Easy Level Case Study Type Problems for Problem Solving

1. **Two Sum**

   - **Description:** Given an array of integers `nums` and an integer `target`, return indices of the two numbers such that they add up to `target`.
   - **Example:**

```
Input: nums = [2, 7, 11, 15], target = 9
Output: [0, 1]
Explanation: Because nums[0] + nums[1] == 9, we return [0,
1].
```

2. **Reverse a String**

   - **Description:** Write a function that reverses a string. The input string is given as an array of characters `s`.
   - **Example:**

```
Input: s = ["h","e","l","l","o"]
Output: ["o","l","l","e","h"]
```

3. **Maximum Subarray**

   - **Description:** Given an integer array `nums`, find the contiguous subarray (containing at least one number) which has the largest sum and return its sum.
   - **Example:**

```
Input: nums = [-2,1,-3,4,-1,2,1,-5,4]
Output: 6
Explanation: [4,-1,2,1] has the largest sum = 6.
```

4. **Merge Two Sorted Lists**

   - **Description:** Merge two sorted linked lists and return it as a new sorted list. The new list should be made by splicing together the nodes of the first two lists.
   - **Example:**

```
Input: l1 = [1,2,4], l2 = [1,3,4]
Output: [1,1,2,3,4,4]
```

5. **Contains Duplicate**

   - **Description:** Given an array of integers, find if the array contains any duplicates. Your function should return `true` if any value appears at least twice in the array, and it should return `false` if every element is distinct.
   - **Example:**

```
Input: nums = [1,2,3,1]
Output: true
```

6. **Move Zeroes**

- **Description:** Given an array `nums`, write a function to move all `0`s to the end of it while maintaining the relative order of the non-zero elements.
- **Example:**

```
Input: nums = [0,1,0,3,12]
Output: [1,3,12,0,0]
```

7. **Plus One**

- **Description:** Given a non-empty array of decimal digits representing a non-negative integer, increment one to the integer.
- **Example:**

```
Input: digits = [1,2,3]
Output: [1,2,4]
Explanation: The array represents the integer 123.
```

8. **Single Number**

- **Description:** Given a non-empty array of integers, every element appears twice except for one. Find that single one.
- **Example:**

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

9. **Intersection of Two Arrays II**

- **Description:** Given two arrays, write a function to compute their intersection.
- **Example:**

```
Input: nums1 = [1,2,2,1], nums2 = [2,2]
Output: [2,2]
```

10. **Valid Anagram**

- **Description:** Given two strings `s` and `t`, write a function to determine if `t` is an anagram of `s`.
- **Example:**

```
Input: s = "anagram", t = "nagaram"
Output: true
```