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LAB WORK 4

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Question 1. a. Write a function that finds the ordered union of two **linked lists**.

- First, two linked lists are defined.
- Then navigate the L1 and L2 lists simultaneously using the tmp1 and tmp2 pointers respectively.

  ✓ if the number in the first list is less than the number in the second list, the pointer of the first list is advanced and the number in the first list is added to the result list.

  ✓ if the number in the second list is less than the number in the first list, the pointer of the second list is advanced and the number in the second list is added to the result list.

  ✓ if both numbers are the same, a common element is found, the pointers of both lists are advanced, and this common element is added to the new result list.

Question 1. b. Write a function that finds the ordered union of two given **double linked list.**

- The first two double linked lists are defined.
- Then the elements in the A1 and A2 lists are checked in pairs and combined by making comparisons.
- Common element information and total size must be kept.

Question 1. c. Compare the use of double linked list and linked list structures in questions 1. a and 1. b.

Question 2. Write a function that checks whether a given linked list is **palindrome.**

- Check if a linked list is palindrome.

Hint: A palindrome number is a number or a string that is equivalent to the string or number after reversing the string/number. For example 12321, 565, 23432, 141, etc are the palindrome numbers. A palindrome can also be a string like MOM, MADAM, LOL, etc.

Question 3. Write a function that search in list to find spesific element in list. This function must include the **binary search method**.

Good Luck!