

<codeClash>2019

Code Clash Official Problem #3 'Handshakes'

Problem statement

You are attending a large party with your family and there are many people at the party that you are meeting for the first time. Everyone at the party shakes hands with every other person that isn't in their family exactly once. Every family at the party has the same number of members. Given the size of each family and the number of families present, calculate the total number of handshakes that must have taken place.

The first line of input will contain an integer with the number of test cases to follow. For each test case, a subsequent line will follow with two integers: the first representing the size of each family and the second representing the number of families. All numbers will be non-negative and less than 2^{16} . Print each of your answers on their own line in the order they were given.

Sample test case

Sample input and output for this problem:

Input	Output
3	
2 4	24
4 10	720
9 15	8505