

Data Structures Quiz 4 (25 minutes)

Name: _____ NetID: _____

By participating in this quiz, you agree to adhere to the honor code.

Q1) Given a list of words named `list`, implement the constructor for the `WordAnalysisResult` class, `public WordAnalysisResult(List<String> list)`, which initializes three attributes:

- `List<String> uniques` - stores unique words from `list`,
- `List<Integer> counts` - stores the count of each unique word,
- `List<Integer> firstSeen` - stores the index of the first appearance of each unique word.

Assume access to a `Map` implementation named `FastMap`, with methods `V get(Object key)`, `V put(K key, V value)`, `V remove(Object key)`, and `boolean containsKey(Object key)`. When `key` is not found, `null` will be returned. Write authentic codes as you can.

Q2) (2 points) What is the time complexity of your method? Provide a brief explanation of your answer.