

Lab: Inheritance

Background

A company has three employee categories: salaried, wage and part-time. All employees have an employee ID number, name and SIN. Salaried employees have ID numbers starting with 0–4, whereas wage employee's IDs start with 5–7 and part-time employee's IDs start with 8–9. All employees are paid weekly and payment for each employee category is calculated as follows:

- Salaried employees are paid a set salary each week.
- Wage employees' pay is calculated using **hourly rate** * **work hours** with overtime paid at time and a half for any hours worked over 40 in one week.
- Part-time employees' pay is calculated based on hourly rate * work hours with no overtime paid.

Instructions

- 1. Create the classes as shown in the diagram on the following page.
- 2. Place the employees.txt data file in the res folder.
- 3. Create an inheritance tree whereby Salaried, PartTime and Wages inherit from Employee.
- 4. Create an application with the following methods:
 - a. Fill a list with objects based on the supplied data file.
 - b. Calculate and return the average weekly pay for all employees.
 - c. Calculate and return the highest weekly pay for the wage employees, including the name of the employee.
 - d. Calculate and return the lowest salary for the salaried employees, including the name of the employee.
 - e. What percentage of the company's employees fall into each employee category?



Employee -id:String -name:String -address:String +Employee() +Employee(id:String, name:String, address:String, phone:String, sin:long, dob:String, dept:String) Getters Setters +toString():String

Salaried

-salary:double

+Salaried()

+Salaried(

id:String,

name:String,

address:String,

phone:String,

sin:long,

dob:String,

dept:String,

salary:double)

Getters

Setters

+getPay():double

+toString():void

PartTime

-rate:double

+PartTime()

+PartTime(

id:String,

name:String,

address:String,

phone:String,

sin:long,

dob:String,

dept:String,

rate:double,

hours:double)

Getters

Setters

stitute

+getPay():double

+toString():void

Wages

-rate:double

+Wages()

+Wages (

id:String,

name:String,

address:String,

phone:String,

sin:long,

dob:String,

dept:String,

rate:double,

hours:double)

Getters

Setters

+getPay():double

+toString():void