**CS1073**

**FR03B**

**Assignment #2**

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**Question I:**

/\*\*

This class represents a salesperson.

@author Daniyal Khan 3765942

\*/

public class Salesperson {

/\*\*

The name of the salesperson.

\*/

private String name;

/\*\*

The hourly wage of the salesperson.

\*/

private double hourlyWage;

/\*\*

The rate of commission of the salesperson (as a decimal).

\*/

private double commissionRate;

/\*\*

Hours the salesperson has worked since their last pay.

\*/

private int numHours;

/\*\*

Total value of sales the salesperson has made since their last pay.

\*/

private int salesValue;

/\*\*

This method constructs a salesperson with a specific hourly wage and rate of commission.

The hours worked and sales made are initially zero.

@param nameIn The name of the salesperson.

@param wageIn The hourly wage of the salesperson.

@param commissionIn The commission of the salesperson (as a decimal).

\*/

public Salesperson(String nameIn, double wageIn, double commissionIn) {

name = nameIn;

hourlyWage = wageIn;

commissionRate = commissionIn;

numHours = 0;

salesValue = 0;

}

/\*\*

This method retrieves the name of the salesperson.

@return The salesperson's name.

\*/

public String getName() {

return name;

}

/\*\*

This method retrieves the hourly wage of the salesperson.

@return The salesperson hourly wage.

\*/

public double getWage() {

return hourlyWage;

}

/\*\*

This method retrieves the commission rate of the salesperson.

@return The salesperson commission rate.

\*/

public double getCommission() {

return commissionRate;

}

/\*\*

This method retrieves the hours the salesperson has worked.

@return The salesperson's hours since their last pay.

\*/

public int getHours() {

return numHours;

}

/\*\*

This method retrieves the sales the salesperson has made.

@return The salesperson's sales since their last pay.

\*/

public int getSales() {

return salesValue;

}

/\*\*

This method calculates the pay of the salesperson.

The sales and hours are reset to zero.

@return The salesperson's pay.

\*/

public double calcPay() {

double bonus = commissionRate \* salesValue;

double pay = hourlyWage \* numHours;

salesValue = 0;

numHours = 0;

return pay + bonus;

}

/\*\*

This method increases the salesperson's hours.

@param hoursWorked Amount of hours worked.

\*/

public void incHours(int hoursWorked) {

numHours = numHours + hoursWorked;

}

/\*\*

This method increases the salesperson's sales.

@param salesMade Amount of sales made.

\*/

public void incSales(int salesMade) {

salesValue = salesValue + salesMade;

}

} //end Salesperson

**Driver Class:**

/\*\*

@author Daniyal Khan 3765942

\*/

public class SalespersonDriver {

public static void main(String[] args) {

Salesperson person1 = new Salesperson("Luffy", 19.80, 2.4);

Salesperson person2 = new Salesperson("Zoro", 16.50, 1.6);

// adding the number of hours each person worked

person1.incHours(40);

person2.incHours(35);

// the number of sales each person made

person1.incSales(3);

person2.incSales(5);

// hours worked by each person

System.out.println("Hours Worked by " + person1.getName() + ": " + person1.getHours());

System.out.println("Hours Worked by " + person2.getName() + ": " + person2.getHours());

// sales made by each person

System.out.println("Sales made by " + person1.getName() + ": " + person1.getSales());

System.out.println("Sales made by " + person2.getName() + ": " + person2.getSales());

// pay of each person

System.out.println("Pay of " + person1.getName() + ": " + person1.calcPay());

System.out.println("Pay of " + person2.getName() + ": " + person2.calcPay());

System.out.println();

// test to see if the values have been reset to zero

System.out.println("Hours Worked by " + person1.getName() + ": " + person1.getHours());

System.out.println("Hours Worked by " + person2.getName() + ": " + person2.getHours());

System.out.println("Sales made by " + person1.getName() + ": " + person1.getSales());

System.out.println("Sales made by " + person2.getName() + ": " + person2.getSales());

}

}

**Output:**

Hours Worked by Luffy: 40

Hours Worked by Zoro: 35

Sales made by Luffy: 3

Sales made by Zoro: 5

Pay of Luffy: 799.2

Pay of Zoro: 585.5

Hours Worked by Luffy: 0

Hours Worked by Zoro: 0

Sales made by Luffy: 0

Sales made by Zoro: 0

**Question II:**

/\*\*

This class is for a resort that offers several activities to their guests, each for a fee

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\*/

public class ActivityTab {

/\*\*

Name of the guest.

\*/

private String guest;

/\*\*

Room Number of the guest.

\*/

private int roomNum;

/\*\*

Tracks the owing amount of the guest.

\*/

private double owedAmount;

/\*\*

Constructs a ActivityTab object given the guest's name and the room number.

@param guestIn name of the guest

@param roomNumIn room number of the guest

\*/

public ActivityTab(String guestIn, int roomNumIn) {

guest = guestIn;

roomNum = roomNumIn;

owedAmount = 0.0;

}

/\*\*

Returns the guest name.

@return name of the guest

\*/

public String getName() {

return guest;

}

/\*\*

Returns the guest's room number.

@return room number of the guest

\*/

public int getRoomNumber() {

return roomNum;

}

/\*\*

Returns the amount which the guest owes.

@return amount owed by the guest

\*/

public double getOwedAmount() {

return owedAmount;

}

/\*\*

Updates the cost of activity done by the guest as their owed amount.

@param activityCost cost of activity done by the guest

\*/

public void addActivityPrice(double activityCost) {

owedAmount += activityCost;

}

/\*\*

Returns the tip amount after taking in tip percentage from the guest.

@param tipPercent tip percentage from the guest

@return amount of tip

\*/

public double getTipAmount(int tipPercent) {

double tip = tipPercent \* 0.01;

return owedAmount \* tip;

}

}

**Driver Class:**

/\*\*

This is a driver class for ActivityTab

@author Daniyal Khan 3765942

\*/

public class ComputerScienceRetreat{

public static void main(String[] args) {

ActivityTab anniesTab = new ActivityTab("Annie Easley", 73);

anniesTab.addActivityPrice(4.50);

ActivityTab alansTab = new ActivityTab("Alans Turing", 342);

alansTab.addActivityPrice(9.75);

ActivityTab clarencesTab = new ActivityTab("Clarence Ellis", 214);

clarencesTab.addActivityPrice(6.00);

clarencesTab.addActivityPrice(8.75);

ActivityTab gracesTab = new ActivityTab("Grace Hopper", 742);

gracesTab.addActivityPrice(9.75);

gracesTab.addActivityPrice(11.25);

clarencesTab.addActivityPrice(11.25);

alansTab.addActivityPrice(12.75);

anniesTab.addActivityPrice(7.80);

System.out.println("Guest's Name: " + anniesTab.getName() + "\nRoom Number: " + anniesTab.getRoomNumber()+ "\nAmount Owed: " + anniesTab.getOwedAmount());

System.out.println();

System.out.println("Guest's Name: " + alansTab.getName() + "\nRoom Number: " + alansTab.getRoomNumber()+ "\nAmount Owed: " + alansTab.getOwedAmount());

System.out.println();

System.out.println("Guest's Name: " + clarencesTab.getName() + "\nRoom Number: " + clarencesTab.getRoomNumber()+ "\nAmount Owed: " + clarencesTab.getOwedAmount());

System.out.println();

System.out.println("Guest's Name: " + gracesTab.getName() + "\nRoom Number: " + gracesTab.getRoomNumber()+ "\nAmount Owed: " + gracesTab.getOwedAmount());

System.out.println();

System.out.println(anniesTab.getName() + " Tip: " + anniesTab.getTipAmount(20));

System.out.println(alansTab.getName() + " Tip: " + alansTab.getTipAmount(20));

System.out.println(clarencesTab.getName() + " Tip: " + clarencesTab.getTipAmount(18));

System.out.println(gracesTab.getName() + " Tip: " + gracesTab.getTipAmount(15));

}

}

**Output:**

Guest's Name: Annie Easley

Room Number: 73

Amount Owed: 12.3

Guest's Name: Alans Turing

Room Number: 342

Amount Owed: 22.5

Guest's Name: Clarence Ellis

Room Number: 214

Amount Owed: 26.0

Guest's Name: Grace Hopper

Room Number: 742

Amount Owed: 21.0

Annie Easley Tip: 2.4600000000000004

Alans Turing Tip: 4.5

Clarence Ellis Tip: 4.68

Grace Hopper Tip: 3.15