Gebze Technical University

Computer Engineering

CSE 222 - 2018 Spring

HOMEWORK X REPORT

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INTRODUCTION

Problem Definition

In this homework, we will implement two different HashMap classes to perform basic Natural Language Processing operations. we will read a text dataset consisting of multiple input files and

keep the words in the Word HashMap. The key for the word hashmap will be the words and the value will refer to another hashmap (file hashmap) which keeps the occurrences of the word in different files. The key for the file hashmap is the filename and the value is an arraylist containing the word positions in that file.

System Requirement

This program needs at least 400 kb memory.

It needs a data set files .

METHOD

Class Diagrams

Use Case Diagrams

There is three static test metods in public static void main metod.

In our hasmaps we will implement Inner Node classes one of them is ınner class of Word map that is

include a string data fielnd and Filmemaps data field.a nother Inner Node Class is Filemaps node class that include string data field and a list data field (I use linkedList).

Problem Solution Approach

We create class one of them NLP is read all of the data and set it our wordmap.

And 2 different hash map clases.

RESULT

Test Cases

I write test metods in every class to test them

Time Complexy of some of my classes

```
public boolean isEmpty() ================================>O(1)
public boolean containsKey(Object key) =====>O(1)(worstcase)O(n)
```

```
public boolean containsValue(Object value)===>O(n)
public File_Map get(Object key) {=====>O(1)(worstcase)O(n)
public Object put(Object key, Object value)===>O(1)(worstcase)O(n)
public void putAll(Map m) =====>O(n)
public void clear() {=====>O(1)
public Set keySet() {=====>O(1)
public Collection values() ===>O(n)


private void reHash(){==================>O(n)
private static int hash(String s){=====>O(n) n is size of string
```