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Lab 9

11/11/14

Task 1

/\*Created by: Nathan Gaffney  
6/NOV/2014  
Week 10 Lab  
\*/  
import java.util.Scanner;  
public class Average  
{  
 private int[] data;  
 private double mean;  
   
 public Average()  
 {  
 data = new int[5];  
 Scanner keyboard = new Scanner(System.in);  
 for (int i=0; i<data.length;i++)  
 {  
 System.out.print("Enter score #" + (i+1)+": " );  
 data[i] = keyboard.nextInt();  
 }  
 selectionSort(data);  
 calcMean();  
 }  
 public void calcMean()  
 {  
 double total =0;  
 for (int i=0; i<data.length;i++)  
 {  
 total += data[i];  
 }  
 mean = (total/5);  
 }  
 public String toString()  
 {  
 String string="";  
 for (int i=0; i<data.length;i++)  
 {  
 string += (data[i] +"\n");  
 }  
 return string += mean;  
 }  
 public void selectionSort(int[] array)  
 {  
 int startScan, index, minIndex, minValue;  
  
 for (startScan = 0; startScan < (array.length-1); startScan++)  
 {  
 minIndex = startScan;  
 minValue = array[startScan];  
 for(index = startScan + 1; index < array.length; index++)  
 {  
 if (array[index] < minValue)  
 {  
 minValue = array[index];  
 minIndex = index;  
 }  
 }  
 array[minIndex] = array[startScan];  
 array[startScan] = minValue;  
 }  
 }  
}

Task 2

public class AverageDriver  
{  
 public static void main(String[] arg)  
 {  
 Average avg = new Average();  
 System.out.print(avg.toString());  
 }  
}

ÏÏ«Ï ----jGRASP exec: java AverageDriver  
ÏÏ§Ï  
¼¼§ÏEnter score #1: 1  
¼¼§ÏEnter score #2: 5  
¼¼§ÏEnter score #3: 4  
¼¼§ÏEnter score #4: 2  
¼¼§ÏEnter score #5: 3  
ÏÏ§Ï1  
ÏÏ§Ï2  
ÏÏ§Ï3  
ÏÏ§Ï4  
ÏÏ§Ï5  
ÏÏ§Ï3.0  
ÏÏ©Ï ----jGRASP: operation complete.

Task 3.

/\*\*This program creates a list of songs for a CD by reading from a file\*/  
import java.io.\*;  
  
public class CompactDisc  
{  
 public static void main(String [] args) throws IOException  
 {  
 FileReader file = new FileReader("Classics.txt");  
 BufferedReader input = new BufferedReader(file);  
 String title;  
 String artist;  
 Song[] cd = new Song[6];   
 //Declare an array of songs, called cd, of size 6  
   
 for (int i = 0; i < cd.length; i++)  
 {  
 title = input.readLine();  
 artist = input.readLine();   
 // fill the array by creating a new song with   
 // the title and artist and storing it in the   
 // appropriate position in the array  
 cd[i] = new Song(title, artist);  
 }  
   
 System.out.println("Contents of Classics:");  
 for (int i = 0; i < cd.length; i++)  
 {  
 //print the contents of the array to the console  
 System.out.print(cd[i].toString());  
 }  
 }  
}

/\*This program represents a song\*/  
public class Song  
{  
 /\*\*The title of the song\*/  
 private String title;  
 /\*\*The artist who sings the song\*/  
 private String artist;  
  
 /\*\*constructor  
 @param title The title of the song  
 @param artist The artist who sings the song  
 \*/  
 public Song(String title, String artist)  
 {  
 this.title = title;  
 this.artist = artist;  
 }  
  
 /\*\*toString method returns a description of the song  
 @return a String containing the name of the song and the artist  
 \*/  
 public String toString()  
 {  
 return title + " by " + artist + "\n";  
 }  
}

Ode to Joy  
Bach  
The Sleeping Beauty  
Tchaikovsky  
Lullaby  
Brahms  
Canon  
Bach  
Symphony No. 5  
Beethoven  
The Blue Danube Waltz  
Strauss

«Ï ----jGRASP exec: java CompactDisc  
ÏÏ§Ï  
ÏÏ§ÏContents of Classics:  
ÏÏ§ÏOde to Joy by Bach  
ÏÏ§ÏThe Sleeping Beauty by Tchaikovsky  
ÏÏ§ÏLullaby by Brahms  
ÏÏ§ÏCanon by Bach  
ÏÏ§ÏSymphony No. 5 by Beethoven  
ÏÏ§ÏThe Blue Danube Waltz by Strauss  
ÏÏ§Ï  
ÏÏ©Ï ----jGRASP: operation complete.