Assignment – 4 – Football Polling

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4 Classes

1. Voters.java
2. Polling.java
3. Media.java
4. FootballPolling.java -(main)
5. Voters.Java

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\*/

package footballpolling;

import java.io.IOException;

import java.nio.file.Files;

import java.nio.file.Paths;

import java.util.\*;

/\*\*

\*

\* @author kamakshi

\*/

public class Voters{

protected Hashtable<Integer, ArrayList<Integer>> polls = new Hashtable<Integer, ArrayList<Integer>>();

protected Hashtable<Integer, String> Teams = new Hashtable<Integer, String>();

List<Integer> votes= new ArrayList<Integer>();

public Voters(){

List<Integer> nums= new ArrayList<Integer>() ;

String randomstring;

int randomint;

Random r =new Random();

//array for number of teams to be given random numbers

for (int i = 0; i < 25; ++i)

{

nums.add(i+1);

}

try

{

//reading the team.txt

List<String> line = Files.readAllLines(Paths.get("/Users/kamakshi/Desktop/FootballPolling/src/footballpolling/teams.txt"));

for(int j=0;j<25;j++)

{

int k=r.nextInt(line.size());

int l=r.nextInt(nums.size());

randomstring=line.get(k);

randomint=nums.get(l);

Teams.put(randomint, randomstring);

line.remove(k);

nums.remove(l);

}

//voting of 100 persons for 25 teams

for(int i =1;i<=100;i++){

int j = r.nextInt(25)+1;

teams(i,j);

}

for (int i=1;i<=25;i++)

{

if(!polls.containsKey(i)) {

polls.put(i, (ArrayList<Integer>) votes);

}

}

}

catch (IOException e) {e.printStackTrace();}

}

public void teams(int i, int j) {

List<Integer> votes= new ArrayList<Integer>();

if(!polls.containsKey(j) )

{

votes.add(i);

polls.put(j, (ArrayList<Integer>) votes);

}

else if(polls.containsKey(j))

{

votes.add(i);

polls.get(j).add(i);

}

else {return;}

}

}

1. Polling.java

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\*/

package footballpolling;

import java.util.ArrayList;

import java.util.Hashtable;

import java.util.\*;

/\*\*

\*

\* @author kamakshi

\*/

public class Polling extends Voters {

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

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

Hashtable<String,ArrayList<Integer>> APpoll = new Hashtable<String,ArrayList<Integer>>();

Hashtable<String,ArrayList<Integer>> USApoll = new Hashtable<String,ArrayList<Integer>>();

String key;

int APsum=0;

int USAsum=0;

List<Integer> value= new ArrayList<Integer>();

public Polling(){

for(int i =1;i<=25;i++)

{

Random p =new Random();

int randomint;

List<Integer> Ranks= new ArrayList<Integer>();

key=Teams.get(i);

value=polls.get(i);

//getting ranks from each voter who voted for each team

if(value.size()>0){

for(int a : value)

{

if(a<=40)

{

randomint=p.nextInt(25)+1;

AP(key,randomint);

USA(key,26);

}

else if(a>60)

{

randomint=p.nextInt(25)+1;

USA(key,randomint);

AP(key,26);

}

else if(a>40 && a<=60)

{

randomint=p.nextInt(25)+1;

AP(key,randomint);

USA(key,randomint);

}

}

}

else

{

AP(key,26);

USA(key,26);

}

}

//Finding sum of the ranks

APSum();

USASum();

}

//Get ranks for each votes in AP poll

public void AP(String s,int m)

{

List<Integer> ranks= new ArrayList<Integer>();

if(!APpoll.containsKey(s))

{

ranks.add(m);

APpoll.put(s, (ArrayList<Integer>) ranks);

}

else

{

ranks.add(m);

APpoll.get(s).add(m);

}

}

//Get ranks for each votes in USA poll

public void USA(String s,int m)

{

List<Integer> ranks= new ArrayList<Integer>();

if(!USApoll.containsKey(s))

{

ranks.add(m);

USApoll.put(s, (ArrayList<Integer>) ranks);

}

else

{

ranks.add(m);

USApoll.get(s).add(m);

}

}

public void APSum()

{

for(String s:APpoll.keySet())

{

int sum=0;

value=APpoll.get(s);

if(value!=null){

for(int o:value)

{

sum+=26-o;

}

}

APsums.put(s, sum);

}

}

public void USASum()

{

for(String s:USApoll.keySet())

{

int sum=0;

value=USApoll.get(s);

if(value!=null){

for(int o:value)

{

sum+=26-o;

}

}

USAsums.put(s, sum);

}

}

}

1. Media.java

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\*/

package footballpolling;

import java.io.IOException;

import java.util.\*;

import java.util.Map.\*;

/\*\*

\*

\* @author kamakshi

\*/

public class Media extends Polling {

List<Entry<String,Integer>> USA= new ArrayList<Entry<String,Integer>>();

List<Entry<String,Integer>> AP= new ArrayList<Entry<String,Integer>>();

public Media()

{

USA=Sorted(USAsums);

AP=Sorted(APsums);

//printing for media with both polls

System.out.printf("%-10s%-50s%-30s%n", " ","LA Times", "ESPN");

System.out.printf("%-20s%-30s%-20s%-25s%n","AP","USAToday","AP","USAToday" );

int d=0,e=0;

while(d<USA.size() && e<AP.size())

{

System.out.printf("%-20s%-30s%-20s%-25s%n",(e+1)+"."+AP.get(e).getKey(), (d+1)+"."+USA.get(d).getKey(), (e+1)+"."+AP.get(e).getKey(), (d+1)+"."+USA.get(d).getKey());

d++;

e++;

}

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

System.out.printf("%-10s%-50s%-30s%n", " ","Washington Post", "Sports Weekly");

System.out.printf("%-20s%-30s%-20s%-25s%n","AP","USAToday","AP","USAToday" );

d=0;

e=0;

while(d<USA.size() && e<AP.size())

{

System.out.printf("%-20s%-30s%-20s%-25s%n",(e+1)+"."+AP.get(e).getKey(), (d+1)+"."+USA.get(d).getKey(), (e+1)+"."+AP.get(e).getKey(), (d+1)+"."+USA.get(d).getKey());

d++;

e++;

}

}

//Sorting the Usasums and APsums

public List<Entry<String,Integer>> Sorted(Map<String,Integer> loan)

{

List<Entry<String,Integer>> sortedEntries = new ArrayList<Entry<String,Integer>>(loan.entrySet());

Collections.sort(sortedEntries,

new Comparator<Entry<String,Integer>>() {

@Override

public int compare(Entry<String,Integer> e1, Entry<String,Integer> e2) {

return e2.getValue().compareTo(e1.getValue());

}

}

);

return sortedEntries;

}

}

1. FootballPolling.java

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\*/

package footballpolling;

/\*\*

\*

\* @author kamakshi

\*/

public class FootballPolling {

/\*\*

\* @param args the command line arguments

\*/

public static void main(String[] args) {

// TODO code application logic here

Media med= new Media();

}

}

The output of the above program is different on every run. The latest output is as following :

run:

LA Times ESPN

AP USAToday AP USAToday

1.Miami 1.Minnesota 1.Miami 1.Minnesota

2.Colorado 2.FSU 2.Colorado 2.FSU

3.Missouri 3.Nebraska 3.Missouri 3.Nebraska

4.Auburn 4.Michigan 4.Auburn 4.Michigan

5.Michigan 5.LSU 5.Michigan 5.LSU

6.Virginia 6.Mississippi 6.Virginia 6.Mississippi

7.Iowa 7.Washington 7.Iowa 7.Washington

8.Indiana 8.Colorado 8.Indiana 8.Colorado

9.Oklahoma 9.Auburn 9.Oklahoma 9.Auburn

10.MSU 10.UCLA 10.MSU 10.UCLA

11.Utah 11.Virginia 11.Utah 11.Virginia

12.LSU 12.Miami 12.LSU 12.Miami

13.FSU 13.Missouri 13.FSU 13.Missouri

14.Georgia 14.Indiana 14.Georgia 14.Indiana

15.Nebraska 15.Iowa 15.Nebraska 15.Iowa

16.Washington 16.MSU 16.Washington 16.MSU

17.OhioSt 17.Arkansas 17.OhioSt 17.Arkansas

18.Florida 18.Florida 18.Florida 18.Florida

19.Minnesota 19.USM 19.Minnesota 19.USM

20.USC 20.USC 20.USC 20.USC

21.Arkansas 21.OhioSt 21.Arkansas 21.OhioSt

22.UCLA 22.Oklahoma 22.UCLA 22.Oklahoma

23.USM 23.Utah 23.USM 23.Utah

24.Mississippi 24.Texas 24.Mississippi 24.Texas

25.Texas 25.Georgia 25.Texas 25.Georgia

Washington Post Sports Weekly

AP USAToday AP USAToday

1.Miami 1.Minnesota 1.Miami 1.Minnesota

2.Colorado 2.FSU 2.Colorado 2.FSU

3.Missouri 3.Nebraska 3.Missouri 3.Nebraska

4.Auburn 4.Michigan 4.Auburn 4.Michigan

5.Michigan 5.LSU 5.Michigan 5.LSU

6.Virginia 6.Mississippi 6.Virginia 6.Mississippi

7.Iowa 7.Washington 7.Iowa 7.Washington

8.Indiana 8.Colorado 8.Indiana 8.Colorado

9.Oklahoma 9.Auburn 9.Oklahoma 9.Auburn

10.MSU 10.UCLA 10.MSU 10.UCLA

11.Utah 11.Virginia 11.Utah 11.Virginia

12.LSU 12.Miami 12.LSU 12.Miami

13.FSU 13.Missouri 13.FSU 13.Missouri

14.Georgia 14.Indiana 14.Georgia 14.Indiana

15.Nebraska 15.Iowa 15.Nebraska 15.Iowa

16.Washington 16.MSU 16.Washington 16.MSU

17.OhioSt 17.Arkansas 17.OhioSt 17.Arkansas

18.Florida 18.Florida 18.Florida 18.Florida

19.Minnesota 19.USM 19.Minnesota 19.USM

20.USC 20.USC 20.USC 20.USC

21.Arkansas 21.OhioSt 21.Arkansas 21.OhioSt

22.UCLA 22.Oklahoma 22.UCLA 22.Oklahoma

23.USM 23.Utah 23.USM 23.Utah

24.Mississippi 24.Texas 24.Mississippi 24.Texas

25.Texas 25.Georgia 25.Texas 25.Georgia

BUILD SUCCESSFUL (total time: 0 seconds)