# Minimum Absolute Difference in an Array

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**

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