**First Part 1**

**Output Screen Shot:**



**Program Code – Java file**

**Main.java**

/\*

Java class with two subclasses

We would take Employee as parent class

Subclasses are:

1. FullTimeEmployee

2. HourlyEmployee

\*/

abstract class Employee {

// Required attributes

protected String name;

protected int age;

protected String address;

protected String phone;

// Constructor

public Employee(String name, int age, String address, String phone) {

this.name = name;

this.age = age;

this.address = address;

this.phone = phone;

}

// Setters & Getters

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public int getAge() {

return age;

}

public void setAge(int age) {

this.age = age;

}

public String getAddress() {

return address;

}

public void setAddress(String address) {

this.address = address;

}

public String getPhone() {

return phone;

}

public void setPhone(String phone) {

this.phone = phone;

}

// A toString method which returns string representation of Employee

public String toString() {

return "Name: " + name + "\nAge = " + age + "\nAddress: " + address + "\nPhone Number: " + phone;

}

// An abstract method which would be implemented by child classes which returns salary of employee

abstract double calculateSalary();

}

// Child classes

// FullTimeEmployee class

class FullTimeEmployee extends Employee {

// A unique attribute of FullTimeEmployee

private double annualSalary;

// Constructor

public FullTimeEmployee(String name, int age, String address, String phone, double annualSalary) {

super(name, age, address, phone);

this.annualSalary = annualSalary;

}

// Setter & Getter

public double getAnnualSalary() {

return annualSalary;

}

public void setAnnualSalary(double annualSalary) {

this.annualSalary = annualSalary;

}

// Implementing calculateSalary method for this class

@Override

double calculateSalary() {

return annualSalary;

}

}

// HourlyEmployee class

class HourlyEmployee extends Employee {

// Unique attributes which has hourly salary & number of hours worked

private int numHours;

private double hourlySalary;

// Constructor, Setter & Getter

public HourlyEmployee(String name, int age, String address, String phone, int numHours, double hourlySalary) {

super(name, age, address, phone);

this.numHours = numHours;

this.hourlySalary = hourlySalary;

}

public int getNumHours() {

return numHours;

}

public void setNumHours(int numHours) {

this.numHours = numHours;

}

public double getHourlySalary() {

return hourlySalary;

}

public void setHourlySalary(double hourlySalary) {

this.hourlySalary = hourlySalary;

}

// Implementing calculateSalary method

@Override

double calculateSalary() {

return hourlySalary \* numHours;

}

}

public class Main {

// Testing classes

public static void main(String[] args) {

Employee emp1 = new FullTimeEmployee("Sarah", 20, "Washington DC", "12345", 800);

Employee emp2 = new HourlyEmployee("John", 25, "Seattle", "24795", 10, 50);

System.out.println("\*\*\* Full Time Employee \*\*\*");

System.out.println(emp1);

System.out.println("Salary: " + emp1.calculateSalary());

System.out.println();

System.out.println("\*\*\* Hourly Employee \*\*\*");

System.out.println(emp2);

System.out.println("Salary: " + emp2.calculateSalary());

}

}