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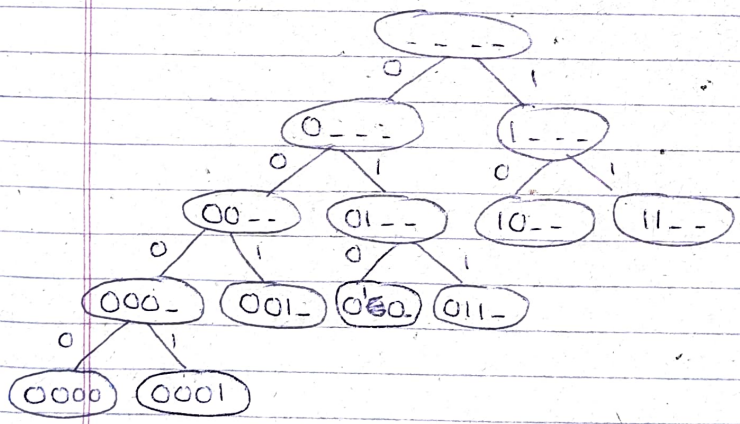
Recursion-17 (N-Bit Binary No)

⇒ Find all N Bit Binary Numbers having more than equal to 1 than 0 for any prefix.

Ex: N=4, 1101

Prefix
- 1 (No. of 1 > 0) true
- 11 ✓
- 110 ✓
- 1101 ✓

⇒ For getting N-Bit no. —



↓

Now we check these generated no.

⇒ Let no. is —

zero = Ø 1 one = Ø X X 3

1 1 0 1 → So we will print this no..

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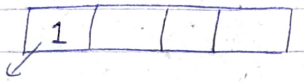
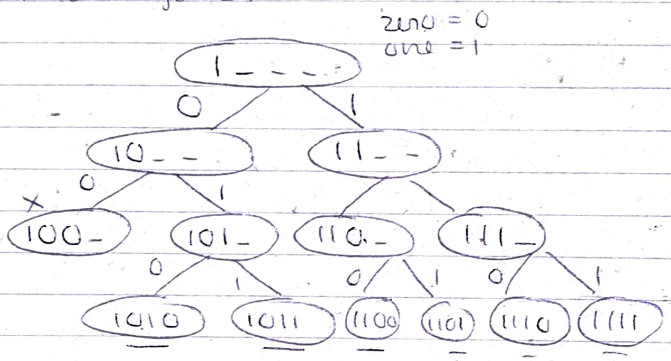
* More optimized approach: N = 4



⇒ First digit will be 1 (fixed) otherwise condition will be failed.



Code

```
                                                    int zero, int one
find (int N, vector<string> &ans, string &temp){
    if( temp.size() == N){
        ans.push_back(temp);
        return;
    }
    if(zero < one){
        temp.push_back('0');
        find(N, ans, temp, zero+1, one);
        temp.pop_back();
    }
    temp.push_back('1');
    find(N, ans, temp, zero, one+1);
    temp.pop_back();
}
```