Statues

Problem code: STATUES

The Princess of the Indian Royal Rajput clan loves her Royal Palace. There are **N** rooms in the palace. Every room has one or more statues. It is not necessary that every room has the same number of statues.

The Princess believes in total equality. It makes her sad to see some rooms with more statues than other rooms. Hence, she has decided to make the number of statues equal in all the rooms. Fortunately, the total number of statues in the palace, across all the rooms, is a multiple of **N**.

Your job is to figure out the minimum number of moves needed in order to equalize the number of statues in all the rooms. In one move, you may select a statue and move it to any other room. All the statues are indistinguishable.

Input

The input consists of multiple test cases. Each test case is described on two lines.

The first line contains a single positive integer **N**, the number of rooms.

The second line contains **N** positive integers **{ A_1, A_2, ..., A_N }** separated by single spaces, describing the number of statues in each of the **N** rooms respectively.

The end of input is signified by a special test case with **N = 0**. This will be the last test case in the input, and should not be processed.

Constraints

There are at most 50 test cases in a test file.
$1 \le N \le 50$
$1 \le A_i \le 100$
Sum of all A_i's is divisible by N

Output

For each test case, print two lines in the output. The first of such lines is the **test case number, T** in the form of "**Set #T**", without the quotes (see sample output for clarity). On the second line, print "**The minimum number of moves is M.**", without the quotes. Here, **M** is the minimum number of moves you must make to equalize the number of statues in all the rooms. Output a blank line after each test case.

Be careful about the case and punctuation in the above strings. Not adhering to the output format strictly will lead to the Wrong Answer verdict.

Sample Input

```
6
5 2 4 1 7 5
3
2 3 4
0
```

Sample Output

```
Set #1
The minimum number of moves is 5.

Set #2
The minimum number of moves is 1.
```

Author:	gamabunta
Tags	gamabunta
Date Added:	13-10-2013
Time Limit:	1 sec
Source Limit:	50000 Bytes
Languages:	C, CPP 4.8.1, JAVA

SUBMIT

Comments

Need help? Post a comment. But before that please spare a moment to read the **guidelines**.

Your name:
acmkn13tm087

Comment: *

Save

The time now is: 11:00:37 AM

CodeChef - A Platform for Aspiring Programmers

CodeChef was created as a platform to help programmers make it big in the world of algorithms, **computer programming** and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and another smaller programming challenge in the middle of the month. We also aim to have training sessions and discussions related to **algorithms, binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

Practice Section - A Place to hone your 'Computer Programming Skills'

Try your hand at one of our many practice problems and submit your solution in a language of your choice. Our **programming contest** judge accepts solutions in over 35+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

Compete - Monthly Programming Contests and Cook-offs

Here is where you can show off your **computer programming** skills. Take part in our 10 day long monthly **coding contest** and the shorter format Cook-off **coding contest**. Put yourself up for recognition and win great prizes. Our **programming contests** have prizes worth up to Rs.20,000 and $700lots more CodeChef goodies up for grabs.

Discuss

Are you new to **computer programming**? Do you need help with algorithms? Then be a part of CodeChef's Forums and interact with all our programmers - they love helping out other programmers and sharing their ideas. Have discussions around **binary search, array size, branch-and-bound, Dijkstra's algorithm, Encryption algorithm** and more by visiting the CodeChef Forums and Wiki section.

CodeChef Community

As part of our Educational initiative, we give institutes the opportunity to associate with CodeChef in the form of Campus Chapters. Hosting **online programming competitions** is not the only feature on CodeChef. You can also host a **coding contest** for your institute on CodeChef, organize an **algorithm** event and be a guest author on our blog.

Go For Gold

The Go for Gold Initiative was launched about a year after CodeChef was incepted, to help prepare Indian students for the **ACM ICPC** World Finals competition. In the run up to the **ACM ICPC** competition, the Go for Gold initiative uses CodeChef as a platform to train students for the **ACM ICPC** competition via multiple warm up contests. As an added incentive the Go for Gold initiative is also offering over Rs.8 lacs to the Indian team that beats the 29th position at the **ACM ICPC** world finals. Find out more about the Go for Gold and the **ACM ICPC** competition here.