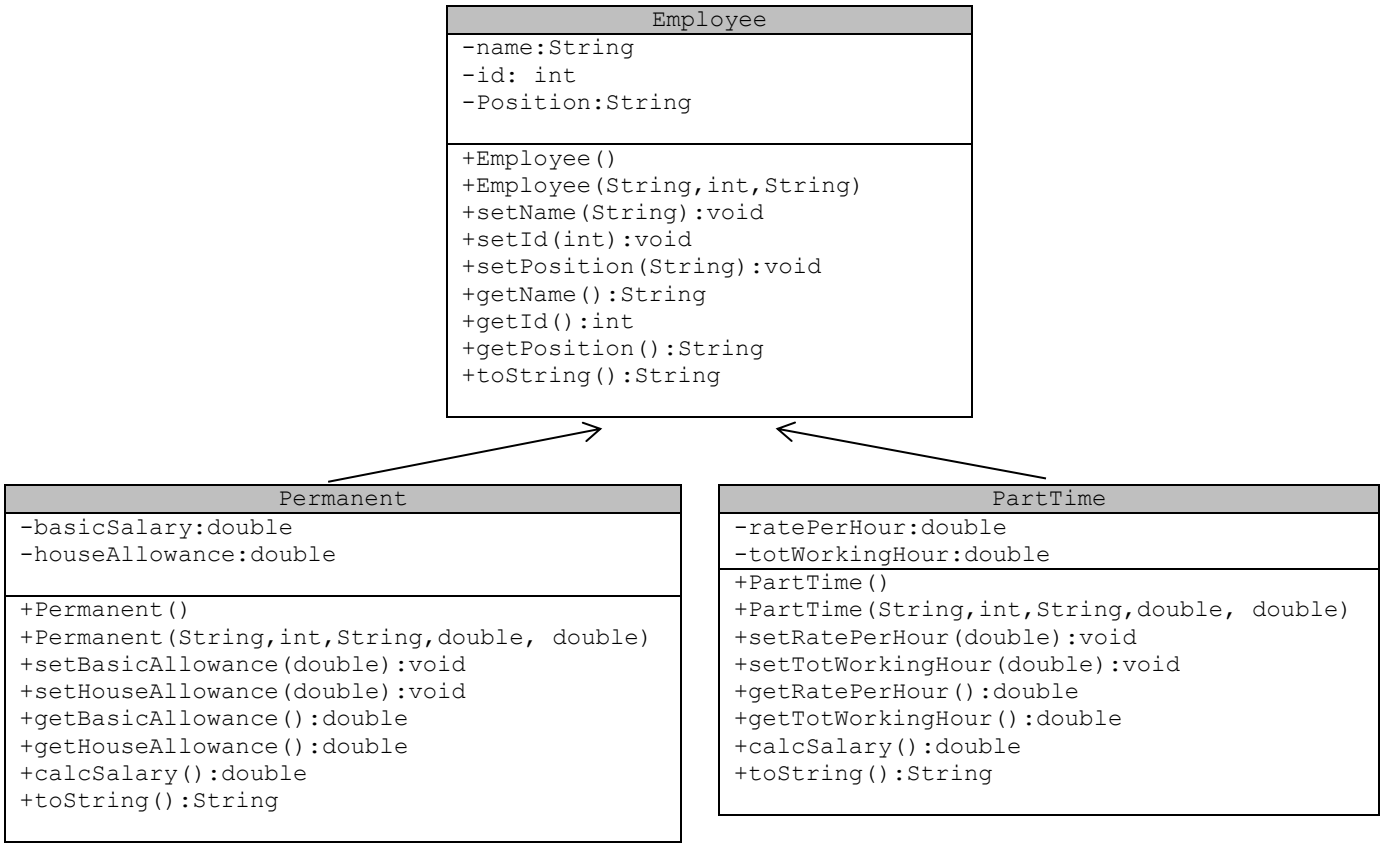
CSC238 – Object Oriented Programming
Academic Session Sep 2019 – Jan 2020
Lab Assignment 4 – Inheritance

Course Outcomes (CO)	LO1	LO2	LO3
CO1			
CO2	√	√	√
CO3			

4.1 Given the following inheritance hierarchy:



Write a Java application to do the following tasks:

- Ask the user to enter number of employees in the company.
- Input the appropriate data for each employee. Use array of objects to store the details of the employees.
- Print a slip for each employee that shows the details of the employee including the payment.

- For processor (method `calcSalary()`):

  Permanent worker : The salary is given based on the following formula:

  Salary = basic salary + house allowance – epf – income tax

  Note: epf – 11% from the basic salary,
  income tax – 7% from the basic salary

  Part time: The salary is given based on the following formula:

  *Salary = rate per hour * total working hour*

At the end of the process, print a report that shows the following information:

```
No. of permanent employees: ??
No. of part-time employees: ??
Total payment for permanent employees (RM): ??
Total payment for part-time employees (RM): ??
Total payment for all employees (RM): ??
```

4.2 Given the following superclass named `Food` and subclass named `WesternFood`.

Super Class	:	`Food`

Attributes	:	`String name; // customer's name`
		`int quantityOfOrder; //quantity order made`
		`boolean member; //true – if member, otherwise`
		`//false`

Methods	:	Constructor, mutator, retriever, printer

Sub Class	:	`WesternFood`

Attributes	:	`int foodSet; //1- lamb chop, 2- chicken`
		`//chop, 3 – fish and chip`
		
		`boolean desert; //true – if wants banana`
		`//pie, otherwise false`

Methods	:	Constructor, mutator, retriever, processor, printer

a) Complete the above classes by considering the following methods:

   i. Write the normal constructor methods.

   ii. Write the mutator methods for each attribute.

iii. The accessor methods for each attribute

iv. Write the printer method.

v. Write the processor methods named `Payment()` which calculate and return the amount to be paid by the customers based on the following table:

Set	Set Description	Amount (RM)
1	Lamb Chop	30.00
2	Chicken Chop	20.00
3	Fish and Chip	15.00

The customers need to pay extra RM 10.90 if they want the set that comes with dessert. Besides, 10% of discount will be given to the members.

b) Write a Java application which uses the concept of inheritance to:

i. Store data into an array of objects. The number of data to be stored and information on each of the customers is given by the user.

ii. Display the details of customer's information, including the payment.

iii. Count and display the number of customers who make a desert order.

iv. Calculate and display the total amount from the member's customers.

v. Calculate and display the total amount of charges for all customers.

vi. Display the details of customer's information who make an order the Lamb Chop set.

4.3 By referring to the **Final Examination Paper CSC238 (Jun 2019), PART B, QUESTION 6**. Write a complete Java program.