

Check Palindrome

Given a string s , return whether it is a palindrome.

Constraints

$n \leq 100,000$ where n is the length of s

Example 1

Input

$s = \text{racecar}$

Output

true

Example 2

Input

$s = \text{evilolive}$

Output

true

Example 3

Input

$s = \text{palindrome}$

Output

false

Swap Consecutive Index Pairs

Given a list of integers `nums`, swap each consecutive even indexes with each other,
and swap each consecutive odd indexes with each other.

Constraints

$n \leq 100,000$ where n is the length of `nums`

Example 1

Input

`nums = [0, 1, 2, 3, 4, 5, 6, 7, 8]`

Output

`[2, 3, 0, 1, 6, 7, 4, 5, 8]`

Explanation

0 and 2 gets swapped

1 and 3 gets swapped

4 and 6 gets swapped

5 and 7 gets swapped

8 remains the same

Smallest Pair Sum with Distance Constraint

You are given a list of integers `nums`. Consider any pair of indices $i < j$ such that $j - i > 1$. Return the smallest pair sum.

Constraints

$3 \leq n \leq 100,000$ where n is the length of `nums`

Example 1

Input

`nums = [2, 3, 1, 1, 3]`

Output

3

Explanation

We pick values 2 and 1 for total sum of 3. Note that we can't pick 1 and 1 since it would violate the $j - i > 1$ constraint.

Max Product of Three Numbers

Given a list of integers `nums`, find the largest product of three distinct elements.

Constraints

$3 \leq n \leq 100,000$ where n is the length of `nums`

Example 1

Input

`nums = [5, 4, 1, 3, -2, -2]`

Output

60

Explanation

We can multiply $5 * 4 * 3$

Example 2

Input

`nums = [-3, 1, 1, 0]`

Output

0

Explanation

We can multiply $1 * 1 * 0$