

h

upGrad Backend Hiring Challenge

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aishwarya4444@gmail.com

Help

End Test

find the odd out –

14. In Data Structures, a circular queue with n-1 elements is im...

+ 6.0

15. Elements a, b, c, d, e, f, g, and h are pushed onto a stack ...

+ 6.0

16. Let n be the number of nodes in the linked list (n > 5). Wh...

+ 4.0

17. A can lay railway track between two given stations in 16 day...

+ 5.0

18. Which of the following algorithms will you use to calculate ...

+ 4.0

19. In data structures, which of these is the valid postfix expr...

+ 6.0

20. A group of nine people went to a restaurant for lunch, 8 amo...

+ 4.0

2 Programming Questions

21. Absolute removal

+ 100.0

22. Jump Over This

+ 100.0

Question 21

Max. Marks 100.00

Absolute removal

You are given an array A of size N . Lets define an operation "absolute removal" on the array.

- In this operation, we are allowed to remove **exactly one** element from the array.
- You can perform this operation at most once.
- Your task is to **minimize** the sum of absolute difference of the consecutive elements by performing **at most one** such operation.

In the output, you need to print the minimum sum possible.

If the array formed after removal of an element is $B_1, B_2, \dots B_{N-1}$, then the required sum is given by $sum = |B_1 - B_2| + |B_2 - B_3| + \dots |B_{N-2} - B_{N-1}|$.

Input

The first line of input contains T , the number of test cases.

The first line of each next case comprises of a number N , the size of the array.

The next line contains N space separated integers corresponding to array elements A_i .

Output

For each test case, output a single integer corresponding to the minimum sum of absolute difference of consecutive elements.

Constraints

$$1 \leq T \leq 100$$
$$1 \leq N \leq 10^5$$
$$0 \leq A_i \leq 10^9$$

Sample Input

2
5
1 5 3 2 10
6
6 12 7 8 10 15

Sample Output

7
9

Explanation

Test Case #1: On removing 10, we get B={1,5,3,2}. $|1-5| + |5-3| + |3-2| = 4+2+1 = 7$. This is the minimum sum possible.

Test Case #2: On removing 12, we get B={6,7,8,10,15}. $|6-7| + |7-8| + |8-10| + |10-15| = 1+1+2+5 = 9$. This is the minimum sum possible.

Note: Your code should be able to convert the sample input into the sample output. However, this is not enough to pass the challenge, because the code will be run on multiple test cases. Therefore, your code must solve this problem statement.

Time Limit: 3.0 sec(s) for each input file

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded if any testcase passes

Allowed Languages: Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Python, Python 3, Ruby

New SubmissionAll Submissions

Java (openjdk 1.7.0_95)

Save

1import java.io.*;

2import java.util.*;

3

4

5public class TestClass {

6public static void main(String[] args) throws IOException {

7BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

8PrintWriter wr = new PrintWriter(System.out);

9int T = Integer.parseInt(br.readLine().trim());

10for(int t_i=0; t_i<T; t_i++)

11{

12int N = Integer.parseInt(br.readLine().trim());

13String[] arr_A = br.readLine().split(" ");

14long[] A = new long[N];

15for(int i_A=0; i_A<arr_A.length; i_A++)

16{

17A[i_A] = Long.parseLong(arr_A[i_A]);

18}

19

20long out_ = solve(A,N);

21System.out.println(out_);

22System.out.println("");

23}

24

25wr.close();

26br.close();

27}

28static long solve(long[] A,int N){

29// Write your code here

30}

31}

32}

Press Ctrl/Command+Spacebar for autocomplete suggestions (accuracy dependent on connection stability).

Provide custom input

COMPILE & TESTSUBMIT

