4주차 실습 보고서

강의명	객체지향프로그래밍및실습
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학번	202220209
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1

```java
//기본적으로 모든 .java 파일 한 번에 javac하기는 알려줘야겠군...
public class Car
    {
        private String no;
        private int speed;
        private double position;

        // 1-(가)
        public Car(String no, int speed, double position) {
            this.no = no;
            this.speed = speed;
            this.position = position;
        }

         public void move(int min){
            // 1-(나), assume min >= 0
            this.position += (int)(this.speed * min/60);
         }

         @Override
         public String toString() {
            // 1-(다), 반환 형식은 No=c1111,Speed=80km/h,Position=120km
            return "No="+this.no+",Speed="+this.speed+"km/h,Position="+(int)this.position+"km";
         }

         // 1-(라)
         public int compareTo(Car c){
            return this.position>c.position ? 1 : (this.position<c.position? -1 : 0);
         }
}

```

☐ 2

JAVA > 4 > CarTest.java > CarTest > main(String[])

```java
public class CarTest {
    public static void main(String[] args)
    {
        Car[] carList = new Car[2];

        // 2-(가)
        carList[0] = new Car("c1111", 80, 0);
        carList[1] = new Car("c2222", 100, 0);

        // 2-(나)
        for(Car c : carList){
            c.move(60);
        }

        // 2-(다)
        switch(carList[0].compareTo(carList[1])){
            case 1 : System.out.println(carList[0].toString());
            case 0 : System.out.println(x:"equal");
            case -1 : System.out.println(carList[1].toString());
        }

    }
}
// 2-(라) java carTest 실행 결과 첨부
```

PROBLEMS 13 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
lwj@lwj-code:~/workspace/JAVA/4$ java CarTest
No=c2222,Speed=100km/h,Position=100km
```

3

```java
public class Time {
    private int hour;
    private int minute;

    public Time(int hh, int mm) // 0<=hh<24, 0<=mm<60
    {
        hour = hh; minute = mm;
    }

    // Getter
    public int getHour() { return hour; }
    public int getMinute() { return minute; }

    @Override
    public String toString() {
        // 3-(가), 반환 형식은 hh:mm
        return String.format(format:"%02d:%02d",this.hour,this.minute);
    }

    public void add(int hh, int mm) {
        // 3-(나)
        this.minute += mm;
        this.hour += (hh + this.minute/60);
        this.minute %= 60;
        this.hour %= 24;
    }

    public void add(Time t) {
        // 3-(나)
        this.add(t.hour, t.minute);
    }
}
```

4

```java
public class TimeTest {
    public static void main(String[] args)
    {
        Time t1 = new Time(23, 30);
        Time t2 = new Time(2, 40);

        // 4-(가)
        System.out.println(t1.toString());
        System.out.println(t2.toString());

        // 4-(나)
        System.out.printf(format:"%02d:%02d\n",t1.getHour(),t1.getMinute());
        System.out.printf(format:"%02d:%02d\n",t2.getHour(),t2.getMinute());

        // 4-(다)
        t1.add(t2);
        System.out.println(t1.toString());
    }
}
// 4-(라) java TimeTest 실행 결과 첨부
```

PROBLEMS 17 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
lwj@lwj-code:~/workspace/JAVA/4$ java TimeTest.java
23:30
02:40
23:30
02:40
02:10
```

□ 코드 전문

Car.java

```
public class Car
    {
       private String no;
       private int speed;
       private double position;

       // 1-(가)
       public Car(String no, int speed, double position) {
            this.no = no;
            this.speed = speed;
            this.position = position;
       }

        public void move(int min){
            // 1-(나), assume min >= 0
            this.position += (int)(this.speed * min/60);
        }

        @Override
        public String toString() {
            // 1-(다), 반환 형식은 No=c1111,Speed=80km/h,Position=120km
            return
"No="+this.no+",Speed="+this.speed+"km/h,Position="+(int)this.position+"km";
        }

        public int compareTo(Car c){
            return this.position>c.position ? 1 : (this.position<c.position? -
1 : 0);
        }
}
```

CarTest.java

```java
public class CarTest {
    public static void main(String[] args)
    {
        Car[] carList = new Car[2];

        // 2-(가)
        carList[0] = new Car("c1111", 80, 0);
        carList[1] = new Car("c2222", 100, 0);

        // 2-(나)
        for(Car c : carList){
            c.move(60);
        }

        // 2-(다)
        switch(carList[0].compareTo(carList[1])){
            case 1 : System.out.println(carList[0].toString());
            case 0 : System.out.println("equal");
            case -1 : System.out.println(carList[1].toString());
        }

    }
}
```

Time.java

```java
public class Time {
    private int hour;
    private int minute;

    public Time(int hh, int mm) // 0<=hh<24, 0<=mm<60
    {
        hour = hh; minute = mm;
    }

    // Getter
    public int getHour() { return hour; }
    public int getMinute() { return minute; }

    @Override
    public String toString() {
        // 3-(가), 반환 형식은 hh:mm
        return String.format("%02d:%02d",this.hour,this.minute);
    }

    public void add(int hh, int mm) {
        // 3-(나)
        this.minute += mm;
        this.hour += (hh + this.minute/60);
        this.minute %= 60;
        this.hour %= 24;
    }

    public void add(Time t) {
        // 3-(나)
        this.add(t.hour, t.minute);
    }
}
```

TimeTest.java

```java
public class TimeTest {
    public static void main(String[] args)
    {
        Time t1 = new Time(23, 30);
        Time t2 = new Time(2, 40);

        // 4-(가)
        System.out.println(t1.toString());
        System.out.println(t2.toString());

        // 4-(나)
        System.out.printf("%02d:%02d\n",t1.getHour(),t1.getMinute());
        System.out.printf("%02d:%02d\n",t2.getHour(),t2.getMinute());

        // 4-(다)
        t1.add(t2);
        System.out.println(t1.toString());
    }
}
```