Payroll :

Write an employee payroll program that uses polymorphism to calculate and print the weekly payroll for your company. There are three types of employees ─ hourly, salaried, and salaried plus commission. Each type of employee gets paid using a different formula. But for all employee types, if the calculated paycheck exceeds $1000, the actual paycheck must be decreased to $1000.

Use this class hierarchy:



Employee class:

Instance variables:

name

social security number

birthday month

birthday week.

load method :

Prompts the user for instance-variable values and loads the entries.

toString method:

Returns a string that shows the employee’s name, social security number, and paycheck.. Use the String.format method (See Java API documentation to help you format the string as shown in the sample session’s paycheck report.) Here’s an example from the sample session:

employee: Biff Sanchez

social security number: 111-11-1111

paycheck: $800.00

getBonus method:

Generates a $100 employee birthday bonus. Compare the employee’s birthday with the current date found on your computer system. Use the Calendar class to generate the current date. (See the Java API documentation.) If the employee’s birthday month and birthday week match your computer system’s current month and current week, then increment the employee’s paycheck by $100. The birthdayMonth holds the month (1─12) in which the employee was born. The birthdayWeek holds the week (1─4) that the employee chooses to get paid his/her bonus.

Hourly class:

Instance variables:

hourly pay

hours worked during the past week

load method:

Prompts the user for instance-variable values and loads the entries.

Include a getEarnings method that calculates earnings for an hourly employee. Hourly employees are paid by the hour. If they work more than 40 hours in a week, then they receive overtime pay for their overtime work. Overtime pay equals one and a half times their normal hourly pay.

Salaried class:

Instance variables:

weekly salary

load method:

Prompts the user for instance-variable values and loads the entries.

Include a getEarnings method that calculates earnings for a salaried employee. Salaried employees are paid their fixed weekly salary regardless of the number of hours they work.

SalariedPlusCommission class:

Instance variables:

sales during the past week

commission rate

load method:

Prompts the user for instance-variable values and loads the entries.

Include a getEarnings method that calculates earnings for a SalariedPlusCommission employee. SalariedPlusCommission employees are paid a base salary plus a percentage of their sales. “Percentage of their sales” equates to the product of their sales times their commission rate.

Use initially declared named constants instead of hardcoded “magic numbers” embedded in the program. In the Employee class, include a getEarnings method that is abstract.

Use the public access modifier for the toString method in the Employee class and the load method in the Employee, Hourly, Salaried, and SalariedPlusCommission classes.

Provide a driver that generates the following queries and outputs.

Sample session (assuming current month = 10 and current week = 2):

Number of employees: *3*

PROFILE FOR EMPLOYEE #1:

type Hourly(1), Salaried(2), Salaried plus Commission(3)

Enter 1, 2, or 3 ==> *1*

Name ==> *Biff Sanchez*

Social security number ==> *111-11-1111*

Birthday month (1-12) ==> *2*

Birthday bonus week (1-4) ==> *3*

Hourly pay ==> *20*

Hours worked this past week ==> *30*

PROFILE FOR EMPLOYEE #2:

type Hourly(1), Salaried(2), Salaried plus Commission(3)

Enter 1, 2, or 3 ==> *2*

Name ==> *Dirk Jones*

Social security number ==> *222-22-2222*

Birthday month (1-12) ==> *10*

Birthday bonus week (1-4) ==> *2*

Salary ==> *700*

PROFILE FOR EMPLOYEE #3:

type Hourly(1), Salaried(2), Salaried plus Commission(3)

Enter 1, 2, or 3 ==> *3*

Name ==> *Suzie Que*

Social security number ==> *333-33-3333*

Birthday month (1-12) ==> *7*

Birthday bonus week (1-4) ==> *3*

Salary ==> *400*

Sales for this past week ==> *2000*

Sales commission rate (fraction paid to employee) ==> *.25*

PAYCHECK REPORT:

employee: Biff Sanchez

social security number: 111-11-1111

paycheck: $600.00

employee: Dirk Jones

social security number: 222-22-2222

paycheck: $800.00

employee: Suzie Que

social security number: 333-33-3333

paycheck: $900.00