

# Problem H

## Another Counting Problem

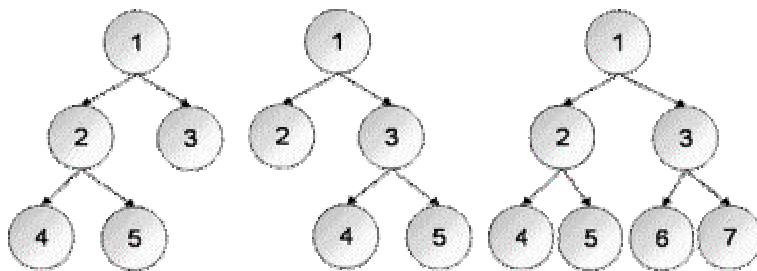
**Input:** Standard Input  
**Output:** Standard Output

Tree is an important data structure in Computer Science. Of all trees we work with, Binary Tree is probably the most popular one. A Binary Tree is called **Strictly Binary Tree** if every nonleaf node in a binary tree has nonempty left and right subtrees. Let us define a **Strictly Binary Tree of depth  $d$**  as a Strictly Binary Tree that has at least one root to leaf path of length  $d$ , and no root to leaf path in that tree is longer than  $d$ . So let us use a similar reasoning to define a generalized structure.

A  $n$ -ary Tree is called **Strictly  $n$ -ary Tree** if every nonleaf node in a  $n$ -ary tree has  $n$  children each. a **Strictly  $n$ -ary Tree of depth  $d$**  then can be defined as a Strictly  $n$ -ary Tree that has at least one root to leaf path of length  $d$ , and no root to leaf path in that tree is longer than  $d$ .

Given the value of  $n$  and depth  $d$ , your task is to find the number of different strictly  $n$ -ary trees of depth  $d$ .

The figure below shows the 3 different strictly binary trees of depth 2.



### Input

Input consists of several test cases. Each test case consists of two integers  $n$  ( $0 < n \leq 32$ ),  $d$  ( $0 \leq d \leq 16$ ). Input is terminated a test case where  $n=0$  and  $d=0$ , you must not process this test case.

### Output

For each test case, print three integers,  $n$ ,  $d$  and the number of different strictly  $n$ -ary trees of level  $d$ , in a single line. There will be a single space in between two integers of a line. **You can assume that you would not be asked about cases where you had to consider trees that may have more than  $2^{10}$  nodes in a level of the tree. You may also find it useful to know that the answer for each test case will always fit in a 200 digit integer.**

### Sample Input

### Output for Sample Input

2 0	2 0 1
2 1	2 1 1
2 2	2 2 3
2 3	2 3 21

3 5 0 0	3 5 58871587162270592645034001
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**Problemsetter: Monirul Hasan**