**10. Lock**

# Program Name: Lock.java Input File: lock.dat

Given the base of a lock and length of a combination lock, calculate the number of possible combinations a lock can have. A combination lock is composed of l rings that each have b possibilities. Determine the total number of possibilities in a combination lock given b and l.

**Input**

The first line of input will contain a single integer n that indicates how many test cases to follow. Each test case will contain a number b that indicates the base of the lock (i.e. the number of different values each part of a lock could be), followed by a number l that indicates the length of the lock. 0 < b < 50 and 0 < l < 50.

**Output**

For each lock, print out the total number of possible combinations.

**Example Input File**

5

10 4

2 8

2 32

16 16

4 10

**Example Output to Screen**

10000

256

4294967296

18446744073709551616

1048576‬