Python Development Internship Program
Task 2: Data Structures and Algorithms (DSA) in Python

Objective:

The goal of this task is to strengthen your problem-solving skills by working with fundamental data structures in Python: lists and dictionaries. You will practice manipulating data, performing operations, and implementing algorithms using these structures.

Instructions:

1. Solve the given DSA problems using Python.
2. Write clean and well-documented code, including comments explaining your logic.
3. Make use of efficient algorithms and practices to optimize performance.
4. Submit your solutions in a single Python file named `task2_dsa.py`.
5. Include a brief explanation of your approach at the top of each solution.

Problem 1: List Manipulation and Sorting

Problem Statement:
Given a list of integers, write a Python function that performs the following operations:

1. Remove all duplicate elements from the list.
2. Sort the list in ascending order.
3. Reverse the sorted list to obtain the list in descending order.
4. Return the final list.

Example:
Input: `[4, 2, 9, 4, 7, 2, 5]`
Output: `[9, 7, 5, 4, 2]`

Problem 2: Dictionary Key-Value Manipulation

Problem Statement:
Write a Python function that takes a dictionary as input and performs the following operations:

1. Swap keys and values to create a new dictionary.
2. If duplicate values are found, only keep the first occurrence of each value.

3. Return the newly created dictionary.

Example:
Input: `{'a': 1, 'b': 2, 'c': 1, 'd': 3}`
Output: `{1: 'a', 2: 'b', 3: 'd'}`

Submission Guidelines:

1. Ensure your code is well-formatted and follows Python best practices.
2. Add comments to explain your code wherever necessary.
3. Test your code with different input cases before submission.
4. Upload your `task2_dsa.py` file to the internship portal or submit via email as instructed.
