PACE UNIVERSITY SEIDENBERG SCHOOL OF CSIS

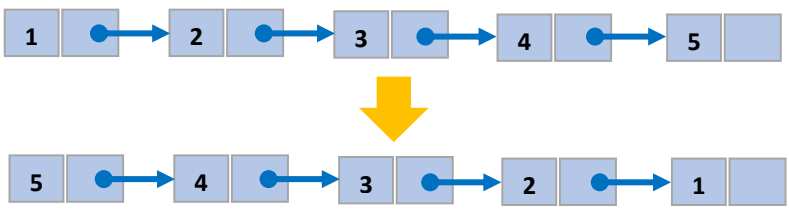
CS608-SPRING 2023: ALGORITHMS & COMPUTING THEORY

Assignment#2 - TOTAL POINTS: 100

DUE DATE: 03/12/2023 (March 12th)

Team Assignment

S.No.	Questions	Points	Self-Assessment
1	**Valid Parentheses:** Given a string **S** containing just the characters '(', ')', '{', '}', '[' and ']', determine if the input string is valid. An input string is valid if: 1. Open brackets must be closed by the same type of brackets. 2. Open brackets must be closed in the correct order. 3. Every close bracket has a corresponding open bracket of the same type. **Example 1:** **Input:** s = "()" **Output:** true **Example 2:** **Input:** s = "()[]{}" **Output:** true **Example 3:** **Input:** s = "(]" **Output:** false **Constraints:** • 1 <= S.length <= 20 • s consists of parentheses only '()[]{}'.	35	
2	**Remove Duplicates from Sorted Linked List:** Given the head of the sorted linked list, write a Python program to remove all the duplicates such that each unique element appears only once. The relative order of the elements should be kept the same. **Example:** **Input:** head = [1,1,1,2,2,3,3,4] **Output:** [1,2,3,4,_,_,_,_,_]	30	

3	**Reverse Linked List:** Given the head of a singly linked list, reverse the list, and return the reversed list. **Example:**  **Input**: head = [1,2,3,4,5] **Output**: [5,4,3,2,1]	**35**	

Submission

- Submit a python notebook(.ipynb) with comments above the code explaining its purpose.
- You may not be graded full points if your program doesn't execute or produce the intended results.
- Late submission of up to one week will incur a 10% loss of total points earned. 5% every week thereafter.
- Attach this file with self-assessment. This is for your reference if you have answered all the questions completely.

NOTE: Plagiarism will be checked and there will be a heavy penalty if found copied.
Participating Teams will attract negative points for sharing the work.