2346.   Gauß in Elementary School

Time Limit: 1.0 Seconds   Memory Limit: 65536K  
Total Runs: 1480   Accepted Runs: 624

Johann Carl Friedrich Gauß(1777-1855) was one of the most important German mathematicians . For those of you who remember the Deutsche Mark, a picture of him was printed on the 10,-DM bill. In elementary school, his teacher J. G. Buttner tried to occupy the pupils by making them add up the integers from 1 to 100. The young Gauß surprised everybody by producing the correct answers (5050) within seconds.

Can you write a computer program that can compute such sums really quickly?

**Problem**

Given two integers *n* and *m*, you should compute the sum of all the integers from *n* to *m*. In other words, you should compute

|  |  |  |
| --- | --- | --- |
| Σ | *m* | *i*     =     *n* + (*n* + 1) + (*n* + 2) + ... + (*m* - 1) + *m* |
| *i = n* |

**Input**

The first line contains the number of scenarios. Each scenario consists of a line containing the numbers *n* and *m* (-109 ≤ *n* ≤ *m* ≤ 109).

**Output**

The output for every scenario begins with a line containing "Scenario #i:", where i is the number of the scenario starting at 1. Then print the sum of all integers from *n* to *m*. Terminate the output for the scenario with a blank line.

**Sample Input**

3

1 100

-11 10

-89173 938749341

**Sample Output**

Scenario #1:

5050

Scenario #2:

-11

Scenario #3:

440625159107385260