Swap and Maximize

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Given an array of **n** elements. Consider array as circular array i.e element after a_n is a_1. The task is to find maximum sum of the difference between consecutive elements with rearrangement of array element allowed i.e after rearrangement of element find $|a_1 – a_2| + |a_2 – a_3| + \ldots\ldots + |a_{n-1} – a_n| + |a_n – a_1|$.

Input:
The first line of input contains an integer T denoting the number of test cases. Each test case contains the number of elements in the array a[] as n and next line contains space separated n elements in the array a[].

Output:
Print an integer which denotes the maximized sum.

Constraints:
1<=T<=100
1<=n<=10000
1<=a[i]<=100000

Example:
Input:
2
4
4 2 1 8
3
10 12 15
Output:
18
10