Data.txt

Maria 21 2.1

Jeffery 20 2.0

Douglas 22 3.1

Matthew 16 3.2

Kim 19 1.9

Monique 24 2.4

PERSON:

import java.util.\*;

import java.io.\*;

public class PERSON {

private String name;

private int age;

private float gpa;

PERSON(String n, int a, float g)

{ name = n; age = a; gpa = g;}

public String getName() {return name;}

public int getAge() {return age;}

public float getGpa() {return gpa;}

}

Project5:

import java.io.BufferedReader;

import java.io.FileReader;

public class Project5 {

public static void main(String[] args){

PERSON[] a = new PERSON[6];

double ageAve, gpaAve;

try {

copyData("data.txt", a);

} catch (Exception e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

display(a);

ageAve = computeAgeAverage(a);

gpaAve = computeGpaAverage(a);

display(ageAve, gpaAve);

display(a,gpaAve);

}

public static void copyData(String fName, PERSON[] a) throws Exception{

BufferedReader in = new BufferedReader(new FileReader(fName));

String line;

int i = 0;

while((line = in.readLine()) != null){

String token[] = line.split("\t",3);

a[i] = new PERSON(token[0], Integer.parseInt(token[1]), Float.parseFloat(token[2]));

i++;

};

in.close();

}

public static void display(PERSON[] a){

System.out.println("Teenage Students");

for(int i = 0; i<a.length; i++){

if(a[i].getAge() >=13 && a[i].getAge() <= 19){

System.out.printf("%-10s %2d %2.1f %n",a[i].getName(),a[i].getAge(),a[i].getGpa());

}

}

}

public static double computeAgeAverage(PERSON[] a){

double ageSum=0.0;

for(int i = 0; i<a.length; i++){

ageSum += a[i].getAge();

}

return ageSum/a.length;

}

public static double computeGpaAverage(PERSON[] a){

double gpaSum = 0.0;

for(int i = 0; i<a.length; i++){

gpaSum += a[i].getGpa();

}

return gpaSum/a.length;

}

public static void display(double ageAve, double gpaAve){

System.out.printf("Average age is %2.1f, and average gpa is %2.1f %n", ageAve, gpaAve);

}

public static void display(PERSON[] a, double gpaAve){

System.out.printf("Student whose gpa is above the average gpa %2.1f %n" , gpaAve);

for(int i = 0; i<a.length; i++){

if(a[i].getGpa() >= gpaAve){

System.out.printf("%-10s %2d %2.1f %n",a[i].getName(),a[i].getAge(),a[i].getGpa());

}

}

}

}

output:

Teenage Students

Matthew 16 3.2

Kim 19 1.9

Average age is 20.3, and average gpa is 2.45

Student whose gpa is above the average gpa 2.45

Douglas 22 3.1

Matthew 16 3.2