

4주차 실습 보고서



강의명	객체지향프로그래밍및실습
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```
1 //기본적으로 모든 .java 파일 한 번에 javac 했기는 알려줘야겠군...
2 public class Car
3 {
4     private String no;
5     private int speed;
6     private double position;
7
8     // 1-(가)
9     public Car(String no, int speed, double position) {
10         this.no = no;
11         this.speed = speed;
12         this.position = position;
13     }
14
15     public void move(int min){
16         // 1-(나), assume min >= 0
17         this.position += (int)(this.speed * min/60);
18     }
19
20     @Override
21     public String toString() {
22         // 1-(다), 반환 형식은 No=c1111,Speed=80km/h,Position=120km
23         return "No="+this.no+",Speed="+this.speed+"km/h,Position="+(int)this.position+"km";
24     }
25
26     // 1-(e)
27     public int compareTo(Car c){
28         return this.position>c.position ? 1 : (this.position<c.position? -1 : 0);
29     }
30 }
31 }
```

□ 2

```
JAVA > 4 > J CarTest.java > CarTest > main(String[])
1 public class CarTest {
2     public static void main(String[] args)
3     {
4         Car[] carList = new Car[2];
5
6         // 2-(A)
7         carList[0] = new Car("c1111", 80, 0);
8         carList[1] = new Car("c2222", 100, 0);
9
10        // 2-(B)
11        for(Car c : carList){
12            c.move(60);
13        }
14
15        // 2-(C)
16        switch(carList[0].compareTo(carList[1])){
17            case 1 : System.out.println(carList[0].toString());
18            case 0 : System.out.println("equal");
19            case -1 : System.out.println(carList[1].toString());
20        }
21
22    }
23 }
24 // 2-(D) java carTest 실행 결과 일부
```

PROBLEMS 13 OUTPUT DEBUG CONSOLE TERMINAL PORTS

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

□ 3

```
1 < public class Time {  
2     private int hour;  
3     private int minute;  
4  
5     public Time(int hh, int mm) // 0<=hh<24, 0<=mm<60  
6     {  
7         hour = hh; minute = mm;  
8     }  
9  
10    // Getter  
11    public int getHour() { return hour; }  
12    public int getMinute() { return minute; }  
13  
14    @Override  
15    public String toString() {  
16        // 3-(가), 반점 형식은 hh:mm  
17        return String.format(format:"%02d:%02d",this.hour,this.minute);  
18    }  
19  
20    public void add(int hh, int mm) {  
21        // 3-(L)  
22        this.minute += mm;  
23        this.hour += (hh + this.minute/60);  
24        this.minute %= 60;  
25        this.hour %= 24;  
26    }  
27  
28    public void add(Time t) {  
29        // 3-(L)  
30        this.add(t.hour, t.minute);  
31    }  
32 }
```

□ 4

```
1 public class TimeTest {
2     public static void main(String[] args)
3     {
4         Time t1 = new Time(23, 30);
5         Time t2 = new Time(2, 40);
6
7         // 4-(가)
8         System.out.println(t1.toString());
9         System.out.println(t2.toString());
10
11        // 4-(나)
12        System.out.printf(format:"%02d:%02d\n",t1.getHour(),t1.getMinute());
13        System.out.printf(format:"%02d:%02d\n",t2.getHour(),t2.getMinute());
14
15        // 4-(다)
16        t1.add(t2);
17        System.out.println(t1.toString());
18    }
19 }
20 // 4-(다) java TimeTest 실행 결과 첨부
```

PROBLEMS (17) OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
▶ lwj@ljwj-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

```
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

```
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-(4)
        this.minute += mm;
        this.hour += (hh + this.minute/60);
        this.minute %= 60;
        this.hour %= 24;
    }

    public void add(Time t) {
        // 3-(4)
        this.add(t.hour, t.minute);
    }
}
```

TimeTest.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());
    }
}
```