

The absolute difference is the positive difference between two values ***a*** and ***b***, is written **$|a - b|$** or **$|b - a|$** and they are equal. If ***a* = 3** and ***b* = 2**, **$|3 - 2| = |2 - 3| = 1$** . Given an array of integers, find the minimum absolute difference between any two elements in the array.

Example. ***arr* = [-2, 2, 4]**

There are **3** pairs of numbers: **[-2, 2]**, **[-2, 4]** and **[2, 4]**. The absolute differences for these pairs are **$|(-2) - 2| = 4$** , **$|(-2) - 4| = 6$** and **$|2 - 4| = 2$** . The minimum absolute difference is **2**.

Function Description

Complete the minimumAbsoluteDifference function in the editor below. It should return an integer that represents the minimum absolute difference between any pair of elements.

minimumAbsoluteDifference has the following parameter(s):

- int arr[n]: an array of integers

Returns

- int: the minimum absolute difference found

Input Format

The first line contains a single integer ***n***, the size of ***arr***.

The second line contains ***n*** space-separated integers, ***arr[i]***.

Constraints

- $2 \leq n \leq 10^5$
- $-10^9 \leq arr[i] \leq 10^9$

```
1  #!/bin/python3
2
3  import math
4  import os
5  import random
6  import re
7  import sys
8
9  #
10 # Complete the 'minimumAbsoluteDifference' function below.
11 #
12 # The function is expected to return an INTEGER.
13 # The function accepts INTEGER_ARRAY arr as parameter.
14 #
15
16 def minimumAbsoluteDifference(arr):
17     result = float('inf')
18     arr.sort()
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20     for idx in range(1, len(arr)):
21         diff = abs(arr[idx]-arr[idx-1])
22         if diff < result:
23             result = diff
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25     return result
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Line: 26 Col: 1

Upload Code as File

Test against custom input

Run Code

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Congratulations

You solved this challenge. Would you like to challenge your friends?



Next Challenge

Test case 0

Test case 1

Test case 2



Test case 3



Compiler Message

Success

Input (stdin)

```
1 3
2 3 -7 0
```

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