Help Santa

Santa Claus is willing to give away some chocolates(all chocolates are of the same kind) to little children. So far he has no idea about the total amount of chocolates and the number of children. Indeed, a given child may not receive chocolates at all. Please help dear Santa, given the total number of chocolates and the number of children, calculate the number of different ways to distribute the chocolates among the children.

Input

The input consists of several test cases. Each test case consists of two space separated integers, N (1 <= N <= 1000) and C (0 <= C <= 2500), corresponding to the number of children and the number of chocolates respectively. The end of the test cases is indicated with N = C = 0.

Output

The output consists of several lines, one per test case, following the order given by the input. Each line has the number of all possible ways to distribute C chocolates among N children.

Example

Input:

1 10

3 12

0 0

Output:

1

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