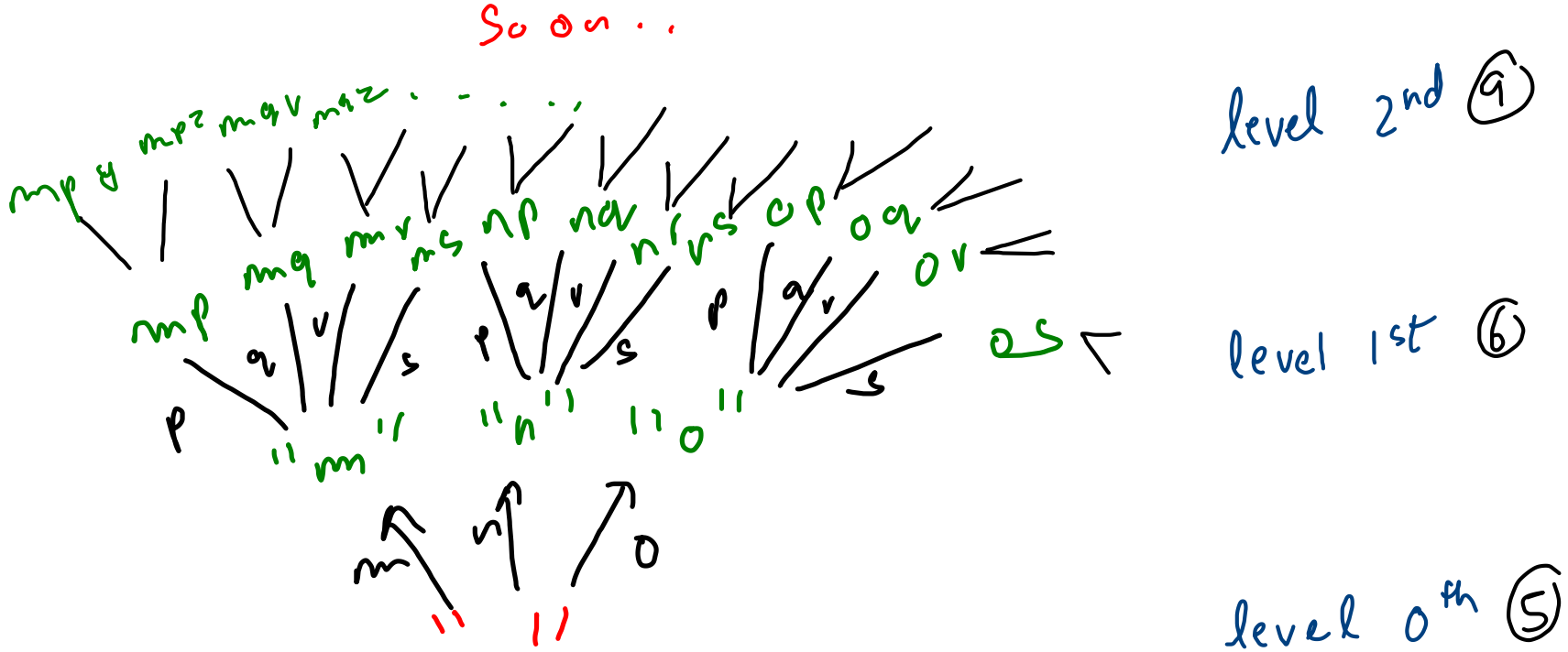
# Recursion on the Way Up

Ques) Print Subsequence (item or leval)

# Print Keypad Combinations

"569"




```java
public static void printKPC(int idx,String input, String output) {

    if(idx == input.length()) {
        System.out.println(output);
        return;

    }

    for(Character ch:keys[input.charAt(idx) - '0'].toCharArray()) {
        printKPC(idx + 1,input, output + ch);
    }
}
```

# Print Permutations

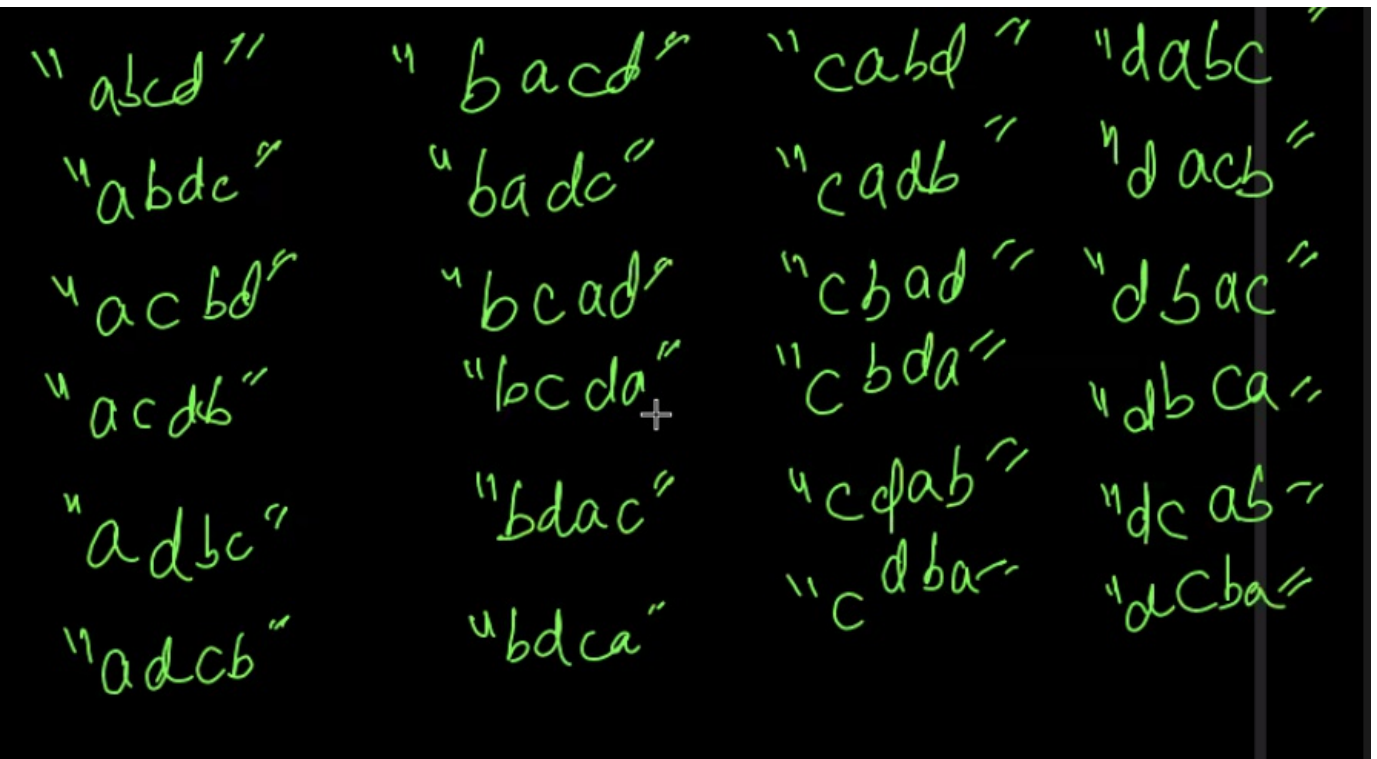
( A bit diff ques than rest as here we donot have yes/no choice rather we need to choose which character will be picked at any level )

"abcd"

## Permutations :

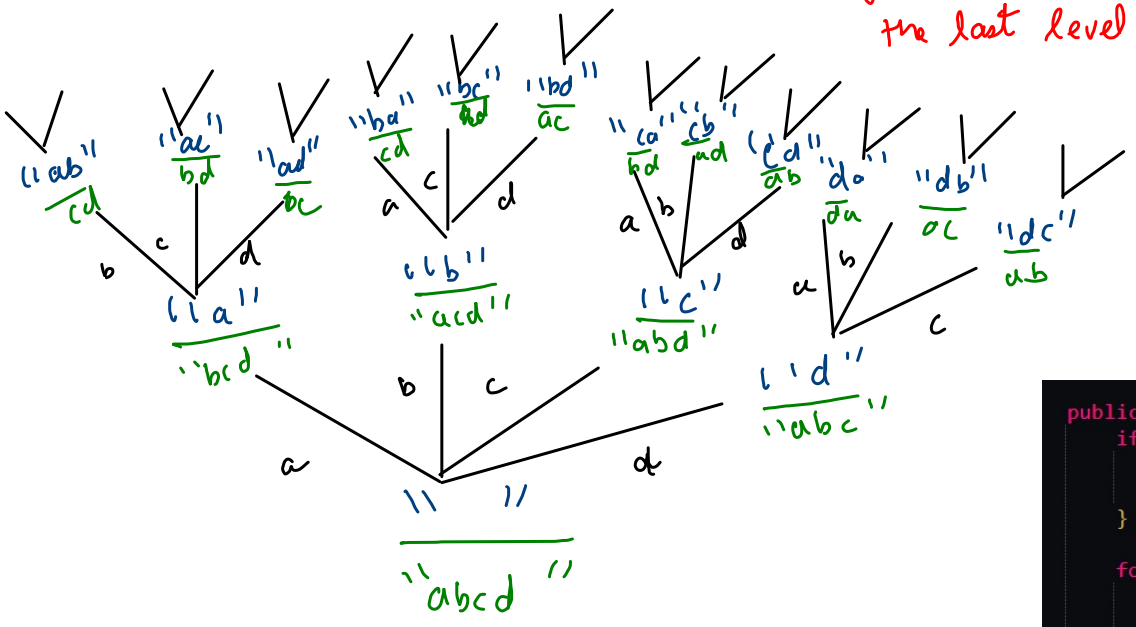
** (Box or level)

So, n! permutations for n length string



Box on Level

We will get permutations on the last level.




```
public static void printPermutations(String str, String asf)     {
    if(str.length() == 0) {
        System.out.println(asf);
        return;
    }

    for(int i=0;i<str.length();i++) {
        String newInput = str.substring(0,i) + str.substring(i+1);
        printPermutations(newInput,asf + str.charAt(i));
    }
}
```