

CS 314 FINAL REVIEW — MOST FREQUENT ELEMENT

Maps

Implement an instance method which, for a given list of elements returns the element which appears in the list the most frequently. This is also known as the *mode*. This method will be a part of the `List314` class, an array-based list similar to the one created in lecture. Return the element in the list which is present most often, if there is a tie, return the element which occurs first in the list. The list will not be altered as a result of this call.

Complete the following method.

```
// Returns the most frequent element in the list
// pre: list != null, list.size() > 0
// post: returns the most frequent element, list is unchanged
public E mostFrequent()
```

Here are some example calls to `mostFrequent()`:

```
["A", "A", "B", "A", "B"].mostFrequent() → "A"
["A", "B", "C", "A", "B", "A", "BB"].mostFrequent() → "A"
[1, 2, 3, 2, 1].mostFrequent() → 1
[3, 1, 4].mostFrequent() → 3
```

Your method will be in the following `List314` class:

```
public class List314<E>{
    private int size;
    private E[] con;
    // ...
}
```

You may create a `TreeMap` or `HashMap`.

Do not use any other Java classes or methods.

```
// Returns the most frequent element in the list
// pre: list != null, list.size() > 0
// post: returns the most frequent element, list is unchanged
public E mostFrequent() {
```