

## List – Study Questions

- If a list has  $n$  elements, how many legal positions are there for inserting a new element? For removing an element?
- Given the drawing of a list and a code snippet, what does the list look like after executing the code? (think different possibilities, come up with the details of the question yourself)
- What are the advantages and disadvantages of lists over arrays?
- Consider the efficiency of locating the  $k^{\text{th}}$  element in a singly-linked list. How does that compare to locating the  $k^{\text{th}}$  element in a doubly-linked list? You may assume both lists have `first` and `last` pointers.
- How could you modify an Array implementation of the List ADT to accommodate varying sizes?
- Modify the insert method to include fewer “special cases” for empty lists.
- Design an application that maintains data for a simple social network. Each person in the network should have a profile that contains the person’s name, optional image, current status, and a list of friends. Your application should allow a user to join the network, leave the network, create a profile, modify the profile, search for other profiles and add friends.
- What is the benefit of having a tail pointer?