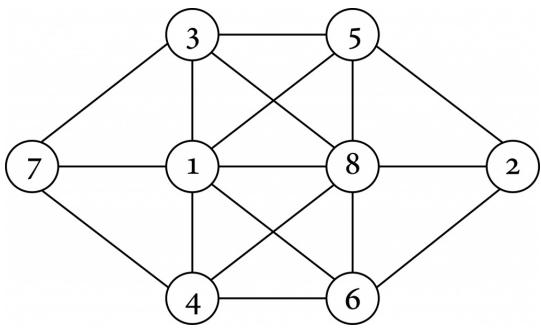
#### Smart Solution:

- The easiest numbers to place are 1 and 8, because each has only one number to which it cannot be adjacent, namely, 2 and 7, respectively.
- The hardest circles to fill are those in the middle, as each is adjacent to six others.

This suggests that we place 1 and 8 in the middle circles. If we place 1 to the left of 8, then the only possible positions for 2 and 7 are shown figure below:



The number 3 must now be placed on the left-hand side of the diagram, and 6 must be placed on the right-hand side.  
Now it is easy to place all the remaining number as shown in figure below:



This article is contributed by [Vikash Kumar](#). If you like GeeksQuiz and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

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Category: [Puzzle](#)

## Puzzle 41 | (Guess Color of Hat)

There are 20 people standing in a line, one behind the other. Each is made to wear a hat, which can either be white or black. There can be any number of white or black hats between 0 and 20. Each person can see the hat of all the persons ahead of him in the line, but not those of the people standing behind. Each person is required to guess (loudly) the color of his/her own hat. The objective is for the group to get as many correct guesses as possible. The group is allowed to discuss and form a strategy before the exercise. What is the best strategy? What is the maximum number of correct guesses in this strategy?

#### Solution:

The person who stands last in the queue, behind everyone else, will count the number of white hats on the heads of the 19 people present ahead of him. If this number is even, he (loudly) guesses the hat on his head as 'Black'. if the number is odd, he guesses 'White'. The probability of the hat on his head being what he guessed is 50%. There is no way this person can guess the hat on his head correctly. However, his guess functions as a message to others in front of him.

Suppose the 20th person guesses 'Black'. Now, the person who is 19th in the queue knows that the number of white hats on the first 19 people (the 18 people in front of him and himself) is even. He then checks whether the number of white hats in front of him is even or odd. If the number is even, that means the hat on his head is black. If the number is odd, that means the hat on his head is white and calls that out (loudly). Therefore, the 19th person in the queue always guesses correctly, based on the message the 20th person passed on.

A similar strategy is followed by each person in turn. Therefore, everyone except the last (20th) person guesses correctly for sure. The answer to this puzzle, therefore, is 19.

This puzzle is contributed by [Feroz Baig](#). Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 40 | (Find missing Row in Excel)

We are given an excel sheet which contains integers from 1 to 50, including both. However, the numbers are in a jumbled form and there is 1 integer missing. You have to write a code to identify the missing integer. Only the logic is required.

#### Solution:

We know that the sum of all the numbers from 1 to n is  $(n*(n+1))/2$   
Therefore, sum of all the numbers from 1 to 50 is

$$\begin{aligned}
 & 50*(50+1)/2 \text{ (Here, } n = 50) \\
 &= 50*(51)/2 \\
 &= 25*51 \\
 &= 1275.
 \end{aligned}$$

Therefore, all we need to do is to sum all the integers present in the file and subtract the sum from 1275. The difference between 1275 and this sum would give us the missing integer.

See [this](#) for code.

This puzzle is contributed by **Feroz Baig**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 39 | (100 coins puzzle)

This puzzle is similar to [10 Coins Puzzle](#).

**Question :** 100 coins are lying flat on a table. 10 of them are heads up and 90 are tails up. How can we split the coins into two piles such that there are same number of heads up in each pile?

**Answer :** Make 2 piles with 10 coins and 90 coins each. Now, flip all the coins in one of the piles.

#### Explanation :

Let's consider a case

Pile 1: 88T, 2H

Pile 2: 2T, 8H

Flipping the coins in Pile 2

Pile 1: 88T, 2H

Pile 2: 2H, 8T

Pile 1(heads) = Pile 2(heads)

This article has been contributed by [Vikash Kumar](#).

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Category: [Puzzle](#)

## Puzzle 38 | (Tic Tac Toe Puzzle)

#### Statement:

The game of Tic-Tac-Toe is being played between two players and it is in below state after six moves.

|        |        |        |
|--------|--------|--------|
| X<br>1 | O<br>2 |        |
| X<br>4 |        | 6      |
| O<br>7 | O<br>8 | X<br>9 |

Can you answer following questions?

- Who will win the game, O or X?

2. Which was the sixth mark and at which position?

Assume that both the players are intelligent enough.

**Solution:**

O will win the game. The sixth mark was X in square 9.

**Explanation:**

The 7th mark must be placed in square 5 which is the win situation for both X and O. Hence, the 6th mark must be placed in a line already containing two of the opponents marks. There are two such possibilities – the 6th mark would have been either O in square 7 or X in square 9.

As we know both the players are intelligent enough, the 6th mark could not be O in square 7. Instead, he would have placed O in square 5 and would have won.

Hence, the sixth mark must be X placed in square 9. And the seventh mark will be O. Thus O will win the game.

This article has been contributed by [Vikash Kumar](#).

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Category: Puzzle

## Puzzle 37 | (Maximum run in cricket)

**Question:** In a **one day international cricket match**, considering no extras(no wides, no 'no' balls, etc.) and no overthrows.

What is the maximum number of runs that a batsman can score in an ideal case ?

Note:"Here we assume ideal and little practical scenario. We assume that batsman can not run for more than 3 runs in a ball, as otherwise there is no limit, he can run infinite runs(theoretically) in a ball, as far as opposite team does not catch the ball."

**Answer:**

$$49 \times (6 \times 5 + 3) + (6 \times 6) = 1653$$

**From Over 1 to 49:**

1st ball:- 6 runs(hit six)

2nd ball:- 6 runs(hit six)

3rd ball:- 6 runs(hit six)

4th ball:- 6 runs(hit six)

5th ball:- 6 runs(hit six)

6th ball:- 3 runs(took 3 runs between the wickets and take back the strike)

$$= >49 \times (6 \times 5 + 3)$$

**50th Over:**

Hit six sixes in a row.

$$= >6^6$$

This article is contributed by [Vikash Kumar](#). Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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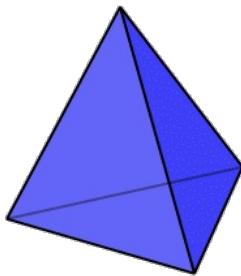
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Category: Puzzle

## Puzzle 36 | (Matchstick Puzzle)

Question: How to make 4 equilateral triangles with 6 identical match sticks?

We strongly recommend you to minimize your browser and try this yourself first

Answer: Make a tetrahedron.



This article is contributed by [Vikash Kumar](#). Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle | Set 35 (2 Eggs and 100 Floors)

The following is a description of the instance of this famous puzzle involving 2 eggs and a building with 100 floors.

Suppose that we wish to know which stories in a 100-story building are safe to drop eggs from, and which will cause the eggs to break on landing. What strategy should be used to drop eggs such that total number of drops in worst case is minimized and we find the required floor.

We may make a few assumptions:

- An egg that survives a fall can be used again.
- A broken egg must be discarded.
- The effect of a fall is the same for all eggs.
- If an egg breaks when dropped, then it would break if dropped from a higher floor.
- If an egg survives a fall then it would survive a shorter fall.

We strongly recommend you to minimize your browser and try this yourself first

If **only one egg is available** and we wish to be sure of obtaining the right result, the experiment can be carried out in only one way. Drop the egg from the first-floor window; if it survives, drop it from the second floor window. Continue upward until it breaks. In the worst case, this method may require 100 droppings.

Suppose 2 eggs are available. What is the least number of egg-droppings that is guaranteed to work in all cases?

The problem is not actually to find the critical floor, but merely to decide floors from which eggs should be dropped so that total number of trials are minimized.

If we use **Binary Search Method** to find the floor and we start from 50'th floor, then we end up doing 50 comparisons in worst case. The worst case happens when the required floor is 49'th floor.

#### Optimized Method:

The idea is to do optimize the solution using below equation:

Let we make our first attempt on x'th floor.

If it breaks, we try remaining (x-1) floors one by one.  
So in worst case, we make x trials.

If it doesn't break, we jump (x-1) floors (Because we have already made one attempt and we don't want to go beyond x attempts. Therefore (x-1) attempts are available),  
Next floor we try is floor x + (x-1)

Similarly, if this drop does not break, next need to jump up to floor x + (x-1) + (x-2), then x + (x-1) + (x-2) + (x-3)  
and so on.

Since the last floor to be tried is 100'th floor, sum of

series should be 100 for optimal value of x.

$$x + (x-1) + (x-2) + (x-3) + \dots + 1 = 100$$

$$x(x+1)/2 = 100$$
$$x = 13.651$$

Therefore, we start trying from 14'th floor. If Egg breaks we one by one try remaining 13 floors. If egg doesn't break we go to 27th floor.

If egg breaks on 27'th floor, we try floors from 15 to 26.

If egg doesn't break on 27'th floor, we go to 39'th floor.

An so on...

The optimal number of trials is 14 in worst case.

See below for programming solution for general k eggs and n floors.

<http://www.geeksforgeeks.org/dynamic-programming-set-11-egg-dropping-puzzle/>

This article is contributed by **Rachit**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 34 | (Prisoner and Policeman Puzzle)

Policeman decided to punish the Prisoner and asked him to make a statement. The Prisoner should make such a statement so that he would be alive.

If the statement is held true by Policeman, the Prisoner will be hanged to death and if the statement is held false, the Prisoner will be shot dead.

Answer:

The Prisoner said, 'I will be shot dead'

If Policeman says the statement is true, the Prisoner will be hanged to death which will make his statement false.

If Policeman says the statement is false, the Prisoner will be shot dead which will make the statement true.

This article is contributed by **Vikash Kumar**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 33 | ( Rs 500 Note Puzzle )

A Lady (L) bought an item of Rs 100 from the Shopkeeper (C). She paid him through a 500 Rs Note. Realizing that he did not have change for that note from another shopkeeper (S) and paid Rs 400 to the Lady.

After a few days, S realized that the note is fake, And this railed at C and took 500 Rs back from him.

So in this whole process how much money did C loose in the end?

Answer: 500

Explanation:

The total loss must be equal to total profit. Here the loser is C and the gainer is L.

Note: S doesn't gain anything because he just got his money back.

So, loss of C = gain of L = 100(for product) + 400(cash) = Rs.500

This article is contributed by **Vikash Kumar**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 32| (Completion of Task)

A man is allocated a task. He doubles the task done everyday. If the man completely does the task in 18 days, how many days did it take for the man to complete 25% of the task?

**Answer:** 16

100% of task = 18 days

As he doubles the task everyday. So,

50% of task = 17 days

25% of task = 16 days.

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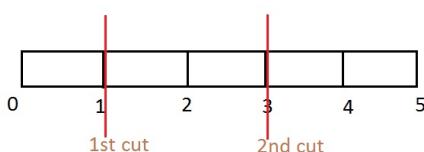
See Placement Course for placement preparation, GATE Corner for GATE CS Preparation and Quiz Corner for all Quizzes on GeeksQuiz.  
Category: Puzzle

## Puzzle 31 | (Minimum cut Puzzle)

You have got someone working for you for five days and a gold bar to pay him. You must give them a piece of gold at the end of every day. What are the fewest number of cuts to the bar of gold that will allow you to pay him 1/5th each day?

Answer :2

**Explanation:**



After two cut there are **three** pieces of 1 unit and two 2 unit.

On **1st** day: Give him 1 unit.

On **2nd** day: Give him 2 unit and take back 1 unit.

On **3rd** day: Give him 1 unit (he already have 2 unit)

On **4th** day: Give him 2 unit and take back 1 unit.(he already have 2 unit)

On **5th** day: Give him 1 unit.(he already have two 2 unit)

Similar Puzzle: Pay an employee using a 7 units gold rod?

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Category: [Puzzle](#)

### Puzzle 30 | (Last Palindrome Date Before 10/02/2001)

In year 2001 on October 2, 2001, the date in MMDDYYYY format was a palindrome (same forwards as backwards), 10/02/2001 -> "10022001"

When was the last palindrome date before 10/02/2001?

#### Answer:

One year can have only one palindrome as the year fixes the month and date too, so the year has to be less than 2001 since we already have the palindrome for 10/02. It can't be any year in 1900 because that would result in a day of 91, same for 1800 down to 1400. it could be a year in 1300 because that would be the 31st day.

So what's the latest year in 1300 that would make a month?

When you first look at it, 12th month comes to mind as we have to find the latest date, so it seems it would be 1321. But we have to keep in mind that we want the maximum year in 1300 century with a valid date, so let's think about 1390 that will give the date as 09/31, is this a valid date...? No, because September has only 30 days, so last will be the 31st August. Which means the correct date would be 08/31/1380.

Source: <http://qa.geeksforgeeks.org/4212/when-was-the-last-date>

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

### GATE CS Notes (According to Official GATE 2017 Syllabus)

## GATE CS Corner

See [Placement Course](#) for placement preparation, [GATE Corner](#) for GATE CS Preparation and [Quiz Corner](#) for all Quizzes on GeeksQuiz.  
Category: [Puzzle](#)

### Puzzle 29 | (Car Wheel Puzzle)

A car has 4 tyres and 1 spare tyre. Each tyre can travel a maximum distance of 20000 miles before wearing off. What is the maximum distance the car can travel before you are forced to buy a new tyre? You are allowed to change tyres (using the spare tyre) unlimited number of times.

Answer: 25000

Divide the lifetime of spare tire into 4 equal parts i.e., 5000 and swap it at each completion of 5000 miles distance.

Let four tyres be A, B, C and D and spare tyre be S.

5000 KMs: Replace A with S.

10000 KMs: Put A back to its original position and replace B with S

15000 KMs: Put B back to its original position and replace C with S

20000 KMs: Put C back to its original position and replace D with S

All tyres are used up to their full strength.

Thanks to Raghav Atreya for suggesting above solution.

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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## GATE CS Corner

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Category: [Puzzle](#)

### Puzzle 28 | (Newspaper Puzzle)

**Question:** A newspaper made of 16 large sheets of paper folded in half. The newspaper has 64 pages altogether. The first sheet contains pages 1, 2, 63, 64.



If we pick up a sheet containing page number 45. What are the other pages that this sheet contains?

**Answer:**

On the back of 45, it is 46. The numbers are arranged in pairs, with the first pair adding up to 64 and the second pair adding up to 66.

Then,

$$64-45 = 19$$

$$66-46 = 20$$

So the four pages in this sheet are 19, 20, 45, 46.

This article is contributed by [Vikash Kumar](#). Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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### GATE CS Corner

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Category: Puzzle

## Puzzle 27 | (Hourglasses Puzzle)

**Question:** Measure 9 minutes from a 4 minutes hourglass and a 7 minutes hourglass?



Above images are taken from [Wikipedia](#) page of hourglass.

**Answer:**

**At 0 minutes:** start both hourglasses at the same time.

**At 4 minutes:** 4 minutes hourglass runs out and flip it. 7 minutes hourglass is left with 3 minutes.

**At 7 minutes:** 4 minutes hourglass is left with 1 minute. 7 minutes hourglass runs out and flip it.

**At 8 minutes:** 4 minutes hourglass runs out and 7 is filled with 6 minutes. Pour sand from 7 minutes hourglass to 4 minutes so that the 4 minutes hour glass becomes full.

Now 7 minutes hourglass is left with 1 minute

**At 9 minutes:** 7 minutes hourglass becomes empty.

Hence we measured 9 minutes.

This article is contributed by [Vikash Kumar](#). Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 26 | (Know Average Salary without Disclosing Individual Salaries)

Three Employees want to know average of their salaries. They are not allowed to share their individual salaries.

**Answer:**

- 1) X adds a random number to his salary and tells the sum to Y.
- 2) Y also adds a random number to sum told by X and tells new sum to Z.
- 3) Z also adds a random number to sum told by Y and tells new sum to X.
- 4) X subtracts its random number from sum told by Z and tells the new number to Y.
- 5) Y subtracts its random number from sum told by X and tells the new number to Z.
- 6) Z subtracts its random number from sum told by Y and announces the new number.

The new number is now sum of three salaries and average can be calculated by dividing the sum by 3.

Finally, nobody knows salary of others, but all know average.

This can be extended to more than 3 employees also.

This article is contributed by **Shivam**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 25 | (Chessboard and dominos)

There is an 8 by 8 chessboard in which two diagonally opposite corners have been cut off. You are given 31 dominos, and a single domino can cover exactly two squares. Can you use the 31 dominos to cover the entire board?

**Answer:**

No

**Explanation:**

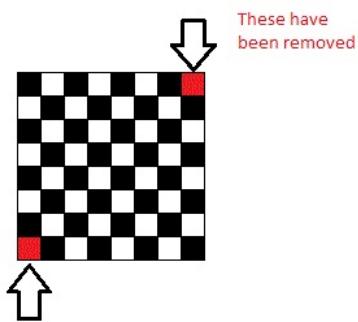
At first it seems that there were  $8 \times 8 = 64$  squares

then 2 have been cut off so Squares remaining=  $64 - 2 = 62$

And there are 31 dominos, so they will cover the remaining chessboard coz  $= 31 \times 2 = 62$

But this is not the answer:

Lets visualize it:



Each domino we set on the chessboard will always take 1 Black and 1 White square. Therefore, 31 dominos will take 31 white square and 31 black squares exactly. On this chessboard however, we must have 32 black and 30 white squares. Hence it is not possible to do so.

This article is contributed by **Vikash Kumar**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 24 | (10 Coins Puzzle)

You are blindfolded and 10 coins are placed in front of you on table. You are allowed to touch the coins, but can't tell which way up they are by feel. You are told that there are 5 coins head up, and 5 coins tails up but not which ones are which.

Can you make two piles of coins each with the same number of heads up? You can flip the coins any number of times.

**ANSWER:**

Yes

**Explanation:**

Make 2 piles with equal number of coins. Now, flip all the coins in one of the pile.

Let's consider a simple case:

**P1 :** H T T T T

**P2 :** H H H T

By flipping **P1**

**P1 :** T H H H H

**P2 :** H H H T

**P1(heads) = P2(heads)**

This article is contributed by [Vikash Kumar](#). Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

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Category: Puzzle

## Puzzle 23 | (Days of month using 2 dice)

How can you represent days of month using two 6 sided dice? 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 29 one dice should show 2 and another should show 9.

**Answer:**

Dice 1: 0 1 2 3 5 7

Dice 2: 0 1 2 4 6 8

**Explanation:**

You have to show 11, 22 so 1 and 2 should be present in both dices, similarly to show 01, 09. 0 should be present in both dices, now the trick is for showing 9 you can use dice with 6 printed on one of the face.

(seeing from this side it appears 9)

6

(seeing from this side it appears 6)

This article is contributed by [Vikash Kumar](#). Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

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Category: Puzzle

## Puzzle 22 | (Maximum Chocolates)

You have 15 Rs with you. You go to a shop and shopkeeper tells you price as 1 Rs per chocolate. He also tells you that you can get a chocolate in return of 3 wrappers. How many maximum chocolates you can eat?

Answer: 22

Buy and eat 15 chocolates

Return 15 wrappers and get 5 more chocolates.

Return 3 wrappers, get 1 chocolate and eat it (keep 2 wrappers)

Now we have 3 wrappers. Return 3 and get 1 more chocolate.

So total chocolates =  $15 + 5 + 1 + 1$

[Program for Chocolate and Wrapper Puzzle](#)

[More Interview Puzzles](#)

This article is contributed by **Rishabh**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 21 | (3 Ants and Triangle)

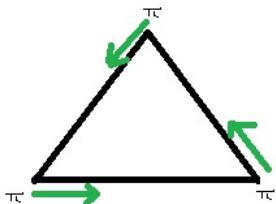
There are 3 ants sitting on three corners of a triangle. All ants randomly pick a direction and start moving along edge of the triangle. What is the probability that any two ants collide?

**Hint:** Every ant has two choices (pick either of two edges going through the corner on which ant is initially sitting).

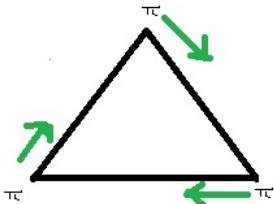
**Answer:**

Collision doesn't happen only in following two cases

1) All ants move in counterclockwise direction.



2) All ants move in clockwise direction.



Since every ant has two choices (pick either of two edges going through the corner on which ant is initially sitting), there are total  $2^3$  possibilities.

Out of  $2^3$  possibilities, only 2 don't cause collision. So the probability of collision is  $6/8$

[More Interview Puzzles](#)

This article is contributed by **Ravi**. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 20 | (5 Pirates and 100 Gold Coins)

There are 5 pirates, they must decide how to distribute 100 gold coins among them. The pirates have seniority levels, the senior-most is A, then B, then C, then D, and finally the junior-most is E.

Rules of distribution are:

1. The most senior pirate proposes a distribution of coins.
2. All pirates vote on whether to accept the distribution.
3. If the distribution is accepted, the coins are disbursed and the game ends.
4. If not, the proposer is thrown and dies, and the next most senior pirate makes a new proposal to begin the system again.
5. In case of a tie vote the proposer can has the casting vote

Rules every pirates follows.

1. Every pirate wants to survive
2. Given survival, each pirate wants to maximize the number of gold coins he receives.

**What is the maximum number of coins that pirate A might get?**

#### Answer:

The answer is 98 which is not intuitive.

A uses below facts to get 98.

1. Consider the situation when A, B and C die, only D and E are left. E knows that he will not get anything (D is senior and will make a distribution of (100, 0). So E would be find with anything greater than 0).
2. Consider the situation when A and B die, C, D and E are left. D knows that he will not get anything (C will make a distribution of (99, 0, 1)and E will vote in favor of C).
3. Consider the situation when A dies. B, C, D and E are left. To survive, B only needs to give 1 coin to D. So distribution is (99, 0, 1, 0)
4. Similarly A knows about point 3, so he just needs to give 1 coin to C and 1 coin to E to get them in favor. So distribution is (98, 0, 1, 0, 1).

The idea is based on the fact that what B will distribute if A dies (B would always want A to die). If A gives more coins to 2 people than B would have given, A wins.

#### References:

[http://en.wikipedia.org/wiki/Pirate\\_game](http://en.wikipedia.org/wiki/Pirate_game)

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### GATE CS Corner

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Category: Puzzle

## Puzzle 19 | (Poison and Rat)

There are 1000 wine bottles. One of the bottles contains poisoned wine. A rat dies after one hour of drinking the poisoned wine. How many minimum rats are needed to figure out which bottle contains poison in hour.

#### Solution:

We need to figure out in hour. We need 10 rats to figure out the poisoned bottle. The result is based on binary number system. We get 10 using [ Log<sub>2</sub>1000 ].

The idea is to number bottles from 1 to 1000 and write their corresponding binary numbers on the bottle. Each rat is assigned a position in the binary numbers written on bottles. Let us take an example. Rat 1 represents first bit in every bottle, rat 2 represents second bit and so on. If rat numbers 5, 7 and 9 die, then bottle number 42 (Binary 0000101010) is poisoned.

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### GATE CS Corner

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Category: Puzzle

## Puzzle 18 | (Torch and Bridge)

There are 4 persons (A, B, C and D) who want to cross a bridge in night.

- A takes 1 minute to cross the bridge.
- B takes 2 minutes to cross the bridge.
- C takes 5 minutes to cross the bridge.
- D takes 8 minutes to cross the bridge.

There is only one torch with them and the bridge cannot be crossed without the torch. There cannot be more than two persons on the bridge at any time, and when two people cross the bridge together, they must move at the slower person's pace

**Can they all cross the bridge in 15 minutes?**

#### Solution:

A and B cross the bridge. A comes back. Time taken 3 minutes. Now B is on the other side.  
C and D cross the bridge. B comes back. Time taken 8 + 2 minutes. Now C and D are on the other side.  
A and B cross the bridge. Time taken is 2 minutes. All are on the other side.

Total time spent is  $3 + 10 + 2 = 15$  minutes.

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### GATE CS Corner

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Category: Puzzle

## Puzzle 17 | (Ratio of Boys and Girls in a Country where people want only boys)

In a country, all families want a boy. They keep having babies till a boy is born. What is the expected ratio of boys and girls in the country?

#### Solution:

Assumptions: Probability of having a boy or girl is same. Also, the probability of next kid being a boy doesn't depend on history.

The problem can be solved by counting expected number of girls before a baby boy is born.

Let NG be the expected no. of girls before a boy is born

Let p be the probability that a child is girl and  $(1-p)$

be probability that a child is girl.

NG can be written as sum of following infinite series.

$$NG = 0*p + 1*p*(1-p) + 2*p*p*(1-p) + 3*p*p*p*(1-p) + 4*p*p*p*p*(1-p) + \dots$$

Putting  $p = 1/2$  and  $(1-p) = 1/2$  in above formula.

$$\begin{aligned} NG &= 0*(1/2) + 1*(1/2)^2 + 2*(1/2)^3 + 3*(1/2)^4 + 4*(1/2)^5 + \dots \\ 1/2 * NG &= 0*(1/2)^2 + 1*(1/2)^3 + 2*(1/2)^4 + 3*(1/2)^5 + 4*(1/2)^6 + \dots \end{aligned}$$

$$NG - NG/2 = 1*(1/2)^2 + 1*(1/2)^3 + 1*(1/2)^4 + 1*(1/2)^5 + 1*(1/2)^6 + \dots$$

Using sum formula of infinite geometrical progression with

ratio less than 1

$$NG/2 = (1/4)/(1-1/2) = 1/2$$

$$NG = 1$$

So Expected Number of number of girls = 1

Since the expected number of girls is 1 and there is always a baby boy, the expected ratio of boys and girls is 50:50

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Category: [Puzzle](#)

## Puzzle 16 | (100 Doors)

There are 100 doors in a row, all doors are initially closed. A person walks through all doors multiple times and toggle (if open then close, if close then open) them in following way:

In first walk, the person toggles every door

In second walk, the person toggles every second door, i.e., 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup>, ...

In third walk, the person toggles every third door, i.e. 3<sup>rd</sup>, 6<sup>th</sup>, 9<sup>th</sup>, ...

.....

.....

In 100<sup>th</sup> walk, the person toggles 100<sup>th</sup> door.

**Which doors are open in the end?**

#### Solution:

A door is toggled in  $i^{\text{th}}$  walk if  $i$  divides door number. For example the door number 45 is toggled in 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, 9<sup>th</sup> and 15<sup>th</sup> walk.

The door is switched back to initial stage for every pair of divisors. For example 45 is toggled 6 times for 3 pairs (5, 9), (15, 3) and (1, 45).

It looks like all doors would become closed at the end. But there are door numbers which would become open, for example 16, the pair (4, 4) means only one walk. Similarly all other perfect squares like 4, 9, ....

So the answer is 1, 4, 9, 16, 25, 36, 49, 64, 81 and 100.

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 15 | (Camel and Banana Puzzle)

A person has 3000 bananas and a camel. The person wants to transport maximum number of bananas to a destination which is 1000 KMs away, using only the camel as a mode of transportation. The camel cannot carry more than 1000 bananas at a time and eats a banana every km it travels. What is the maximum number of bananas that can be transferred to the destination using only camel (no other mode of transportation is allowed).

#### Solution:

At first look, it seems that the person cannot transfer any banana as the camel can carry at most 1000 bananas and going to eat all bananas when destination is reached.

The trick is to transfer bananas to an intermediate point, then transfer all bananas from the intermediate point to destination. Refer following link for detailed explanation.

[http://www.puzzle.dse.nl/math/bananas\\_us.html](http://www.puzzle.dse.nl/math/bananas_us.html)

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Category: [Puzzle](#)

## Puzzle 14 | (Strategy for a 2 Player Coin Game)

Consider a two player coin game where each player gets turn one by one. There is a row of even number of coins, and a player on his/her turn can pick a coin from any of the two corners of the row. The player that collects coins with more value wins the game. Develop a strategy for the player making the first turn, such he/she never loses the game.

Note that the strategy to pick maximum of two corners may not work. In the following example, first player loses the game when he/she uses strategy to pick maximum of two corners.

### Example

18 20 15 30 10 14

**First Player** picks 18, now row of coins is

20 15 30 10 14

**Second** player picks 20, now row of coins is

15 30 10 14

**First Player** picks 15, now row of coins is

30 10 14

**Second** player picks 30, now row of coins is

10 14

**First Player** picks 14, now row of coins is

10

**Second** player picks 10, game over.

The total value collected by second player is more (20 +

30 + 10) compared to first player (18 + 15 + 14).

So the second player wins.

### Solution:

The idea is to count sum of values of all even coins and odd coins, compare the two values. The player that makes the first move can always make sure that the other player is never able to choose an even coin if sum of even coins is higher. Similarly, he/she can make sure that the other player is never able to choose an odd coin if sum of odd coins is higher.

### Example

18 20 15 30 10 14

Sum of odd coins =  $18 + 15 + 10 = 43$

Sum of even coins =  $20 + 30 + 14 = 64$ .

Since the sum of even coins is more, the first player decides to collect all even coins. He first picks 14, now the other player can only pick a coin (10 or 18). Whichever is picked the other player, the first player again gets an opportunity to pick an even coin and block all even coins.

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Category: [Puzzle](#)

## Puzzle 13 | (100 Prisoners with Red/Black Hats)

100 prisoners in jail are standing in a queue facing in one direction. Each prisoner is wearing a hat of color either black or red. A prisoner can see hats of all prisoners in front of him in the queue, but cannot see his hat and hats of prisoners standing behind him.

The jailer is going to ask color of each prisoner's hat starting from the last prisoner in queue. If a prisoner tells the correct color, then is saved, otherwise executed. **How many prisoners can be saved at most** if they are allowed to discuss a strategy before the jailer starts asking colors of their hats.

### Answer:

At-most 99 prisoners can be saved and the 100th prisoner has 50-50 chances of being executed.

The idea is that every prisoner counts number of red hats in front of him.

100th prisoner says red if the number of red hats is even. He may or may not be saved, but he conveys enough information to save 99th prisoner.

The 99'th prisoner decides his answer on the basis of answer of 100'th prisoner's answer. There are following possibilities and 99'th prisoner can figure out color of his hat in every case.

If 100'th prisoner said 'Red' (There must have been even number of red hats in front of him)

a) If 99'th prisoner sees even number of red hats in front of him, then his color is black.

b) If 99'th prisoner sees odd number of red hats in front of him, then his color is red.

If 100'th prisoner said 'Black' (There must have been odd number of red hats in front of him)

a) If 99'th prisoner sees even number of red hats in front of him, then his color is Red.

b) If 99'th prisoner sees odd number of red hats in front of him, then his color is Black.

The 98'th prisoner decides his answer on the basis of answer of 99'th prisoner's answer and uses same logic.

Similarly other prisoners from 97 to 1 are saved.

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Category: Puzzle

## Puzzle 12 | (Maximize probability of White Ball)

There are two empty bowls in a room. You have 50 white balls and 50 black balls. After you place the balls in the bowls, a random ball will be picked from a random bowl.

Distribute the balls (all of them) into the bowls to maximize the chance of picking a white ball.

#### Answer:

Put 1 white ball in one bowl and 49 white balls in other bowl.

So probability of getting white ball becomes  $1/2 \times 1 + 1/2 \times 49/99$  which is approximately 3/4.

Source: <http://www.geeksforgeeks.org/forums/topic/balls-and-bowls/>

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: Puzzle

## Puzzle 11 | (1000 Coins and 10 Bags)

A dealer has 1000 coins and 10 bags. He has to divide the coins over the ten bags, so that he can make any number of coins simply by handing over a few bags. How must divide his money into the ten bags?

#### Solution:

We can represent any decimal number as weights of binary system. For example, if we want to measure upto 7, first three bags are sufficient.

$$1 = 2^0$$

$$2 = 2^1$$

$$3 = 2^0 + 2^1$$

$$4 = 2^2$$

$$5 = 2^2 + 2^0$$

$$6 = 2^2 + 2^1$$

$$7 = 2^2 + 2^1 + 2^0$$

It can be easily generalized. We can measure upto  $2^n - 1$ .

Fun is, we can also measure the same using powers of 3. For example, we have bags with 1, 3 and 9 coins,

$$1 = 1$$

$$2 = 3-1$$

$$3 = 3$$

$$4 = 3+1$$

$$5 = 9-3-1$$

6 = 9-3

7 = 9+1-3

8 = 9 -1

9 = 9

10 = 9+1

11 = 9+3-1

12 = 9+3

13 = 9+3+1

From 14 onwards next bag comes into picture.

Factorization algorithms other than powers of 2 are costly on computer systems. Please share any other information. Any person working on cryptography can share more details.

Source: <http://www.geeksforgeeks.org/forums/topic/1000-coins-and-10-bags/>

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Category: Puzzle

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## Puzzle 10 | (A Man with Medical Condition and 2 Pills)

A man has a medical condition that requires him to take two kinds of pills, call them A and B. The man must take exactly one A pill and exactly one B pill each day, or he will die. The pills are taken by first dissolving them in water.

The man has a jar of A pills and a jar of B pills. One day, as he is about to take his pills, he takes out one A pill from the A jar and puts it in a glass of water. Then he accidentally takes out two B pills from the B jar and puts them in the water. Now, he is in the situation of having a glass of water with three dissolved pills, one A pill and two B pills. Unfortunately, the pills are very expensive, so the thought of throwing out the water with the 3 pills and starting over is out of the question. How should the man proceed in order to get the right quantity of A and B while not wasting any pills?

#### Solution:

Add one more A pill to the glass and let it dissolve. Take half of the water today and half tomorrow. It works under following assumptions.

The dissolved Pills can be used next day.

The man has to take pills at least for one more day.

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

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Category: Puzzle

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## Puzzle 9 | (Find the fastest 3 horses)

There are 25 horses among which you need to find out the fastest 3 horses. You can conduct race among at most 5 to find out their relative speed. At no point you can find out the actual speed of the horse in a race. Find out how many races are required to get the top 3 horses.

The solution is 7.

First, we group the horses into groups of 5 and race each group in the race course. This gives us 5 races (see image below).

|       | Col1 | Col2 | Col3 | Col4 | Col5 |
|-------|------|------|------|------|------|
| Row 1 | ●    | ●    | ●    | ●    | ●    |
| Row 2 | ●    | ●    | ●    | ●    | ●    |
| Row 3 | ●    | ●    | ●    | ●    | ●    |
| Row 4 | ●    | ●    | ●    | ●    | ●    |
| Row 5 | ●    | ●    | ●    | ●    | ●    |

In the image, each row represents one race of 5 horses. For convenience, let us name the horses using row and column index. Therefore, the first race(row 1) was contested between the horses R1C1, R1C2, R1C3, R1C4 and R1C5. The second race (row 2) was contested between the horses R2C1, R2C2 and so on. Let us assume that the fifth member of each row won the race (R1C5 won the first race, R2C5 won the second race and so on), the fourth member of each row came second (R1C4 came second in the first race, R2C4 came second in the second race and so on) and the third member of each group came third (R1C3 came third in the first race, R2C3 came third in the second race and so on).

|       | Col1 | Col2 | Col3 | Col4 | Col5 |
|-------|------|------|------|------|------|
| Row 1 | ●    | ●    | ●    | ●    | ●    |
| Row 2 | ●    | ●    | ●    | ●    | ●    |
| Row 3 | ●    | ●    | ●    | ●    | ●    |
| Row 4 | ●    | ●    | ●    | ●    | ●    |
| Row 5 | ●    | ●    | ●    | ●    | ●    |

3<sup>rd</sup> in the row      1<sup>st</sup> in the row  
 2<sup>nd</sup> in the row

Next, we race the 5 level 1 winners (R1C5, R2C5, R3C5, R4C5 and R5C5). Let's say R1C5 wins this race, R2C5 comes second and R3C5 comes third.

|       | Col1 | Col2 | Col3 | Col4 | Col5 |
|-------|------|------|------|------|------|
| Row 1 | ●    | ●    | ●    | ●    | ●    |
| Row 2 | ●    | ●    | ●    | ●    | ●    |
| Row 3 | ●    | ●    | ●    | ●    | ●    |
| Row 4 | ●    | ●    | ●    | ●    | ●    |
| Row 5 | ●    | ●    | ●    | ●    | ●    |

1<sup>st</sup> in the column  
 2<sup>nd</sup> in the column  
 3<sup>rd</sup> in the column

The winner of this race (R1C5) is the fastest horse of the entire group. Now, the horse which is second in the entire group can either be R2C5 or R1C4. The horse which is third in the entire group can either be R3C5, R2C4 or R1C3. Therefore, we race these 5 horses.

|       | Col1 | Col2 | Col3 | Col4 | Col5 |
|-------|------|------|------|------|------|
| Row 1 | ●    | ●    | ●    | ●    | ●    |
| Row 2 | ●    | ●    | ●    | ●    | ●    |
| Row 3 | ●    | ●    | ●    | ●    | ●    |
| Row 4 | ●    | ●    | ●    | ●    | ●    |
| Row 5 | ●    | ●    | ●    | ●    | ●    |

Can be second  
 Can be third

Therefore, the horse R1C5 is the fastest horse. The horses which come second and third in the last race are the horses which are second and third in the entire group respectively. In this way, the minimum number of races required to determine the first, second and third horses in the entire group is 7.

#### Alternate Explanation:

Make group of 5 horses and run 5 races. Suppose five groups are a,b,c,d,e and next alphabet is its individual rank in this group(of 5 horses).for eg. d3 means horse in group d and has rank 3rd in his group. [ 5 RACES DONE ]

a1 b1 c1 d1 e1

a2 b2 c2 d2 e2

a3 b3 c3 d3 e3

a4 b4 c4 d4 e4

a5 b5 c5 d5 e5

Now make a race of (a1,b1,c1,d1,e1).[RACE 6 DONE] suppose result is a1>b1>c1>d1>e1

which implies a1 must be FIRST.

b1 and c1 MAY BE(but not must be) 2nd and 3rd.

FOR II position, horse will be either b1 or a2

(we have to find top 3 horse therefore we choose horses b1,b2,a2,a3,c1 do racing among them [RACE 7 DONE].

The only possibilities are :

c1 may be third

b1 may be second or third

b2 may be third

a2 may be second or third

a3 may be third

The final result will give ANSWER. suppose result is a2>a3>b1>c1>b2

then answer is a1,a2,a3,b1,c1.

HENCE ANSWER is 7 RACES

Please note that the 7 races work for the case also when all top 3 horses are same group or any top two horses are in same group. The group which has top 3 horses would always have winner in 6th race. In 7th race, we consider 2nd and 3rd horses of the group whose horse is overall winner. We also consider 2nd horse of the group whose horse came 2nd in 6th race.

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

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Category: [Puzzle](#)

## Puzzle 8 | (Find the Jar with contaminated pills)

You have 5 jars of pills. Each pill weighs 10 grams, except for contaminated pills contained in one jar, where each pill weighs 9 grams. Given a scale, how could you tell which jar had the contaminated pills in just one measurement?

#### Solution:

Take out 1 pill from jar 1, 2 pills from jar 2, 3 pills from jar 3, 4 pills from jar 4 and 5 pills from jar 5. Put all these 15 pills on scale. The correct weight is 150 (15\*10). But one of the jars has contaminated pills. So the weight will definitely be less than 150. If the weight is 149 then jar 1 has contaminated pills because there is only one contaminated pill. If the weight is 148 then jar 2, if the weight is 147 then jar 3, if 146 then jar 4, if 145 then jar 5.

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Category: [Puzzle](#)

## Puzzle 7 | (3 Bulbs and 3 Switches)

There is a room with a door (closed) and three light bulbs. Outside the room there are three switches, connected to the bulbs. You may manipulate the switches as you wish, but once you open the door you can't change them. Identify each switch with its bulb.

Let the bulbs be X, Y and Z

Turn on switch X for 5 to 10 minutes. Turn it off and turn on switch Y. Open the door and touch the light bulb.

1. if the light is on, it is Y
2. if the light is off and hot, it is X
3. if the light is off and cold, it is Z

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

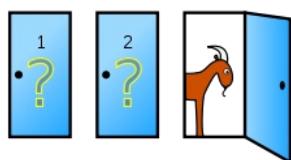
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Category: Puzzle

## Puzzle 6 | (Monty Hall problem)

Suppose you're on a game show, and you're given the choice of three doors: Behind one door is a car; behind the others, goats. You pick a door, say No. 1, and the host, who knows what's behind the doors, opens another door, say No. 3, which has a goat. He then says to you, "Do you want to pick door No. 2?" Is it to your advantage to switch your choice?



Source: [http://en.wikipedia.org/wiki/Monty\\_Hall\\_problem](http://en.wikipedia.org/wiki/Monty_Hall_problem)

#### Solution:

If you switch, you get the car with probability 2/3. So switching is always a good choice. Refer [this](#) MIT video lecture for great explanation.

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

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Category: Puzzle

## Puzzle 5 | (Finding the poisoned wine)

You have 240 barrels of wine, one of which has been poisoned. After drinking the poisoned wine, one dies within 24 hours. You have 5 slaves whom you are willing to sacrifice in order to determine which barrel contains the poisoned wine. How do you achieve this in 48 hours?

Let us number the barrels with 5 digit numbers consisting of 0, 1 and 2. Let us number the slaves as 1, 10, 100, 1000, 10000.

Number 0 on a barrel represents the wine in the barrel will not be taken by the slave.

Number 1 on a barrel represents the wine in the barrel will be taken by the slave on 1st day.

Number 2 on a barrel represents the wine in the barrel will be taken by the slave on 2nd day(after 24 hours).

The action corresponding to the digit in the unit place will be executed by slave numbered 1.

The action corresponding to the digit in the tenth place will be executed by slave numbered 10.

The action corresponding to the digit in the 100th place will be executed by slave numbered 100.

The action corresponding to the digit in the 1000th place will be executed by slave numbered 1000.

The action corresponding to the digit in the 10000th place will be executed by slave numbered 10000.

Example: Let us say the barrel is numbered 11201. The wine in this barrel is taken on the first day by the slave numbered 10000, 1000 and 1. It is taken on the second day by slave numbered 100. And it is not taken by the slave numbered 10.

So if the slave numbered 10000, 1000 and 1 die within first 24 hours, slave numbered 100 dies in the next 24 hours and the slave numbered 10 does not die, then the poisoned barrel has to be 11201.

This way total number possible is  $3 * 3 * 3 * 3 * 3 = 3^5 = 243$  barrels!! So with the help of 5 slaves and within 48 hours we will be able to find a poisoned barrel among 243 barrels.

Source: <http://www.geeksforgeeks.org/forums/topic/finding-the-poisoned-wine/>

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

## GATE CS Notes (According to Official GATE 2017 Syllabus)

### GATE CS Corner

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Category: [Puzzle](#)

## Puzzle 4 | (Pay an employee using a 7 units gold rod?)

An employee works for an employer for 7 days. The employer has a gold rod of 7 units. How does the employer pays to the employee so that the employee gets 1 unit at the end of everyday. The employer can make at most 2 cuts in rod.

#### Solution:

Employer can pay for seven days by making 2 cuts in a way that he has 3 rods of size 1, 2 and 4.

**1st Day:** Employer gives 1 unit cut.

**2nd day:** Takes back 1 unit cut from employee given on first day and gives 2 unit cut.

**3rd Day:** Gives both 1 unit and 2 unit cuts.

**4th Day:** Takes back cuts of 1 and 2 units. Gives the cut of 4 units.

**5th Day:** Gives cut of 1 unit.

**6th Day:** Takes back cut of 1 unit and gives cut of 2 units.

**7th Day:** Gives cut of 1 unit.

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

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Category: [Puzzle](#)

## Puzzle 3 | (Calculate total distance travelled by bee)

Two trains are on same track and they are coming toward each other. The speed of first train is 50 KM/h and the speed of second train is 70 KM/h. A bee starts flying between the trains when the distance between two trains is 100 KM. The bee first flies from first train to second train. Once it reaches the second train, it immediately flies back to the second train ... and so on until trains collide. Calculate the total distance traveled by the bee. Speed of bee is 40 KM/h.

Source: <http://www.geeksforgeeks.org/forums/topic/yahoo-interview-question-for-software-engineer-developer-fresher-about-puzzle/>

#### Solution:

Let the first train moves at u km/h

second train moves at v km/h

distance between trains be d km

speed of bee is b km/h

time taken by trains to collide =  $d/(u+v)$

distance travelled by bee =  $b \cdot d/(u+v) = 40 \cdot 100/(50+70) = 33.333$

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**GATE CS Corner**

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Category: [Puzzle](#)

## Puzzle 2 | (Find ages of daughters)

Alok has three daughters. His friend Shyam wants to know the ages of his daughters. Alok gives him first hint.

1) The product of their ages is 72.

Shyam says this is not enough information Alok gives him a second hint.

2) The sum of their ages is equal to my house number.

Shyam goes out and look at the house number and tells "I still do not have enough information to determine the ages".

Alok admits that Shyam can not guess and gives him the third hint

3) The oldest of the girls likes strawberry ice-cream.

Shyam is able to guess after the third hint. Can you guess what are the ages of three daughters?



This image is taken from [here](#).

**Answer:**

1) Product of ages is 72

Below are all possibilities to get 72 from product of three different ages:

$$1 * 1 * 72 = 72$$

$$1 * 2 * 36 = 72$$

$$1 * 3 * 24 = 72$$

$$1 * 4 * 18 = 72$$

$$1 * 6 * 12 = 72$$

$$1 * 8 * 9 = 72$$

$$2 * 2 * 18 = 72$$

$$2 * 3 * 12 = 72$$

$$2 * 4 * 9 = 72$$

$$2 * 6 * 6 = 72$$

$$3 * 3 * 8 = 72$$

$$3 * 4 * 6 = 72$$

2) Sum of the ages is given

$$1 + 1 + 72 = 74$$

$$1 + 2 + 36 = 39$$

$$1 + 3 + 24 = 28$$

$$1 + 4 + 18 = 23$$

$$1 + 6 + 12 = 19$$

$$1 + 8 + 9 = 18$$

$$2 + 2 + 18 = 22$$

$$2 + 3 + 12 = 17$$

$$2 + 4 + 9 = 15$$

$$2 + 6 + 6 = 14$$

$$3 + 3 + 8 = 14$$

$$3 + 4 + 6 = 13$$

All sums are unique except 14. So the age sum must have been 14, otherwise Shyam would have guessed the ages from hint 1 only.

So we have two possible combination to get sum 14

$$2 + 6 + 6 = 14$$

$$3 + 3 + 8 = 14$$

3) Alok has an oldest girl (not two!!). So the ages must be 3, 3 and 8.

Source: <http://www.geeksforgeeks.org/forums/topic/ages-of-daughters/>

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above

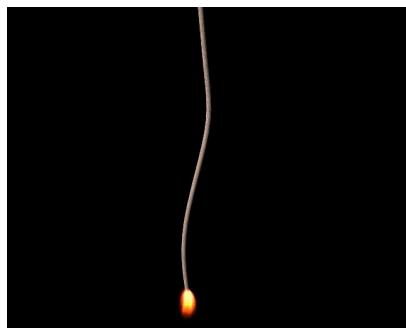
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Category: Puzzle

## Puzzle 1 | (How to Measure 45 minutes using two identical wires?)

How do we measure forty-five minutes using two identical wires, each of which takes an hour to burn. We have matchsticks with us. The wires burn non-uniformly. So, for example, the two halves of a wire might burn in 10 minute and 50 minutes respectively



#### Answer:

Light up three of the four ends of the two wires. Once one wire is completely burnt, light up the fourth end. At 45 minutes, both wires are burnt completely.

Source: <http://www.geeksforgeeks.org/forums/topic/measuring-45-minutes-using-two-identical-wires/>

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Category: Puzzle