369  Combinations

Computing the exact number of ways that \( N \) things can be taken \( M \) at a time can be a great challenge when \( N \) and/or \( M \) become very large. Challenges are the stuff of contests. Therefore, you are to make just such a computation given the following:

GIVEN:

\[
5 \leq N \leq 100, \quad \text{and} \quad 5 \leq M \leq 100, \quad \text{and} \quad M \leq N
\]

Compute the EXACT value of:

\[
C = \frac{N!}{(N - M)! \times M!}
\]

You may assume that the final value of \( C \) will fit in a 32-bit Pascal LongInt or a C long.

For the record, the exact value of 100! is:

\[
93,326,215,443,944,152,681,699,238,856,266,700,490,715,968,264,381,621, \\
468,592,963,895,217,599,993,229,915,608,941,463,976,156,518,286,253, \\
697,920,827,223,758,251,185,210,916,864,000,000,000,000,000,000,000,000,000
\]

Input

The input to this program will be one or more lines each containing zero or more leading spaces, a value for \( N \), one or more spaces, and a value for \( M \). The last line of the input file will contain a dummy \( N \), \( M \) pair with both values equal to zero. Your program should terminate when this line is read.

Output

The output from this program should be in the form:

\( N \) things taken \( M \) at a time is \( C \) exactly.

Sample Input

```
100  6
20   5
18   6
0    0
```

Sample Output

```
100 things taken 6 at a time is 1192052400 exactly.
20 things taken 5 at a time is 15504 exactly.
18 things taken 6 at a time is 18564 exactly.
```