

1. What are the advantages and disadvantages of using layering technique to define a Deque class on top of LInkedList class for the coder and the users?
2. What is the asymptotic time performance for each of the following deque operations?  
insertAtFront  
removeFromFront  
insertAtBack  
removeFromBack  
Assume you have a list iterator last implemented that points to the back of the deque.
3. Show the content of the deque, which is initially empty, after each of the following operations:  
insertAtFront(10)  
insertAtFront(5)  
insertAtFront(1)  
removeFromBack()  
insertAtBack(removeFromFront())
4. Write C++ program using the given Deque operations to merge two previously sorted deques into a single one. What is the time performance of your program?
5. We have discussed in class how to implement Queue class using a circular array. Explain how to implement Deque class using a circular array. In particular
  - 1) How do you initialize front and back?
  - 2) How do you move front and back in each of the four Deque insert and remove operations?
  - 3) How do you determine is a deque is empty?