# Reverse an Original Array - GFG P

## Reverse an Array

Difficulty: **Easy** Accuracy: **55.32%** Submissions: **25K+** Points: **2**

You are given an array of integers **arr** . Your task is to **reverse** the given arra

**Examples:**

**Input:** arr = [1, 2, 3, 4]
**Output:** [4, 3, 2, 1]
**Explanation:** The elements of the array are 1 2 3 4. After reversing
goes to the last position,
the second element goes to the second last position and so on. Hen

**Input**: arr = [1]
**Output:** [1]
**Explanation:** The array has only single element, hence the reversed a
original.

**Expected Time Complexity:** O(n)
**Expected Space Complexity:** O(1)

**Constraints:**
$1<=arr.size()<=10^5$
$0<=arr[i]<=10^5$

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# Array in Zig-Zag Fashion - GFG P

Given an array **arr** of distinct elements of size **n**, the task is to rea
array in a zig-zag fashion so that the converted array should be ir

**arr[0] < arr[1] > arr[2] < arr[3] > arr[4] < . . . . arr[n-2] < arr[n-1] >**

**NOTE:** If your transformation is correct, the output will be 1 else t

**Example 1:**

**Input:**
n = 7
arr[] = {4, 3, 7, 8, 6, 2, 1}
**Output:** 3 7 4 8 2 6 1
**Explanation:** 3 < 7 > 4 < 8 > 2 < 6 > 1

**Example 2:**

**Input:**
n = 4
arr[] = {1, 4, 3, 2}
**Output:** 1 4 2 3
**Explanation:** 1 < 4 > 2 < 3

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https://www.geeksforgeeks.org/problems/convert-array-into-zig-zag-fashion1638/1

# Leader Elements in an Array - GF

Given an array A of positive integers. Your task is to find the le
of array is a leader if it is greater than or equal to all the eleme
rightmost element is always a leader.

**Example 1:**

**Input:**
n = 6
A[] = {16,17,4,3,5,2}
**Output:** 17 5 2
**Explanation:** The first leader is 17
as it is greater than all the elements
to its right. Similarly, the next
leader is 5. The right most element
is always a leader so it is also
included.

https://www.geeksforgeeks.org/problems/leaders-in-an-array-1587115620/1

# 268. Missing Number

Easy | Topics | Companies

Given an array `nums` containing `n` distinct numbers in the range `[0,` *only number in the range that is missing from the array.*

**Example 1:**

> **Input:** `nums = [3,0,1]`
>
> **Output:** 2
>
> **Explanation:**
>
> `n = 3` since there are 3 numbers, so all numbers are in the range missing number in the range since it does not appear in `nums`.

**Example 2:**

> **Input:** `nums = [0,1]`
>
> **Output:** 2
>
> **Explanation:**
>
> `n = 2` since there are 2 numbers, so all numbers are in the range missing number in the range since it does not appear in `nums`.

https://leetcode.com/problems/missing-number/description/

# 66. Plus One

Easy | Topics | Companies

You are given a **large integer** represented as an integer array `di`
`digits[i]` is the `i^th` digit of the integer. The digits are ordered
to least significant in left-to-right order. The large integer does n
`0`'s.

Increment the large integer by one and return *the resulting array*

**Example 1:**

```
Input: digits = [1,2,3]
Output: [1,2,4]
Explanation: The array represents the integer 1
Incrementing by one gives 123 + 1 = 124.
Thus, the result should be [1,2,4].
```

https://leetcode.com/problems/plus-one/description/

# 136. Single Number

Easy | Topics | Companies | Hint

Given a **non-empty** array of integers `nums`, every element appears *twic* one. Find that single one.

You must implement a solution with a linear runtime complexity and use constant extra space.

**Example 1:**

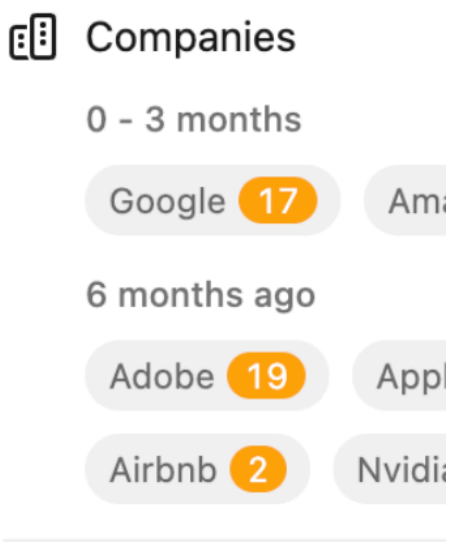
> **Input:** `nums = [2,2,1]`
>
> **Output:** 1

**Example 2:**

> **Input:** `nums = [4,1,2,1,2]`
>
> **Output:** 4

**Example 3:**

> **Input:** `nums = [1]`
>
> **Output:** 1




https://leetcode.com/problems/single-number/description/

# 189. Rotate Array

Medium | Topics | Companies | Hint

Given an integer array `nums`, rotate the array to the right by `k` ste
negative.

**Example 1:**

```
Input: nums = [1,2,3,4,5,6,7], k = 3
Output: [5,6,7,1,2,3,4]
Explanation:
rotate 1 steps to the right: [7,1,2,3,4,5,6]
rotate 2 steps to the right: [6,7,1,2,3,4,5]
rotate 3 steps to the right: [5,6,7,1,2,3,4]
```

**Example 2:**

```
Input: nums = [-1,-100,3,99], k = 2
Output: [3,99,-1,-100]
Explanation:
rotate 1 steps to the right: [99,-1,-100,3]
rotate 2 steps to the right: [3,99,-1,-100]
```

https://leetcode.com/problems/rotate-array/description/

# 15. 3Sum

Cat

Medium | Topics | Companies | Hint

Given an integer array nums, return all the triplets `[nums[i], nums[j], nums[k]]` that `i != j`, `i != k`, and `j != k`, and `nums[i] + nums[j] + nums[k] == 0`.

Notice that the solution set must not contain duplicate triplets.

**Example 1:**

```
Input: nums = [-1,0,1,2,-1,-4]
Output: [[-1,-1,2],[-1,0,1]]
Explanation:
nums[0] + nums[1] + nums[2] = (-1) + 0 + 1 = 0.
nums[1] + nums[2] + nums[4] = 0 + 1 + (-1) = 0.
nums[0] + nums[3] + nums[4] = (-1) + 2 + (-1) = 0.
The distinct triplets are [-1,0,1] and [-1,-1,2].
Notice that the order of the output and the order of the
triplets does not matter.
```

**Example 2:**

```
Input: nums = [0,1,1]
Output: []
Explanation: The only possible triplet does not sum up to 0.
```

**Example 3:**

```
Input: nums = [0,0,0]
Output: [[0,0,0]]
Explanation: The only possible triplet sums up to 0.
```

https://leetcode.com/problems/3sum/description/

# 16. 3Sum Closest

Cate

Medium | Topics | Companies

Given an integer array `nums` of length `n` and an integer `target`, fin
`nums` such that the sum is closest to `target`.

Return *the sum of the three integers*.

You may assume that each input would have exactly one solution.

**Example 1:**

```
Input: nums = [-1,2,1,-4], target = 1
Output: 2
Explanation: The sum that is closest to the targe
+ 1 = 2).
```

**Example 2:**

```
Input: nums = [0,0,0], target = 1
Output: 0
Explanation: The sum that is closest to the targe
+ 0 = 0).
```

https://leetcode.com/problems/3sum-closest/description/

# 18. 4Sum

Categ

Medium | Topics | Companies

Given an array `nums` of `n` integers, return *an array of all the **unique** quadruplets* `[nums[a], nums[b], nums[c], nums[d]]` such that:

- `0 <= a, b, c, d < n`
- `a`, `b`, `c`, and `d` are **distinct**.
- `nums[a] + nums[b] + nums[c] + nums[d] == target`

You may return the answer in **any order**.

**Example 1:**

```
Input: nums = [1,0,-1,0,-2,2], target = 0
Output: [[-2,-1,1,2],[-2,0,0,2],[-1,0,0,1]]
```

**Example 2:**

```
Input: nums = [2,2,2,2,2], target = 8
Output: [[2,2,2,2]]
```

**Constraints:**

- `1 <= nums.length <= 200`
- `-10^9 <= nums[i] <= 10^9`
- `-10^9 <= target <= 10^9`

https://leetcode.com/problems/4sum/description/