**7 kyu**

**Maximum Gap (Array Series #4)**

6593% of 196111 of769[MrZizoScream](https://www.codewars.com/users/MrZizoScream)

C++

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**Introduction and Warm-up (Highly recommended)**

[**Playing With Lists/Arrays Series**](https://www.codewars.com/collections/playing-with-lists-slash-arrays)

**Task**

***Given*** an *array/list [] of integers* , ***Find*** ***The maximum difference*** *between the successive elements in its sorted form*.

**Notes**

* ***Array/list*** size is *at least 3* .
* ***Array/list's numbers*** Will be **mixture of positives and negatives also zeros\_**
* ***Repeatition*** of numbers in *the array/list could occur*.
* ***The Maximum Gap*** is *computed Regardless the sign*.

**Input >> Output Examples**

1- maxGap ({13,10,5,2,9}) ==> return (4)

***Explanation***:

* ***The Maximum Gap*** *after sorting the array is* 4 , *The difference between* 9 - 5 = 4 .

2- maxGap ({-3,-27,-4,-2}) ==> return (23)

***Explanation***:

* ***The Maximum Gap*** *after sorting the array is* 23 , *The difference between* |-3- (-27) | = 23 .
* ***Note*** : *Regardless the sign of negativity* .

3- maxGap ({-7,-42,-809,-14,-12}) ==> return (767)

***Explanation***:

* ***The Maximum Gap*** *after sorting the array is* 767 , *The difference between* | -809- (-42) | = 767 .
* ***Note*** : *Regardless the sign of negativity* .

4- maxGap ({-54,37,0,64,640,0,-15}) //return (576)

***Explanation***:

* ***The Maximum Gap*** *after sorting the array is* 576 , *The difference between* | 64 - 640 | = 576.
* ***Note*** : *Regardless the sign of negativity* .

[**Playing with Numbers Series**](https://www.codewars.com/collections/playing-with-numbers)

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ALL translations are welcomed

Enjoy Learning !!

**Zizou**

<https://www.codewars.com/kata/maximum-gap-array-series-number-4/cpp>

#include <vector>

#include <stdio.h>

#include <iostream>

#include <bits/stdc++.h>

using namespace std;

int maxGap (vector <int> numbers)

{

sort(numbers.begin(), numbers.end());

int dif=-1, max\_dif =-1;

for(int i = 0; i+1 < numbers.size(); i++) {

dif = abs(numbers[i]-numbers[i+1]);

max\_dif = max(max\_dif, dif);

}

return max\_dif;

}

int main() {

//3- maxGap ({-7,-42,-809,-14,-12}) ==> return (767)

//int arr[] = {-7,-42,-809,-14,-12};

//int arr[] = {12,-5,-7,0,290};

int arr[] = { -5, -78, -800, -56 };

vector<int> v;

int n = sizeof(arr)/sizeof(int);

for(int i =0; i<n; i++) {

v.push\_back(arr[i]);

}

cout << maxGap(v) << endl;

return 0;

}