

10294 Arif in Dhaka (First Love Part 2)

Our hero Arif is now in Dhaka (Look at problem 10244 – **First Love** if you want to know more about Arif, but that information is not necessary for this problem. In short, Arif is a brilliant programmer working at IBM) and he is looking for his first love. Days pass by but his destiny theory is not working anymore, which means that he is yet to meet his first love. He then decides to roam around Dhaka on a *rickshaw* (A slow vehicle pulled by human power), running DFS (by physical movement) and BFS (with his eyes) on every corner of the street and market places to increase his probability of reaching his goal. While roaming around Dhaka he discovers an interesting *necklace* shop. There he finds some interesting *necklace/bracelet* construction sets. He decides to buy some of them, but his programmer mind starts looking for other problems. He wants to find out how many different *necklace/bracelet* can be made with a certain construction set. You are requested to help him again. The following things are true for a *necklace/bracelet* construction set.

- a) All *necklace/bracelet* construction sets has a frame, which has N slots to place N beads.
- b) All the slots must be filled to make a *necklace/bracelet*.
- c) There are t types of beads in a set. N beads of each type are there in the box. So the total number of beads is $t \cdot N$ (t multiplied by N), of which exactly N can be used at a time.

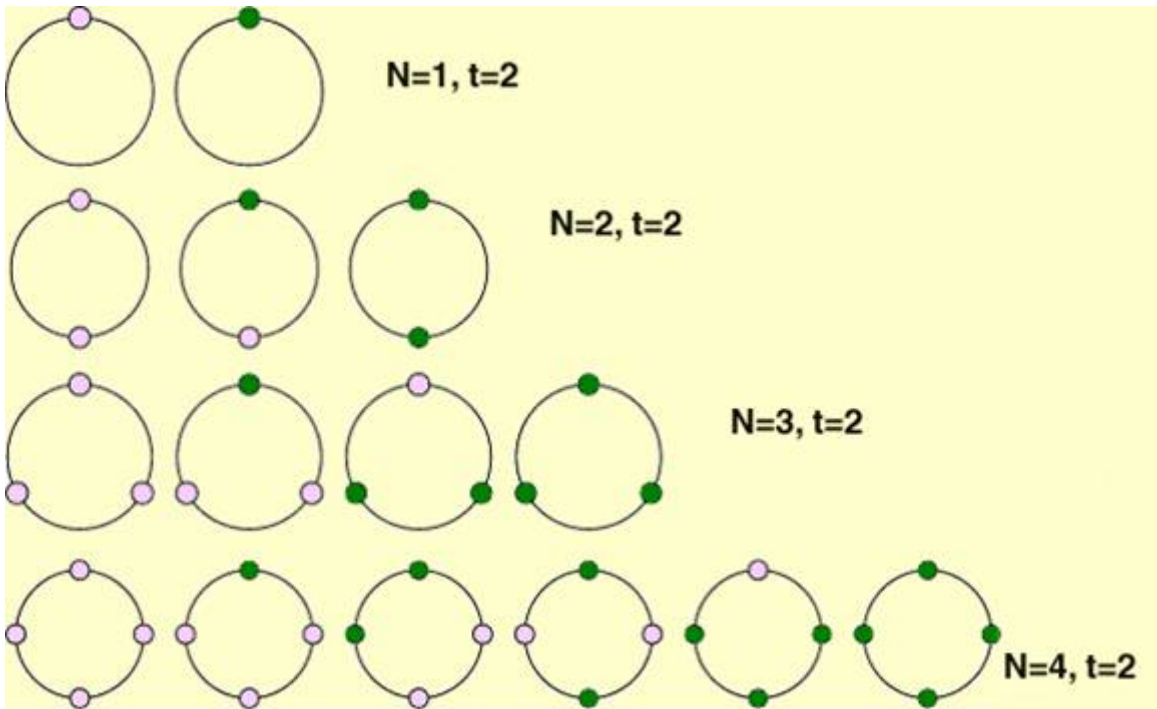
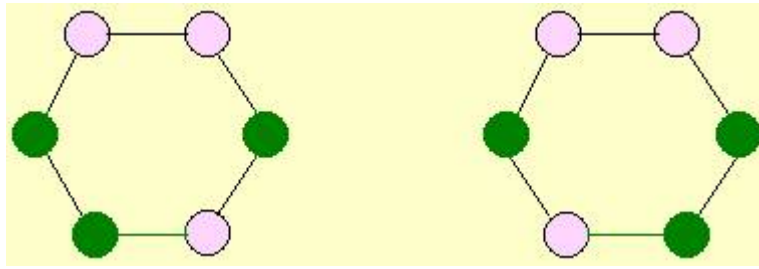


Fig. 1: Different types of necklace for $t = 2$ and different value of N

The figure above shows necklaces for some different values of N (Here, t is always 2). Now let's turn our attention to *bracelets*. A *bracelet* is a *necklace* that can be turned over (A junior programmer in Bangladesh says that wrist watch is a necklace (Boys!!! Don't mind :-)). So for a *bracelet* the following two arrangements are equivalent. Similarly, all other opposite orientation or mirror images are equivalent.



So, given the description of a *necklace/bracelet* construction set you will have to determine how many different necklace and bracelet can be formed with made with that set

Input

The input file contains several lines of input. Each line contains two positive integers N ($0 < N < 51$) and t ($0 < t < 11$) as described in the problem statement. Also note that within this input range inputs will be such that no final result will exceed 11 digits. Input is terminated by end of file.

Output

For each line of input produce one line of output which contains two round numbers NN and NB separated by a single space, where NN is the number of total possible necklaces and NB is the number of total possible bracelets for the corresponding input set.

Sample Input

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5 2
5 3
5 4
5 5
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Sample Output

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8 8
51 39
208 136
629 377
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