Amazon Interview

There are two interviews and they generally ask two question in both the interviews. And most of the questions were on trees.

Note: For all the rounds, we should explain them our approach and algorithm. If he/she is satisfied, he'll ask you to write code on paper. And the code is not pseudo, it should be fairly precise, modular and no strikes.

First Round:

She asked me to introduce myself and asked a few questions on my courses taken in campus.

#1: Given a Binary Search Tree, design an iterator for the tree in ascending order, i.e

For example for a vector 1->2->3->NULL

```
while(x=iterator(&vector)){
        cout<<x<<"\t";
} //Output is 1      2       3
```

So we should make a function like iterator for a BST. And the output should be in increasing order…

```
                    4
                2       5
            1       3
```

So answer should be 1 2 3 4 5

Hint: This can be implemented by storing their parents in a stack

Expected Time Complexity: O(n)

Space Complexity: O(L), where L is the max height of tree.

Note: You can always modify it lower if you can :)

#2: You are given a binary tree. We should convert it to a tree such that every node either has two children or none. The nodes with one child should be deleted.

Expected Time Complexity: O(n)

Space Complexity: O(1)

Second Round:

#1: Reverse a linked list in groups of k-size
Eg: 1->2->3->4->5->6->7->NULL;
k=3
Ans: 3->2->1->6->5->4->7->NULL;
Time O(n) Space O(1)

#2:
http://www.geeksforgeeks.org/maximum-sum-such-that-no-two-elements-are-adjacent/
He asked this question and I said I've already done it, so he skipped it.

#3: You are given a huge stream of digits how do you store it. It does not fit in int/string. The input is taken from a file. So pitch a few ideas to store the number in the machine.
Eg:(i) you can slice the number into parts and store in list of strings/int
(ii) you can store it in a linked list
Now he asked me to store two numbers in linked list like mentioned above and to show the result of their sum in one of the linked list and write code for it.

For one of my friend they asked him to print a binary tree column wise efficiently. Refer geeks for geeks for this.
You can also refer to this for more questions,
http://www.geeksforgeeks.org/amazons-asked-interview-questions/