Problem D. Positive Negative Sign

Time limit 1000 ms
Mem limit 65536 kB

Given two integers: **n** and **m** and **n** is divisible by **2m**, you have to first write down the first **n** natural numbers in the following form:

1. At first take first **m** integers and make their sign negative
2. Then take next **m** integers and make their sign positive
3. The next **m** integers should have negative signs and continue this procedure until all the **n** integers have been assigned a sign.

For example, let **n** be **12** and **m** be **3**. Then we have **-1 - 2 - 3** + 4 + 5 + 6 **- 7 - 8 - 9** + 10 + 11 + 12. If **n = 4** and **m = 1**, then we have **-1** +2 **-3** + 4.

Now your task is to find the summation of the numbers considering their signs.

Input

Input starts with an integer **T (≤ 10000)**, denoting the number of test cases.Each case starts with a line containing two integers: **n** and **m (2 ≤ n ≤ 10^9, 1 ≤ m)**. And you can assume that **n** is divisible by **2*m**.

Output

For each case, print the case number and the summation.

Sample

Input	Output
2 12 3 4 1	Case 1: 18 Case 2: 2