Model 1   Memory Diagrams

The following diagrams are based on the example code from **??**.

Array of ints:

nums | → | 74 | 11 | 21

ArrayList of Integers:

ArrayList object

data

nums

size   3

null null null null null null null

Integer object   Integer object   Integer object

value   74   value   11   value   21
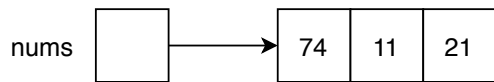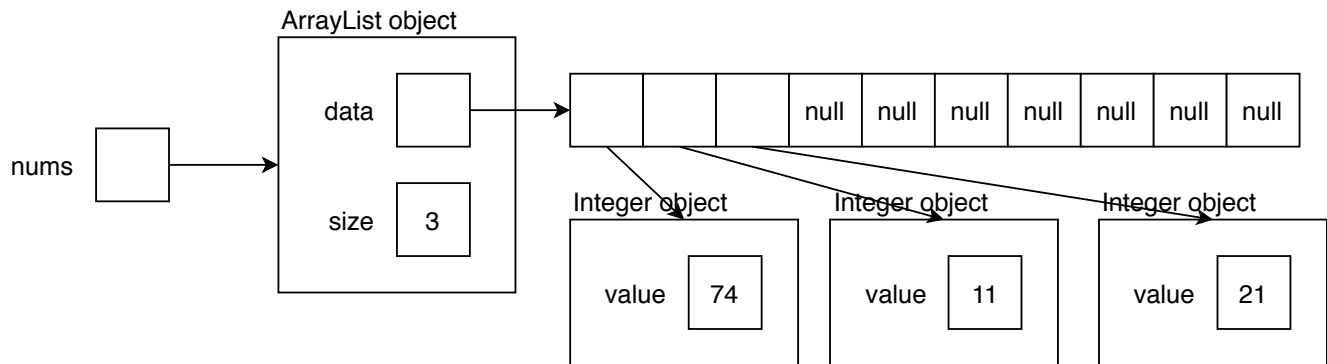
Questions (10 min)   Start time:

1. What is the `length` of the array inside of the ArrayList?

2. How are the contents of the `data` array different from the array of ints?

3. What happens when a fourth element is added to the ArrayList?

4. Explain how an ArrayList can "grow" when adding new elements.

5. Why do ArrayLists require so much more memory than arrays?