

## **Part03 - Write up**

### **Group 5**

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RALFulltester and RATEST12 are included as pdfs in the part 3 directory.

#### **4. Big O of Findfront() and FindEnd():**

When looking at the Big O of our programs, I think the findFront() method would have a time complexity of  $O(n)$  because it only uses a single loop, there aren't any nested loops. This stays true even if we're dealing with a RaggedArrayList where the size is based on the square root of  $n$ .

For findEnd(), since it includes a nested for loop, the time complexity would be  $O(n^2)$  in the worst case. This is because the outer loop goes through the first level arrays, while the inner loop goes through the second level arrays. So, even if the total number of elements equals the square root of  $n$ , the overall complexity would still be  $O(n^2)$ .

**Incomplete bugs: None**

**Known Parts : None**