**SE实践5**

**内容**

在之前的实验内容有：

（1）单独运行yq.exe或者yq.java，给出缺省输入文件的输出；

（2）运行yq [指定输入文件] [指定输出文件]；（按要求排序）

（3）运行yq [指定输入文件][指定输出文件] [指定省份]；（按要求排序）

在此基础上将个人项目的三个的功能封装为独立模块，并设计单元测试。

**代码**

package city;

import java.io.\*;

import java.util.\*;

public class Test05 {

public void yq\_getprovince(String srcFile, String tarFile, String province){

Map<String,HashMap<String,Integer>> map = new HashMap<>();

String path = "F:\\"+srcFile;

//in 文件

try {

InputStreamReader fr = new InputStreamReader(new FileInputStream(path), "GBK");

BufferedReader br = new BufferedReader(fr);

String str;

path = "F:\\"+tarFile; //out 文件

OutputStream os = new FileOutputStream(path);

OutputStreamWriter ow = new OutputStreamWriter(os);

while ((str = br.readLine()) != null){

String[] data = str.split("\\s+");

if(!map.containsKey(data[0])) map.put(data[0],new HashMap<>());

map.get(data[0]).put(data[1],Integer.parseInt(data[2]));

}

int count = 0;

HashMap<String, Integer> citys = map.get(province);

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

count += citys.get(s);

}

ow.append(province+count+"\n\n");

List<Map.Entry<String,Integer>> list = new ArrayList<>(citys.entrySet());

Collections.sort(list, new Comparator<Map.Entry<String, Integer>>() {

@Override

public int compare(Map.Entry<String, Integer> o1, Map.Entry<String, Integer> o2) {

if(o1.getValue()!= o2.getValue()) return o2.getValue() - o1.getValue();

return o2.getKey().toCharArray()[0] - o1.getKey().toCharArray()[0];

}

});

for(Map.Entry<String,Integer> city:list){

ow.append(city.getKey()+" "+city.getValue()+"\n\n");

}

br.close();

fr.close();

ow.close();

os.close();

}catch (Exception e){

e.printStackTrace();

}

}

public void yq\_sort(String srcFile, String tarFile){

Map<String,HashMap<String,Integer>> map = new HashMap<>();

String path = "F:\\"+srcFile;

//in 文件

try {

InputStreamReader fr = new InputStreamReader(new FileInputStream(path), "GBK");

BufferedReader br = new BufferedReader(fr);

String str;

path = "F:\\"+tarFile; //out 文件

OutputStream os = new FileOutputStream(path);

OutputStreamWriter ow = new OutputStreamWriter(os);

while ((str = br.readLine()) != null){

String[] data = str.split("\\s+");

if(!map.containsKey(data[0])) map.put(data[0],new HashMap<>());

map.get(data[0]).put(data[1],Integer.parseInt(data[2]));

}

List<Map.Entry<String,HashMap<String,Integer>>> list = new ArrayList<>(map.entrySet());

Collections.sort(list, new Comparator<Map.Entry<String, HashMap<String, Integer>>>() {

@Override

public int compare(Map.Entry<String, HashMap<String, Integer>> o1, Map.Entry<String, HashMap<String, Integer>> o2) {

Collection<Integer> values1 = o1.getValue().values();

Collection<Integer> values2 = o2.getValue().values();

int count1 = 0,count2 = 0;

for(Integer value:values1){

count1 += value;

}

for(Integer value:values2){

count2 += value;

}

if(count1 != count2) return count2 - count1;

return o2.getKey().toCharArray()[0] - o1.getKey().toCharArray()[0];

}

});

int[] vs = new int[list.size()+1];

int i = 0;

for(Map.Entry<String,HashMap<String,Integer>> cityM:list) {

for(int value:cityM.getValue().values()){

vs[i] +=value;

}

i++;

}

i = 0;

for(Map.Entry<String,HashMap<String,Integer>> cityM:list){

ow.append(cityM.getKey() + " "+vs[i++]+"\n\n");

List<Map.Entry<String,Integer>> list1 = new ArrayList<>(cityM.getValue().entrySet());

Collections.sort(list1, new Comparator<Map.Entry<String, Integer>>() {

@Override

public int compare(Map.Entry<String, Integer> o1, Map.Entry<String, Integer> o2) {

if(o1.getValue()!= o2.getValue()) return o2.getValue() - o1.getValue();

return o2.getKey().toCharArray()[0] - o1.getKey().toCharArray()[0];

}

});

for(Map.Entry<String,Integer> city:list1){

ow.append(city.getKey()+" "+city.getValue()+"\n\n");

}

}

br.close();

fr.close();

ow.close();

os.close();

}catch (Exception e){

e.printStackTrace();

}

}

public void yq\_default(){

Map<String,HashMap<String,Integer>> map = new HashMap<>();

String path = "F:\\软件工程实验\\SE实践5\\yq\_in\_05.txt";

//in 文件

try {

InputStreamReader fr = new InputStreamReader(new FileInputStream(path), "GBK");

BufferedReader br = new BufferedReader(fr);

String str;

path = "F:\\软件工程实验\\SE实践5\\yq\_out\_05.txt"; //out 文件

OutputStream os = new FileOutputStream(path);

OutputStreamWriter ow = new OutputStreamWriter(os);

while ((str = br.readLine()) != null){

String[] data = str.split("\\s+");

if(!map.containsKey(data[0])) map.put(data[0],new HashMap<>());

map.get(data[0]).put(data[1],Integer.parseInt(data[2]));

}

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

HashMap<String, Integer> citys = map.get(province);

ow.append(province+"\n\n");

for(String key:citys.keySet()){

Integer count = citys.get(key);

ow.append(key+" "+count+"\n\n");

}

}

br.close();

fr.close();

ow.close();

os.close();

}catch (Exception e){

e.printStackTrace();

}

}

}