30-05-2021

**ASSIGNMENT -1**

**1)Student Marks**

**CODE:**

**package** com.vm.training.assignment30;

**import** java.util.ArrayList;

**import** java.util.Collections;

**import** java.util.Comparator;

**import** java.util.Iterator;

**import** java.util.Scanner;

**import** java.io.\*;

**public** **class** StudentMarks

{

**static** **void** highestmark (ArrayList<Integer> al)

{

**int** maximum=1;

**for** (Integer integer : al) {

**if**(maximum<integer)

{

maximum=integer;

}

}

System.***out***.println(maximum);

}

**static** **void** avgOfMarks(ArrayList<Integer> al,**int** n)

{

**int** avg=0;

**for** (Integer integer : al) {

avg+=integer;

}

**int** sum=avg/n;

System.***out***.println(sum);

}

**static** **void** sortOfList(ArrayList<Integer> al,**int** n)

{

**int** count=0;

**for** (Integer integer : al) {

count++;

**if**(count==n)

{

System.***out***.println(integer);

}

}

}

**static** **void** sortOfArray(ArrayList<Integer> al)

{

Collections.*sort*(al);

Iterator itr=al.iterator();

**while**(itr.hasNext())

{

System.***out***.println(itr.next());

}

}

**public** **static** **void** main(String[] args)

{

ArrayList<Integer> al=**new** ArrayList<Integer>();

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter the number of students :");

**int** n=sc.nextInt();

**for**(**int** i=1;i<=n;i++)

{

**int** marks;

System.***out***.println("Enter the marks of "+i+"st"+" "+"Student :");

marks=sc.nextInt();

al.add(marks);

}

System.***out***.println("Highest mark :");

*highestmark*(al);

System.***out***.println("Average marks of students :");

*avgOfMarks*(al,n);

System.***out***.println("Emter the Student id to get Marks :");

**int** m=sc.nextInt();

*sortOfList*(al,m);

System.***out***.println("Sorted Students list :");

*sortOfArray*(al);

}

}

2) **Cricket Score Analyzer**

**Code:**

**package** com.vm.training.assignment30;

**import** java.util.Collections;

**import** java.util.Iterator;

**import** java.util.LinkedList;

**public** **class** CricketScoreAnalyzer

{

**private** LinkedList<Integer> runsData=**new** LinkedList<Integer>();

**public** CricketScoreAnalyzer( LinkedList<Integer> runData) {

**super**();

**this**.runsData = runData;

}

**public** CricketScoreAnalyzer() {

**super**();

}

**public** LinkedList<Integer> getRunData() {

**return** runsData;

}

**public** **void** setRunData(LinkedList<Integer> runData) {

**this**.runsData = runData;

}

**void** addRunsToList(**int** runs)

{

runsData.add(runs);

}

**double** calcRunRate()

{

**double** run=0;

Iterator<Integer> iterator=runsData.iterator();

**while**(iterator.hasNext())

{

run=run+iterator.next();

}

**return** (run/50);

}

**int** lowestRunsScored()

{

**return** Collections.*min*(runsData);

}

**void** displayRuns()

{

**for**(Integer s: runsData)

{

System.***out***.print(s+" ");

}

}

**int** CountPlayers()

{

**return** runsData.size();

}

}

**Test CricketScoreAnalyzer:**

**Code:**

**package** com.vm.training.assignment30;

**import** java.util.Scanner;

**public** **class** TestCricketScoreAnalyzer

{

**public** **static** **void** main(String[] args)

{

CricketScoreAnalyzer score=**new** CricketScoreAnalyzer();

System.***out***.println("Enter runs: ");

**boolean** repeat=**true**;

Scanner sc=**new** Scanner(System.***in***);

**while**(**true**)

{

**int** n=sc.nextInt();

**if**(n==-1)

{

**break**;

}

score.addRunsToList(n);

}

System.***out***.print("Runs Scored : ");

score.displayRuns();

System.***out***.println();

System.***out***.println("Run rate :"+score.calcRunRate());

System.***out***.println("Lowest runs scored :"+score.lowestRunsScored());

System.***out***.println("Total no of players :"+score.CountPlayers());

}

}

**3**) **ScoreCard**

**Code:**

**package** com.vm.training.assignment30;

**public** **class** ScoreCard {

String name;

**int** score;

**public** ScoreCard(String name, **int** score) {

**super**();

**this**.name = name;

**this**.score = score;

}

**public** ScoreCard() {

**super**();

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **int** getScore() {

**return** score;

}

**public** **void** setScore(**int** score) {

**this**.score = score;

}

}

**Test ScoreCard:**

**package** com.vm.training.assignment30;

**import** java.util.\*;

**import** java.util.Map.Entry;

**public** **class** TestScoreCard {

**static** **void** dipalyPlayersname(HashMap<String,Integer> hm)

{

**for** (String iterable\_element : hm.keySet())

{

System.***out***.println(iterable\_element);

}

}

**static** **void** scoreByplayers(HashMap<String,Integer> hm)

{

System.***out***.println(hm);

}

**static** **void** totalScore(HashMap<String,Integer> hm)

{

**int** sum=0;

**for**(Integer i:hm.values())

{

sum=sum+i;

}

System.***out***.println(sum);

}

**static** **void** printNameByHighScore(HashMap<String,Integer> hm)

{

Map.Entry<String, Integer> withMax=**null**;

**for**(Entry<String, Integer> i:hm.entrySet())

{

**if**(withMax==**null**||i.getValue().compareTo(withMax.getValue())>0)

{

withMax=i;

}

}

System.***out***.println(withMax);

}

**public** **static** **void** main(String[] args)

{

// **TODO** Auto-generated method stub

HashMap<String ,Integer> hm=**new** HashMap<String, Integer>();

hm.put("Dinesh Karthik" , 20);

hm.put("Rohit Sharma", 30);

hm.put( "Kohli", 150 );

hm.put("Hardik Pandya", 187);

hm.put("Shikhar Dhawan", 10);

System.***out***.println("Players Name :");

*dipalyPlayersname*(hm);

System.***out***.println("players Score :");

*scoreByplayers*(hm);

System.***out***.println("Total Score :");

*totalScore*(hm);

System.***out***.println("Player name by high score :");

*printNameByHighScore*(hm);

}}

4) **Patient List**

**Code:**

**package** com.vm.training.assignment30;

**public** **class** PatientList

{

**int** patient\_id;

String patient\_name;

**int** patient\_age;

**public** PatientList(**int** patient\_id, String patient\_name, **int** patient\_age) {

**super**();

**this**.patient\_id = patient\_id;

**this**.patient\_name = patient\_name;

**this**.patient\_age = patient\_age;

}

**public** **int** getPatient\_id() {

**return** patient\_id;

}

**public** **void** setPatient\_id(**int** patient\_id) {

**this**.patient\_id = patient\_id;

}

**public** String getPatient\_name() {

**return** patient\_name;

}

**public** **void** setPatient\_name(String patient\_name) {

**this**.patient\_name = patient\_name;

}

**public** **int** getPatient\_age() {

**return** patient\_age;

}

**public** **void** setPatient\_age(**int** patient\_age) {

**this**.patient\_age = patient\_age;

}

@Override

**public** String toString() {

**return** "Patient [patient\_id=" + patient\_id + ", patient\_name=" + patient\_name + ", patient\_age=" + patient\_age

+ "]";

}

}

**SortPatientId:**

package com.vm.training.assignment30;

import java.util.ArrayList;

import java.util.Arrays;

import java.util.Collections;

import java.util.Comparator;

import java.util.HashSet;

import java.util.Iterator;

import java.util.Set;

import java.util.TreeSet;

import java.util.stream.Collectors;

class sortPatientId implements Comparator<PatientList>

{

@Override

public int compare(PatientList o1, PatientList o2) {

// TODO Auto-generated method stub

if(o1.getPatient\_id()==o2.getPatient\_id())

return 0;

else if(o1.getPatient\_id()>o2.getPatient\_id())

return 1;

else

return -1;

}

}

**Sort PatientName:**

**package** com.vm.training.assignment30;

**import** java.util.Comparator;

**class** sortPatientName **implements** Comparator<PatientList>

{

**public** **int** compare(PatientList o1, PatientList o2) {

// **TODO** Auto-generated method stub

**return** o1.getPatient\_name().compareTo(o2.getPatient\_name());

}

}

**Test PatientList:**

**package** com.vm.training.assignment30;

**import** java.util.ArrayList;

**import** java.util.Collections;

**import** java.util.Comparator;

**import** java.util.HashSet;

**import** java.util.Iterator;

**import** java.util.Set;

**public** **class** TestPatientList {

**static** **void** display(Set<PatientList> ts1)

{

Iterator<PatientList> itr1=ts1.iterator();

**while**(itr1.hasNext())

{

System.***out***.println(itr1.next());

}

}

**static** **void** getPatientAge(Set<PatientList> ts1)

{

**for** (PatientList p : ts1) {

System.***out***.println(p.getPatient\_name()+"="+p.getPatient\_age());

}

}

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

ArrayList<PatientList> al=**new** ArrayList<PatientList>();

al.add(**new** PatientList(1,"Ravi", 45));

al.add(**new** PatientList(2,"Raju", 35));

al.add(**new** PatientList(3,"Rani", 60));

System.***out***.println("Patients List :");

System.***out***.println(al);

System.***out***.println("Sort by Patient Id :");

Collections.*sort*(al,**new** sortPatientId());

**for** (PatientList p: al) {

System.***out***.println(p);

}

System.***out***.println("Sort by Patient Name :");

Collections.*sort*(al,**new** sortPatientName());

Iterator<PatientList> itr=al.iterator();

**while**(itr.hasNext())

{

System.***out***.println(itr.next());

}

System.***out***.println("Storing the Patient's list data to set : ");

Set<PatientList> ts1=**new** HashSet<PatientList>(al);

*display*(ts1);

System.***out***.println("Print patientName : patientAge :");

*getPatientAge*(ts1);

}

}

**5**) **States**

**Code:**

**package** com.vm.training.assignment30;

**import** java.io.BufferedReader;

**import** java.io.BufferedWriter;

**import** java.io.File;

**import** java.io.FileNotFoundException;

**import** java.io.FileReader;

**import** java.io.IOException;

**import** java.util.Collections;

**import** java.util.LinkedHashSet;

**import** java.util.Set;

**import** java.util.TreeSet;

**public** **class** StatesFile

{

**static** **void** deleteTheSpecificElement(Set<String> lhs)

{

String s="Andhra Pradesh";

lhs.remove(s);

**for** (String string : lhs) {

System.***out***.println(string);

}

}

**static** **void** displayTheStateNameStartWithK(Set<String> lhs)

{

**for**(String s:lhs)

{

**if**(s.startsWith("K"))

{

System.***out***.println(s);

}

}

}

**static** **void** sortTheList(Set<String> lhs)

{

TreeSet<String> ts=**new** TreeSet<String>(lhs);

System.***out***.println(ts);

}

**public** **static** **void** main(String[] args) **throws** IOException

{

FileReader fr=**new** FileReader("States.txt");

BufferedReader br=**new** BufferedReader(fr);

Set<String> lhs=**new** LinkedHashSet<String>();

String readlines=br.readLine();

**while**(readlines!=**null**)

{

lhs.add(readlines);

readlines=br.readLine();

}

System.***out***.println(" Data in Linked HashSet ");

**int** count=0;

**for** (String s : lhs)

{

//System.out.println(s);

count++;

}

System.***out***.println("States Present in the List :");

System.***out***.println(count);

System.***out***.println("Remove Telangana fro the list :");

*deleteTheSpecificElement*(lhs);

System.***out***.println("print the state name starting with 'k' :");

*displayTheStateNameStartWithK*(lhs);

System.***out***.println("print the list in sorted order :");

*sortTheList*(lhs);

}

}