Lab Assignment 06

2022 – 2023 Spring, SENG102

Q1. Create a "***HumanBeing"*** class. This class must include a "***name***" variable for storing the name (several characters), a "***PersonSalary***" variable for storing salary (e.g. 8000) and a "***dailyStep***" variable for storing number of daily steps of a human being. All these variables must not be accessed directly by the objects created from this class. The class implements "***Behavior***" interface including the following methods:

```
public String tellName(); // returns the name
public String tellCompanyName(); //returns the company name
public int tellSalary(); // returns the salary
public int step(int actualDailyStep); // adds the parameter to daily step
```

Examine the following, "***Main***" driver class and its "***main***" method. You must define the methods and variables of the "***HumanBeing***" class according to these and sample output. Please be careful that, "***getCompanyPopulation()"*** method returns the total number of employee created from the "***HumanBeing***" class.

```
public class Main {
	public static void main(String[] args) {
		HumanBeing arda = new HumanBeing("Arda",12000,"Google");
		arda.step(5000);
		System.out.println(arda);

		HumanBeing hayri = new HumanBeing("Hayri",11000,"Google");
		System.out.println(hayri);

	System.out.println("Company Population : " + HumanBeing.getCompanyPopulation());

	}
}
```

Sample Output:

```
Name : Arda, Salary : 12000, Step : 5000, Company Name : Google
Name : Hayri, Salary : 11000, Step : 0, Company Name : Google
Company Population : 2
```

Q2. Use your "***HumanBeing***" class that you implemented in Q1. Now, "***HumanBeing***" class must implement "***Comparable***" interface. The "***compareTo***" method of this interface must compare two persons:

- • If the name and salary of the persons are same return 10.
- • If names are different but, salary are equal return 0.
- • If names are different and first person's salary is smaller than the other return -1.
- • If names are different and first person' salary is greater than the other return 1.

Implement "***comparePeople***" method which uses the "***compareTo***" method to produce some sentences such as the sentences given the output below:

```
public class Main {
	public static void main(String[] args) {
		HumanBeing arda = new HumanBeing("Arda",12000,"Google");
		arda.step(5000);
		System.out.println(arda);
		HumanBeing hayri = new HumanBeing("Hayri",11000,"Google");
		System.out.println(hayri);
		HumanBeing can = new HumanBeing("Can",10000,"Google");
		can.step(500);
		System.out.println(can);
		HumanBeing efe = new HumanBeing("Efe",10000,"Google");
		efe.step(3000);
		System.out.println(efe);
		HumanBeing joe = new HumanBeing("Hayri",11000,"Google");
		System.out.println(joe);
		System.out.println();
		System.out.println(arda.comparePeople(hayri));
		System.out.println(hayri.comparePeople(joe));
		System.out.println(can.comparePeople(arda));
		System.out.println(efe.comparePeople(can));
		System.out.println();
		System.out.println("Company Population : " +
		HumanBeing.getCompanyPopulation());
	}
}
```

Sample Output:

```
Name : Arda, Salary : 12000, Step : 5000, Company Name : Google
Name : Hayri, Salary : 11000, Step : 0, Company Name : Google
Name : Can, Salary : 10000, Step : 500, Company Name : Google
Name : Efe, Salary : 10000, Step : 3000, Company Name : Google
Name : Hayri, Salary : 11000, Step : 0, Company Name : Google

Arda's salary is grater than Hayri's salary.
Hayri and Hayri are the same persons.
Can's salary is smaller than Arda's salary.
Efe and Can have same salary.

Company Population : 5
```

***** Upload CarBeing.java and Behavior.java files to the WebOnline.**