GTU DEPARTMENT OF COMPUTER ENGINEERING

CSE-222 SPRING 2023 HOMEWORK REPORT

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Program have mainly 3 classes.

1) myMap class

First method except constructors is splitString. It checks Whether given string is null or empty. If it is not it converts all letters to lower case and it removes all characters except letters. Then according to spaces it split string to new string pieces and it add each splitted strings to new String array. For each element of string array buildMap method is called.

buildMap: It takes string as a parameter. It controls each char of string one by one. If char is already exist in map, It increases count of char. If it is not exist it adds to map with put method.

printMap: By using iterator, It prints map.

copyMap: It copies map according to given indexes by using iterator. And it returns copied map.

put method: It calls original LinkedHashMap.put method. And returns it.

clear: It removes all elements from map. It calls LinkedHashMap.clear.

(I need this get methods in merge operation to compare indexes)

getKey: It returns key(which is string) according to given index. If index does not match, it returns null.

getValue: It returns value(which is info object) according to given index. If index does not match, it returns null.

2) info Class

push: It add new element to ArrayList. And for each addition it increases counter.

getCount: It returns count of object.

getWords: It prints all elements of String array.

3)mergeSort Class

mergesort: Algorithm is same. Divide structure two pieces until there is one element and then merge them by sorting.

This is a recursive method. For each call it creates two new myMap object to copy two new pieces after divide. Then it calls merge method.

merge: In the beginning of method it clears map. Because put method add new element end of the map. It compares both right and left map's count values one by one by using get methods and it puts which is smaller.

If comparision is done it puts rest of maps elements one by one.

copyMap: It calls myMap.copyMap and returns it

printSorted: It calls myMap.printMap and it prints map