Genghis Khan's Army

“I am the punishment of God. If you had not committed great sins, God would not have sent a punishment like me upon you.” - Genghis Khan

Genghis Khan, the founder and the first Great Khan of Mongol Empire is about to conquer Eurasia. His third son, Ögedei Khan divided Eurasia into **R** regions for strategical purposes. For each region $\mathbf{R_i}$, his army is divided into **N** different contingents of sizes $\mathbf{c_0}, \mathbf{c_1} \ldots, \mathbf{c_{N-1}}$.

The general of each region wants to redistribute the soldiers in such a way that all the contingents for that region have equal number of soldiers, by sending soldiers from larger contingents to smaller ones. In case the number of soldiers is not enough to be divided into equal contingents, he decides to either add more soldiers, or remove some soldiers whichever is lesser in number such that they can be divided in a way where all the contigents have equal number of soldiers. Help Genghis Khan conquer Eurasia!

Input Format

First line of input contains **R**, number of regions.

Each region $\mathbf{R_i}$ is described by two lines. The first line contains **N**, the number of contigents and the second line contains the array **c**.

Constraints

- 1 <= **R, N,** $\mathbf{c_i}$ <= 1000

Output Format

For each region print the total number of soldiers redistributed or added or removed as per the given conditionns on a new line.

Sample Input 0

```
2
3
3 4 8
3
3 4 6
```

Sample Output 0

```
3
1
```

Explanation 0

Testcase 1: We can redistribute 3 soldiers from 2nd contigent and add 2 soldiers to contigent 0 and 1 soldier to contigent 1. Hence answer is 3

Testcase 2: We can either remove 1 soldier or add 2 more soldiers to make the overall strength such that they can be divided into 3 differnt contgents. Since 1 < 2 answer is 1.