

Permutations

Let $A = [a_1, a_2, \dots, a_n]$ be a permutation of integers $1, 2, \dots, n$. A pair of indices (i, j) , $1 \leq i < j \leq n$, is an *inversion* of the permutation A if $a_i > a_j$. We are given integers $n > 0$ and $k \geq 0$. What is the number of n -element permutations containing exactly k inversions?

For instance, the number of 4-element permutations with exactly 1 inversion equals 3.

Task

Write a program which for each data set from a sequence of several data sets:

- reads integers n and k from input,
- computes the number of n -element permutations with exactly k inversions,
- writes the result to output.

Input

The first line of the input file contains one integer d , $1 \leq d \leq 10$, which is the number of data sets. The data sets follow. Each data set occupies one line of the input file and contains two integers n ($1 \leq n \leq 12$) and k ($0 \leq k \leq 98$) separated by a single space.

Output

The i -th line of the output file should contain one integer - the number of n -element permutations with exactly k inversions.

Example

Input:

```
1
4 1
```

Output:

```
3
```