**Assignment No:-71**

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Batch: - Delta - DCA (Java) 2024 Date:-5/9/2024

Question 1:

Write a Java program to create a file named students.txt and add the following data:

101, John, 85

102, Alice, 92

103, Bob, 78

104, Diana, 88

After writing the data to the file, read the contents and perform the following operations:

Find and print the name of the student with the highest score.

Calculate and print the average score of all students.

à

**package** FileHanling;

**import** java.io.File;

**import** java.io.FileWriter;

**import** java.io.IOException;

**import** java.util.Scanner;

**public** **class** Ex1 {

/\*

\* Question 1:

Write a Java program to create a file named students.txt and add the following data:

101, John, 85

102, Alice, 92

103, Bob, 78

104, Diana, 88

After writing the data to the file, read the contents and perform the following operations:

Find and print the name of the student with the highest score.

Calculate and print the average score of all students.

\*/

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

FileWriter f=**new** FileWriter("D:\student.txt");

f.write("jonh, 85\n");

f.write("kiran, 98\n");

f.write("harsh, 99\n");

f.write("gana, 77\n");

f.close();

File f1=**new** File("D:\student.txt");

Scanner sc=**new** Scanner(f1);

**int** highestScore=0;

String storeName="";

**int** Allavg=0;

**int** total=0;

**int** cnt=0;

**while**(sc.hasNextLine())

{

String line=sc.nextLine();

String name[]=line.split(", ");

String save=name[0];

**int** score=Integer.*parseInt*(name[1]);

cnt++;

total+=score;

**if**(score>highestScore)

{

highestScore=score;

storeName=save;

}

}

sc.close();

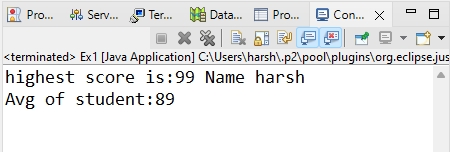
System.***out***.println("highest score is:"+highestScore+" Name "+storeName);

System.***out***.println("Avg of student:"+(total/cnt));

}

}

Output:



Question 2:

Create a file named products.txt and add the following data:

P01, Laptop, 1200

P02, Smartphone, 800

P03, Tablet, 500

P04, Monitor, 300

Write a Java program that reads the data from the file and performs the following operations:

Identify and print the most expensive product.

Calculate and print the total cost of all products.

à

**package** FileHanling;

**import** java.io.File;

**import** java.io.FileWriter;

**import** java.io.IOException;

**import** java.util.Scanner;

**public** **class** Ex2 {

/\*

\* Question 2:

Create a file named products.txt and add the following data:

P01, Laptop, 1200

P02, Smartphone, 800

P03, Tablet, 500

P04, Monitor, 300

Write a Java program that reads the data from the file and performs the following operations:

Identify and print the most expensive product.

Calculate and print the total cost of all products.

\*/

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

FileWriter f=**new** FileWriter("D:\\backup\\product.txt");

f.write("P01, Laptop, 1200\n");

f.write("P02, smartphone, 800\n");

f.write("P03, Tablet, 500\n");

f.write("P04, monitor, 300\n");

f.close();

File f1=**new** File("D:\\backup\\product.txt");

Scanner sc=**new** Scanner(f1);

**int** sumval=0;

**int** totalval=0;

String saveProduct="";

**int** cost=0;

**while**(sc.hasNextLine())

{

String line=sc.nextLine();

String[]s=line.split(", ");

String pro=s[0]+s[1];

**int** val=Integer.*parseInt*(s[2]);

sumval+=val;

cost+=val;

**if**(val>totalval)

{

totalval=val;

saveProduct=pro;

}

}

sc.close();

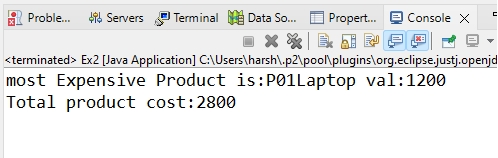
System.***out***.println("most Expensive Product is:"+saveProduct+" val:"+totalval);

System.***out***.println("Total product cost:"+cost);

}

}

Output:



Question 3:

Write a Java program to create a file named cities.txt with the following data:

New York, 8419600

Los Angeles, 3980400

Chicago, 2716000

Houston, 2328000

After writing the data to the file, read it and perform the following operations:

Determine and print the city with the highest population.

Calculate and print the total population of all cities combined.

à

**package FileHandling; // Make sure this matches your directory structure**

**import java.io.File;**

**import java.io.FileWriter;**

**import java.io.IOException;**

**import java.util.Scanner;**

**public class Ex3 {**

**/\***

**\* Question 3:**

**\* Write a Java program to create a file named cities.txt with the following data:**

**\***

**\* New York, 8419600**

**\* Los Angeles, 3980400**

**\* Chicago, 2716000**

**\* Houston, 2328000**

**\***

**\* After writing the data to the file, read it and perform the following operations:**

**\* Determine and print the city with the highest population.**

**\* Calculate and print the total population of all cities combined.**

**\*/**

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

**// Define file path**

**String filePath = "D:\\backup\\Cities.txt";**

**// Write data to the file**

**try (FileWriter writer = new FileWriter(filePath)) {**

**writer.write("New York, 8419600\n");**

**writer.write("Los Angeles, 3980400\n");**

**writer.write("Chicago, 2716000\n");**

**writer.write("Houston, 2328000\n");**

**} catch (IOException e) {**

**e.printStackTrace();**

**return;**

**}**

**// Read data from the file and perform calculations**

**try (Scanner scanner = new Scanner(new File(filePath))) {**

**String cityWithHighestPopulation = "";**

**long highestPopulation = 0;**

**int totalPopulation = 0;**

**while (scanner.hasNextLine()) {**

**String line = scanner.nextLine();**

**String[] parts = line.split(", ");**

**// Check if we have the right format**

**if (parts.length != 2) {**

**System.err.println("Unexpected line format: " + line);**

**continue;**

**}**

**String city = parts[0];**

**long population;**

**try {**

**population = Long.parseLong(parts[1]);**

**} catch (NumberFormatException e) {**

**System.err.println("Invalid number format: " + parts[1]);**

**continue;**

**}**

**// Calculate total population**

**totalPopulation += population;**

**// Determine the city with the highest population**

**if (population > highestPopulation) {**

**highestPopulation = population;**

**cityWithHighestPopulation = city;**

**}**

**}**

**// Print the results**

**System.out.println("The city with the highest population is: " + cityWithHighestPopulation + " with a population of: " + highestPopulation);**

**System.out.println("Total population of all cities combined: " + totalPopulation);**

**} catch (IOException e) {**

**e.printStackTrace();**

**}**

**}**

**}output:**

**The city with the highest population is: New York with a population of: 8419600**

**Total population of all cities combined: 17444000**

Question 4:

Create a file named employees.txt and add the following data:

E001, John, 45000

E002, Alice, 55000

E003, Bob, 60000

E004, Diana, 52000

Write a Java program that reads the file and performs the following operations:

Identify and print the employee with the highest salary.

Calculate and print the total salary paid to all employees.

à

**package** FileHanling;

**import** java.io.File;

**import** java.io.FileWriter;

**import** java.io.IOException;

**import** java.util.Scanner;

**public** **class** ex4 {

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

FileWriter f = **new** FileWriter("D:\\backup\\emp.txt");

f.write("E001, John, 45000\n");

f.write("E002, Alice, 55000\n");

f.write("E003, Bob, 60000\n");

f.write("E004, Diana, 52000\n");

f.close();

File f1 = **new** File("D:\\backup\\emp.txt");

Scanner sc = **new** Scanner(f1);

**int** maxSalary = 0;

String employeeWithMaxSalary = "";

**int** totalSalary = 0;

**while** (sc.hasNextLine()) {

String line = sc.nextLine();

String[] parts = line.split(", ");

String empId = parts[0];

String empName = parts[1];

**int** salary = Integer.*parseInt*(parts[2]);

**if** (salary > maxSalary) {

maxSalary = salary;

employeeWithMaxSalary = empName;

}

}

sc.close();

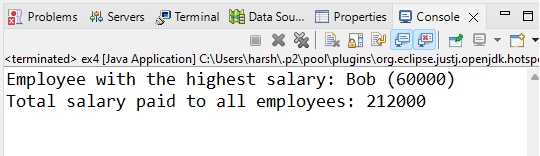
System.***out***.println("Employee with the highest salary: " + employeeWithMaxSalary + " (" + maxSalary + ")");

System.***out***.println("Total salary paid to all employees: " + totalSalary);

}

}

Output:



Question 5:

Write a Java program to create a file named expenses.txt and add the following data:

Rent, 1200

Groceries, 300

Utilities, 150

Transportation, 100

After writing the data to the file, read it and perform the following operations:

Calculate and print the total monthly expenses.

Identify and print the category with the highest expense.

à

**package** FileHanling;

**import** java.io.File;

**import** java.io.FileWriter;

**import** java.io.IOException;

**import** java.util.Scanner;

**public** **class** Ex5 {

/\*

\* Write a Java program to create a file named expenses.txt and add the following data:

Rent, 1200

Groceries, 300

Utilities, 150

Transportation, 100

After writing the data to the file, read it and perform the following operations:

Calculate and print the total monthly expenses.

Identify and print the category with the highest expense.

\*/

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

FileWriter f=**new** FileWriter("D:\\backup\\expenses.txt");

f.write("Rent, 1200\n");

f.write("Groceries, 300\n");

f.write("Utilities, 150\n");

f.write("Transportation, 100\n");

f.close();

File f1=**new** File("D:\\backup\\expenses.txt");

Scanner sc=**new** Scanner(f1);

**int** total=0;

String visible="";

**int** sum=0;

**while**(sc.hasNext())

{

String l=sc.nextLine();

String s[]=l.split(", ");

String expense=s[0];

**int** exp=Integer.*parseInt*(s[1]);

total+=exp;

sum+=exp;

**if**(exp>total)

{

total=exp;

visible=expense;

}

}

sc.close();

System.***out***.println("Total monthly Expenses:"+sum);

System.***out***.println("Category with high Expense:"+visible+" High:"+total);

}

}

Output:

