CS261: Exam 2

Problem 1: Add Queue – 50 points

Complete the C function for adding a new element to Queue, where Queue is implemented as a special case of Deque, and Deque is implemented as a doubly linked list. Input arguments of the function include the pointer to Queue, and a value of the new element. Your function should call the appropriate Add function for Deque implemented as a doubly linked list.

Problem 2: Flip Queue – 50 points

Complete the C function for reorganizing elements in Queue in the reverse order, such that the first element becomes the last, second one becomes the second to the last, etc. An input argument of the function is the pointer to Queue, and the function returns the pointer to the corresponding flipped Queue. An important condition is that after returning from the function no new memory is occupied (i.e., if your solution allocates memory for a new queue, then the old queue must be removed from memory).