
Correct expressions

P68813_en

Concurs On-line OIE 2007 (2007)

In this problem we consider the expressions defined as follows:

- Every variable is a correct expression;
- if x is a correct expression, so is (x) ;
- if x_1 and x_2 are correct expressions, so are $(x_1) - (x_2)$;
- nothing else is a correct expression.

For instance, if the set of variables is A, B, C , these are some correct expressions:

A (A) $((C))$ $(A) - (B)$ $((A) - (B)) - (A)$

Write a program that, given two numbers n and m , prints the number of correct expressions of length exactly n that can be made up with m variables.

For instance, for $n = 7$ and $m = 2$ the result should be 6, corresponding to

$((((A)))$ $((((B)))$ $(A) - (A)$ $(A) - (B)$ $(B) - (A)$ $(B) - (B)$

Input

Input consists of several cases, each with two natural numbers n and m between 1 and 25.

Output

For every case, print the number of correct expressions of length exactly n that can be made up with m variables. This number will always be smaller than 10^9 .

Sample input

```
7 2
1 20
20 1
21 1
25 25
```

Sample output

```
6
20
0
212
307378150
```

Problem information

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