

Candidate Report: Anonymous

Test Name:

Summary

Timeline

Test Score

44 out of 100 points

44%

Tasks in Test

	Time Spent ⓘ	Task Score
MaxProductOfThree Submitted in: Java 8	15 min	44%

TASKS DETAILS

EASY	1. MaxProductOfThree Maximize $A[P] * A[Q] * A[R]$ for any triplet (P, Q, R) .	Task Score 44%	Correctness 50%	Performance 40%
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Task description

A non-empty array A consisting of N integers is given. The *product* of triplet (P, Q, R) equates to $A[P] * A[Q] * A[R]$ ($0 \leq P < Q < R < N$).

For example, array A such that:

$A[0] = -3$
 $A[1] = 1$
 $A[2] = 2$
 $A[3] = -2$
 $A[4] = 5$
 $A[5] = 6$

contains the following example triplets:

- $(0, 1, 2)$, product is $-3 * 1 * 2 = -6$
- $(1, 2, 4)$, product is $1 * 2 * 5 = 10$
- $(2, 4, 5)$, product is $2 * 5 * 6 = 60$

Your goal is to find the maximal product of any triplet.

Write a function:

```
class Solution { public int solution(int[] A); }
```

that, given a non-empty array A , returns the value of the maximal product of any triplet.

For example, given array A such that:

$A[0] = -3$
 $A[1] = 1$
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Solution

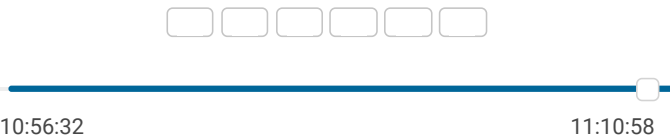
Programming language used: Java 8

Total time used: 15 minutes ⓘ

Effective time used: 15 minutes ⓘ

Notes: not defined yet

Task timeline ⓘ



Code: 11:10:57 UTC, java, final, [show code in pop-up](#)
score: 44

```
1 // you can also use imports, for example:
2 // import java.util.*;
3
4 // you can write to stdout for debugging purposes, e.g.
5 // System.out.println("this is a debug message");
6
7 import java.util.Arrays;
8
9 public class Solution {
```

the function should return 60, as the product of triplet (2, 4, 5) is maximal.

Write an **efficient** algorithm for the following assumptions:

- N is an integer within the range [3..100,000];
- each element of array A is an integer within the range [−1,000..1,000].

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```
10
11     public static int solution(int[] a) {
12
13         Arrays.sort(a);
14
15         int r = 1;
16         for (int i = a.length - 1; i > a.length -
17             r = r * a[i];
18
19         return r;
20     }
21
22 }
```

Analysis summary

The following issues have been detected: wrong answers.

For example, for the input [-5, 5, -5, 4] the solution returned a wrong answer (got -100 expected 125).

Analysis ?

Example tests	
▶ example example test	✓ OK
Correctness tests	
▶ one_triple three elements	✓ OK
▶ simple1 simple tests	✗ WRONG ANSWER got 84 expected 105
▶ simple2 simple tests	✗ WRONG ANSWER got -100 expected 125
▶ small_random random small, length = 100	✓ OK
Performance tests	
▶ medium_range -1000, -999, ... 1000, length = ~1,000	✗ WRONG ANSWER got 997002000 expected 999000000
▶ medium_random random medium, length = ~10,000	✓ OK
▶ large_random random large, length = ~100,000	✓ OK
▶ large_range 2000 * (-10..10) + [-1000, 500, -1]	✗ WRONG ANSWER got 50000 expected 5000000
▶ extreme_large (-2, .., -2, 1, .., 1) and (MAX_INT)..(MAX_INT), length = ~100,000	✗ WRONG ANSWER got 1 expected 4

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