# Write a program to determine which words occur in the greatest number of files, and for each word, which files they occur in.

import edu.duke.\*;

import java.util.\*;

import java.io.\*;

public class WordsinFiles {

private HashMap<String, ArrayList<String>> map;

//private ArrayList<String> arraylist;

public WordsinFiles() {

map = new HashMap<String, ArrayList<String>>();

//arraylist = new ArrayList<String>();

}

private void addWordsFromFile(File f) {

FileResource fr = new FileResource(f.toString());

String name = f.getName();

//int sad=0;

for (String word: fr.words()) {

//if (word.equals("tree")) sad = 1;

if (!map.containsKey(word)) {

map.put(word, new ArrayList<String>());

map.get(word).add(name);

}

else if (map.containsKey(word)) {

if (!map.get(word).contains(name)) map.get(word).add(name);

}

}

//if (sad == 1) System.out.println(name);

}

private void buildWordFileMap() {

map.clear();

DirectoryResource dr = new DirectoryResource();

for (File f: dr.selectedFiles()) {

addWordsFromFile(f);

}

}

private int maxNumber() {

int current = 0;

int largest = 0;

for (String word: map.keySet()) {

current = map.get(word).size();

if (largest < current) largest = current;

}

return largest;

}

private ArrayList<String> wordsInNumFiles(int number) {

int current = 0;

ArrayList<String> list = new ArrayList<String>();

for (String word: map.keySet()) {

current = map.get(word).size();

if (current==number) list.add(word);

}

return list;

}

private void printFilesIn(String word) {

System.out.println("The files contain "+word+" are(is): \t");

ArrayList<String> list = new ArrayList<String>();

for (String current: map.keySet()) {

if (current==word) list = map.get(current);

}

for (int k = 0; k < list.size(); k++) {

System.out.println(list.get(k)+"\t");

}

}

public void test() {

buildWordFileMap();

int max = maxNumber();

ArrayList<String> list = wordsInNumFiles(max);

System.out.println("The greatest number of files a word appears in is "+max+", and there are "+list.size()+ " such words: ");

for (int k = 0; k < list.size(); k++) {

System.out.println(list.get(k)+" ");

}

System.out.println("\t");

for (int k = 0; k < list.size(); k++) {

printFilesIn(list.get(k));

}

}

}