```c
#include <stdio.h>
#include <string.h>

// Is this string a palindrome?
int isPalin(char* str, int len){
    // A length 0 or length 1 string is always a palindrome
    if(len < 2)
        return 1;
    for(int i = 0; i <= len - 1 - i; i++)
        if(str[i] != str[len-1-i])
            return 0;
    return 1;
}

// counter tells me how many palindromes have I used up so far
void printPalinDecomp(char *str, int *decomp, int len, int done, int counter){
    // Finished processing the decomposition
    if(done == len){
        for(int i = 0; i < len; i++)
            printf("%d", decomp[i]);
        printf("\n");
    }

    // Try to find the longest palindrome possible this position onward
    // We need to find the longest palindrome for lexicographic order
    for(int i = len-done; i >= 1; i--){
        if(isPalin(str+done, i)){
            // All those letters are a part of the same palindrome
            for(int j = done; j < done + i; j++)
                decomp[j] = counter;
            printPalinDecomp(str, decomp, len, done+i, counter+1);
        }
    }
}

int main(){
    char str[10];
    int decomp[9];
    scanf("%s", str);
    int len = strlen(str);
    printPalinDecomp(str, decomp, len, 0, 1);
    return 0;
}
```