import java.io.\*;

import java.util.ArrayList;

import java.util.HashMap;

import java.util.List;

public class wordsInFiles {

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

static String filename = "C:\\Users\\Karen Goh Seow Hui\\Documents\\Coursera-Java\\"

+ "ProgrammingImprovingGladLibsData\\";

public wordsInFiles(){

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

}

private void addWordsFromFile(File f){

FileResource resource = new FileResource(f.toString()); // note: need to put f.toString

String fileName = f.getName();

for(String w : resource.words()){

//resource.add(file.toLowerCase());

if(! wordsMap.containsKey(w)){

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

//NewWordFileList.add(fileName);

wordsMap.put(w, new ArrayList<String>());

if (wordsMap.containsKey(w) && ! wordsMap.containsKey(fileName)){

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

wordsMap.get(w).add(fileName);

//currentWordFile.add(fileName);

//wordsMap.put(w, NewWordFileList);

}

}}

}

public void buildWordFileMap(){

wordsMap.clear();

DirectoryResource resource = new DirectoryResource();

for(File filetoextract : resource.selectedFiles()){

addWordsFromFile(filetoextract);

}}

public int maxNumber(){

int maxNoOfFiles = 0;

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

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

int count = wordsMap.get(word).size(); // note how it is written

if (count > maxNoOfFiles){

count = maxNoOfFiles;

}

}

return maxNoOfFiles;

}

public ArrayList<String> wordsInNumFiles(int number){

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

for(String s : wordsMap.keySet()){

int count = wordsMap.get(s).size();

//int count = key.size();

if (count == number){

key.add(s);

}}

return key;

}

public void printFiles(String word){

for(String w : wordsMap.keySet()){

ArrayList<String>nameOfFiles = wordsMap.get(w);

if ( w == word){

for (int index = 0; index < nameOfFiles.size(); index++ ){

System.out.println(nameOfFiles.get(index));

}

}

}

}

public void test(){

buildWordFileMap();

int max = maxNumber();

ArrayList<String> list = wordsInNumFiles(max); // note: pay attention to this part

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++) {

printFiles(list.get(k));

}

}

public static void main(String[] args) {

// TODO Auto-generated method stub

wordsInFiles wf = new wordsInFiles();

wf.test();

}}