Tnp Question Bank for forthcoming batches

DELHIVERY, BACKEND DEVELOPER

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The whole campus process consisted of three parts:  
(A) Firstly, company shortlisted the students those fullfill the CGPA criteria which was 6.0. Around 160 students were shorlisted for the post of Backend Developer.  
(B) For the first round, company conducted an online test on hackearth for 2.5 hrs. It consists of 2 sections:  
Section 1: It consisted of 49 MCQ questions related to data science, data structures, Sql, computer networks, operating systems.  
The MCQ’s were of different marks.Some of the questions were having negative marking while some didn’t have

Section 2: It was coding section consisted of 3 questions.

Q1)There are t test cases.For each test case, given two numbers m, n, k and a prime number p.First you have to count number of times p occurs in the prime factorization of all numbers in the range of [m, n] then return k\*count.[20 marks]  
Constraints: t<10^5, m, n<10^9, p<10^6, k<10^6.  
Test Case: m=6, n=8, k=5, p=2  
ans : 20  
6=2\*3, 7=7, 8=2\*2\*2  
therefore count of 2 is 4  
and 4\*5=20

Q2)Given a directed Graph find a node in the graph such that if we start a dfs from that node we can reach maximum number of nodes.[20 marks]

Q3)Given a string consisting of \* and # and two variables r1, r2.Starting from the first index of the string you have to find minimum number of steps required to reach the last index without landing on a \* character index.You can move from every \* marked index i to (i+1) and (i+2) in one step.Also you can move to (i+A) if (A/i)>=(r1/r2), where A is the number of prime numbers from 1 to i.Print “No Way” if it is impossible to reach the nth index.[50 marks] Test case: string = #\*###### r1=1 r2=2ans : 3(1->3->5->8).

Those who completed all the test cases of any two problems were shortlisted for the interviews.

(C) This section consisted of 2-3 technical rounds.Around 30 students were shortlisted for interviews.

ROUND 1:-(Technical)

1. He asked me to introduce myself . He quickly went through my resume and then we had a discussion about my work experience (Internship).   
2.Then he asked me to tell all the projects which i did in my whole engineering life from the beginnning.   
3.Write full code of - Lowest Common Ancestor(LCA) in BST and LCA in Binary Tree and their respective complexities.  
4.Some more problems on 2-d Matrix ,arrays and strings.  
5.One question using the Graph data Structure.  
6.After that he started questions related to OOPS, he continued on OOPS topic for 20minutes.  
7.And then asked questions related to DBMS:  
a.What is normalization and explain it’s 1NF and 2NF with examples.  
b.What is indexing?   
c.Explain the ACID properties?   
8.Some questions on Operating System like what is a process, thread etc(basic questions).

ROUND 2:-(Technical)

1. A quick discussion on my projects.  
2. Some questions related to MySql (queries,joins) as it was in my resume.  
3. Some questions on Data Structure and Algorithms basics.  
4. Time Complexities of all operations in Map(STL) for eg. insert ,delete ,find etc.  
5. Coding Questions,Suppose there is a keypad of a mobile. Assume there is a knight on any key of the keypad . Print all the paths of the knight from that position.

ROUND 3:- (HR)

In this round the HR tells you whether you are selected for INTERN or INTERN+FTE. About the salary compensations during the internship period and after converted to FTE. Gave a choice between Hyderabad and Gurugram.

VERDICT: SELECTED

Tips:

1. You must have logical thinking.  
2. You must be good in data structure & algorithm.  
3. You must have strong basics of things you know.  
4. You must have good projects and the good knowledge of the part you did in the projects.  
5. Whatever you speak, speak with confidence.