

Romeo and Gold

Bytelandian King lost the war to Binaryland and now our Romeo is poor. Juliet's birthday is on next Sunday and Romeo wanted to buy a gift for her but he have no money. Romeo once helped a gold merchant Ram and thought that he might help him. He went to Ram and asked for help, sadly Ram lost most of his property during the war but he still wanted to help Romeo. All he have now is n boxes of gold each containing some gold coins. Ram asked Romeo to select the box with least numbers of coins (Let X) and highest number of coins (Let Y). Now he want Romeo to remove X from the set of boxes and replace the coins in Y with (no of coins in Y – no of coins in X) coins. Ram asked Romeo to repeat this process till there is only box left. Given the number of boxes and number of gold coins in each box, find the number of gold coins Romeo gets by doing what Ram asked him to do.

Input Format:

First line of input contains T, no of test cases. Each test contains two lines, first line is n, the number of boxes and next line contains n space separated integers where ith integer corresponds to number of gold coins present in ith box.

Output Format:

For each test case output the result in a newline.

Sample Input:

```
1
5
3 1 6 9 2
```

Sample Output:

```
3
```

Explanation:

For the sample test case, the coins in boxes change in the following way:

```
3 1 6 9 2 (highest 9 and lowest 1)
3 X 6 8 2 (highest 8 and lowest 2)
3 X 6 6 X (highest 6 and lowest 3)
X X 3 6 X (highest 6 and lowest 3)
X X X 3 X (Result = 3)
```

