1. Iterative pre order traversal
2. WAP to merge 3 sorted array
3. They gave a linked list code and we have to identify the bug in it and write the correct code
4. Something about tree traversal
5. Debug a linked list implementation
6. Divide two integers without using math operators
7. Find and fix the bugs - this function is to remove head of a singly linked list.

```
void RemoveHead(node * head)
{
 free(head);
head = head->next;
}
```

8. Design a printserver. (there were some criteria)
9. Write a program to find the minimum node element in a Linked List
10. You were given a list of meeting and their timings, Write a program to find out the minimum number of conference rooms required without overlapping the meetings.
    // I think that's the zeist of the questions, it was litter longer though
11. The following program increases/decreases the value of A and B until A is equal to X and B is equal to Y. Find the bug:

```
public static void MakeTheNumbersMatch(int a, int b, int x, int y){
while(a!=x && b!=y){
        if(a> x){
                A--;
        }else{
                A++;
        }
        if(b>y){
                        B--;
                }else{
                        B++;
                }
        }
}
```

12. delete N-1th from a single linkedlist
13. check if Binary tree is a Binary Search Tree
14. Implement Queue methods using Linked List;
    Enqueue, dequeue and a constructor

15. What does the mystery function do? what are some possible bugs? How would you fix them?

    A: The function checks to see if a friend is in your list of friends, if not, in your friends list of friends, and so on. One bug was circular paths in the graph that is created from all the friends. I said the function should keep track of which friends have been visited.
16. Q: You are given an array of N ints containing 1 - N + 1 numbers. Find the missing number.

    A: I said to keep a boolean array that is set to true for every number in the list. Then find the one that is false.
17. Q: you are given the root node of a binary search tree and an int target. find the next largest number in the tree.

    A: I said to do an in-order traversal of the tree until the target is found, we can then return the next node visited
18. How would you find the second largest item in a binary search tree?
19. How to convert an integer into a binary number?
20. How to implement a card shuffler in java.
21. **What is the most valuable quality that you have to bring to our company?**
22. Insert item into sorted linked list
23. Make a thread safe linked list. He was unclear which operations he was asking about during the process
24. Print a tree on given criterion
25. Find words in a grid in O(n*l) time where n is the number of characters in the grid, and l is the length of the average word
26. Write code to find all the prime factors of a given number.
27. Implement the toLowerCase() method

```
String str = "GLASS DOOR";
    char [] arr = str.toCharArray();
    for(int i = 0 ; i =65){
        val = val + 32;
      }
       arr[i] = (char) val;
    }
System.out.println(String.valueOf(arr));
```

28. Write a function that checks whether the character is an integer, and if so, returns its integer value. (Or: how to write a function from a string to a long rectangle with only 4 lines of code?)

    note:

1. Handle the leading spaces
2. Handle the sign
3. Processing (hexadecimal, octal, decimal)
4. Illegal characters (0 --- 9, a --- f, A --- F)
5. Note that the range of integers can not overflow

29. Write code to reverse a linked list, if you able to do it using loops, try to solve with recursion.(solution)

To do this, start from the head and traverse to the end. For each node in the list that was traversed, swap the values of the links "Next" and "Prev". After that, set the "Head" to link to the last node or tail.

30. How to rotate an array by K? (solution)
31. Given an array which contains N-2 numbers in unsorted order, find two missing numbers? (solution)
32. Given an array which has a number in the majority (a number appears more than 50% in the array), find that number? (solution)
33. How to detect a loop in singly linked list? If you are able to detect loop then find the size of linked list? (solution)
34. Given N steps to climb to reach a floor, a person can take 1 or 2 step at a time to climb. Find the number of ways to reach nth step? (discussion)
35. Design Snake and Ladder Game by using Object Oriented analysis and design technique. Explain the reasoning behind interface and class structure? (discussion)
36. How to merge two sorted linked list, write a program in your favorite programming language e.g. Java, C++, or Python.
37. Write a Program which checks if two Strings are Anagram or not? (solution)
38. How to print all permutations of a given String using recursion? (solution)
39. How to check if a binary tree is balanced or not? (solution)
40. How to swap two numbers without using a temp variable, write code which is free from Integer overflow? (solution)
41. How to find all pairs of elements in an integer array, whose sum is equal to a given number? (solution)
42. Write a program to check if a binary tree is BST or not? (solution)
43. Write a function to print nth number in Fibonacci series? (answer)
44. Write a function to count a total number of set bits in a 32 bit Integer? (solution)
45. Write code to implement an LRU cache? (solution)
46. Write a function to remove duplicate characters from String? (solution)
47. How to find the 3rd element from end, in a singly linked, in a single pass? (solution)
48. **A function to compute minimum of unsorted numbers in an array of size N. this is a simple loop to find the min. How many times the assignment is executed?**

49.