E	Strange Game	Time Limit: 1 sec

Shibli is very upset about early elimination of Germany from this world cup. So to cheer him up his friends decided to play a very strange game with him. There are **n** integer numbers are given **(a_1, a_2 …… a_n)**. Shibli needs to find an integer **x** so that the sum of the sequence **$(a_1 - x)^2 + (a_2 - x)^2 + \ldots + (a_n - x)^2$** is minimized. Can you please help Shibli to find the value of **x** and the minimum sum of the sequence? It is ensured that there is only one such **x** is present in this given sequence.

Input

Input starts with an integer **T (≤ 100)**, denoting the number of test cases. Each case contains an integer **n (1 ≤ n ≤ 10000)**, denoting how many numbers will be present for this test case. Next line contains **n** integer numbers say **x (1 <= x <= 10000).**

Output

For each test case, print a line **"Case x: y z"** where **x** is replaced by the test case number and **y** is the value of **x** described in the problem statement and **z** is minimum sum of the sequence.

Sample I/O

Input	Output
2 3 1 2 3 5 1 2 9 2 6	Case 1: 2 2 Case 2: 4 46