

JAVA 웹 프로그래밍

실습 과제#2

학과명: ss전공

교수명: 김삼근 교수님

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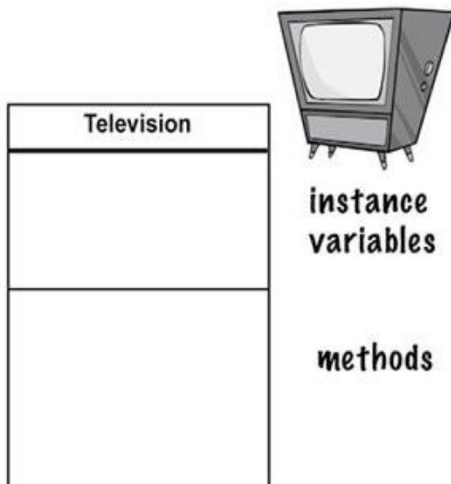
제출일: 2021년 3월 12일

1.

실습과제 2-1 Sharpen your pencil

Fill in what a television object might need to

instance
variables



Television	
- Channel Number	: int
- On Off Button	: boolean
- Volume Level	: int
- Brightness Level	: int
- power Off() - power On() - Mute (boolean isMute) - change Volume (int volume) - change Channel (int channel) - change Brightness (int brightness)	

2.

GameLauncher.java

```

1 package ch02_2;
2
3 public class GameLauncher {
4     public static void main(String[] args){
5         GuessGame game = new GuessGame();
6         game.startGame();
7     }
8 }
  
```

Player.java

```

1 package ch02_2;
2
3 public class Player {
4     int number = 0;
5     public void guess(){
6         number = (int) (Math.random() * 10);
7         System.out.println("I'm guessing " + number);
8     }
9 }
  
```

GuessGame.java

```

1  package ch02_2;
2
3  public class GuessGame {
4      Player p1;
5      Player p2;
6      Player p3;
7
8      public void startGame(){
9          p1 = new Player();
10         p2 = new Player();
11         p3 = new Player();
12         int guessp1 = 0;
13         int guessp2 = 0;
14         int guessp3 = 0;
15         boolean p1isRight = false;
16         boolean p2isRight = false;
17         boolean p3isRight = false;
18         int targetNumber = (int) (Math.random() * 10);
19         System.out.println("I'm thinking of a number between 0 adn 9...");
20         while (true){
21             System.out.println("Number to guess is " + targetNumber);
22
23             p1.guess();
24             p2.guess();
25             p3.guess();
26
27             guessp1 = p1.number;
28             System.out.println("Player one guessed " + guessp1);
29             guessp2 = p2.number;
30             System.out.println("Player two guessed " + guessp2);
31             guessp3 = p3.number;
32             System.out.println("Player three guessed " + guessp3);
33
34             if (guessp1 == targetNumber) p1isRight = true;
35             if (guessp2 == targetNumber) p2isRight = true;
36             if (guessp3 == targetNumber) p3isRight = true;
37
38             if (p1isRight || p2isRight || p3isRight) {
39                 System.out.println("We have a winner!");
40                 System.out.println("Player one got it right? " + p1isRight);
41                 System.out.println("Player two got it right? " + p2isRight);
42                 System.out.println("Player three got it right? " + p3isRight);
43                 System.out.println("Game is over");
44                 break;
45             }else {
46                 System.out.println("Players will have to try again.");
47             }
48         }
49     }
50 }

```

실행 결과

```
GameLauncher x
/Library/Java/JavaVirtualMachines/jdk-15.0.1.jd
I'm thinking of a number between 0 adn 9...
Number to guess is 2
I'm guessing 0
I'm guessing 3
I'm guessing 1
Player one guessed 0
Player two guessed 3
Player three guessed 1
Players will have to try again.
Number to guess is 2
I'm guessing 5
I'm guessing 9
I'm guessing 2
Player one guessed 5
Player two guessed 9
Player three guessed 2
We have a winner!
Player one got it right? false
Player two got it right? false
Player three got it right? true
Game is over

by 2017250035 이종수

Process finished with exit code 0
```

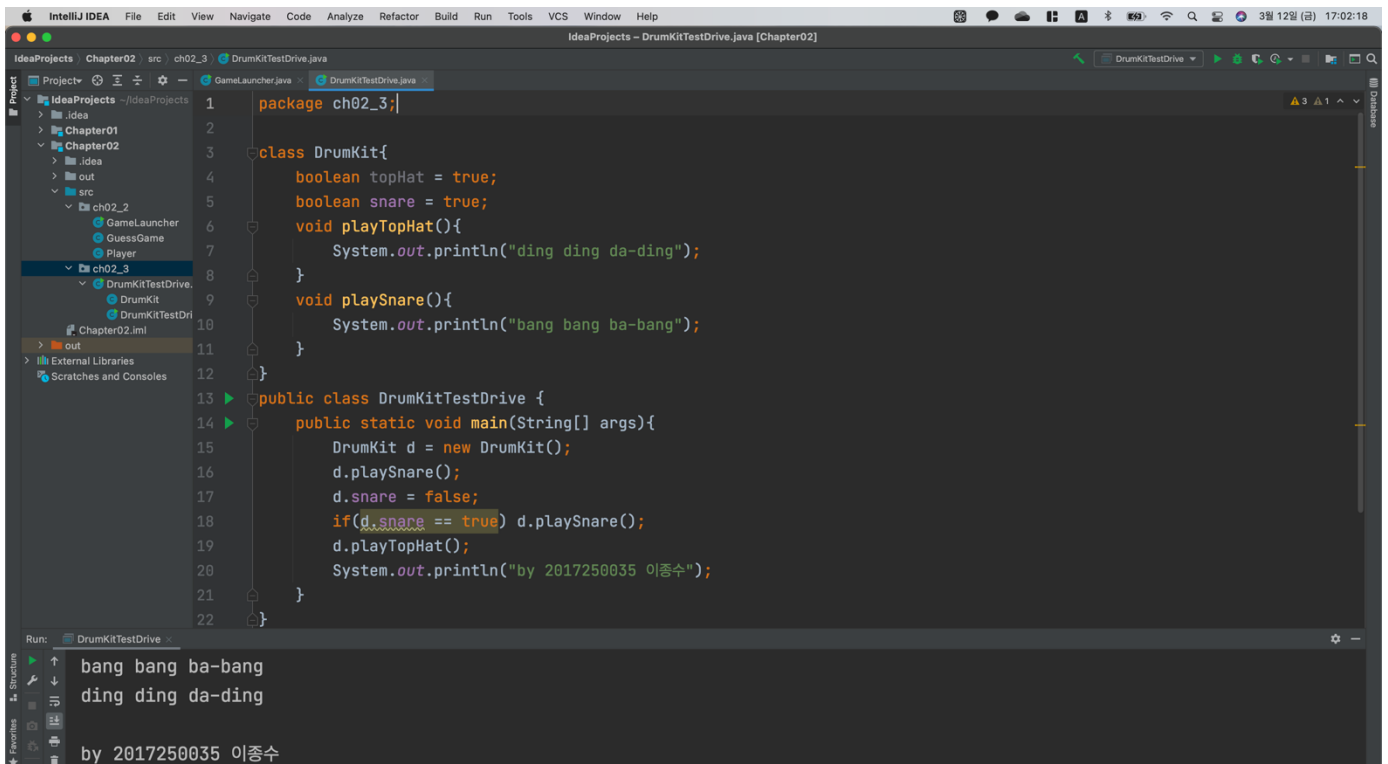
Player 클래스를 생성해 3명의 참가자의 유추 번호를 랜덤으로 생성해 줍니다.

p1, p2, p3객체를 생성합니다. 유추 번호, 결과를 처음에 0, false으로 초기하고, targetNumber을 랜덤으로 생성해 줍니다. p1.guess(p2, p3 동일)로 참가자의 번호를 랜덤으로 생성합니다.

참가자의 유추 번호와 targetNumber를 비교해 한 참가자 맞을 때 까지 반복하다 한명이라도 번호가 맞으면 프로그램을 종료하는 프로그램입니다.

따라서 위와 같은 결과가 나옵니다.

3.



```
package ch02_3;

class DrumKit{
    boolean topHat = true;
    boolean snare = true;
    void playTopHat(){
        System.out.println("ding ding da-ding");
    }
    void playSnare(){
        System.out.println("bang bang ba-bang");
    }
}

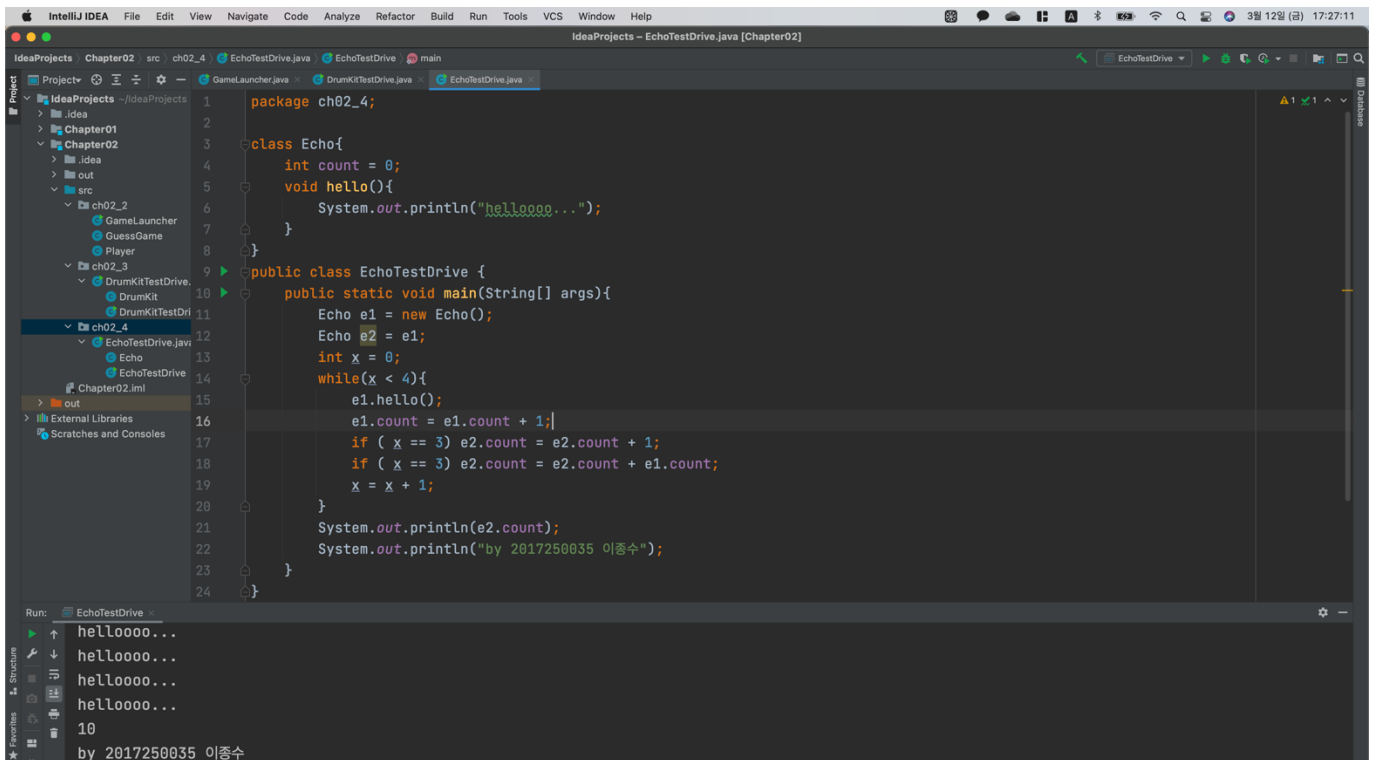
public class DrumKitTestDrive {
    public static void main(String[] args){
        DrumKit d = new DrumKit();
        d.playSnare();
        d.snare = false;
        if(d.snare == true) d.playSnare();
        d.playTopHat();
        System.out.println("by 2017250035 이종수");
    }
}
```

Run: DrumKitTestDrive

bang bang ba-bang
ding ding da-ding
by 2017250035 이종수

DrumKit 클래스를 선언하고 안에 변수와 함수를 선언 -> d.playSnare()을 통해 bang bang ba-bang 출력 -> snare값을 false로 변경 -> if문으로 진입 불가 -> d.playTopHat()을 통해 ding ding da-ding출력하게 됩니다.

4.



```
package ch02_4;

class Echo{
    int count = 0;
    void hello(){
        System.out.println("helloooo...");
    }
}

public class EchoTestDrive {
    public static void main(String[] args){
        Echo e1 = new Echo();
        Echo e2 = e1;
        int x = 0;
        while(x < 4){
            e1.hello();
            e1.count = e1.count + 1;
            if ( x == 3) e2.count = e2.count + 1;
            if ( x == 3) e2.count = e2.count + e1.count;
            x = x + 1;
        }
        System.out.println(e2.count);
        System.out.println("by 2017250035 이종수");
    }
}
```

Run: EchoTestDrive

helloooo...
helloooo...
helloooo...
helloooo...
10
by 2017250035 이종수

e1과 e2의 값을 같이 변하게 하기 위해 Echo e2=e1 선언 -> helloooo...을 4번 출력하기 위해 x<4로 설정 -> x가 1씩 증가 할때마다 e1.conut, e2.conut도 1씩 증가(x<2까지) -> x==3 일때 if문 진입 전 e1.count, e2.count = 4 -> 첫 번째 if문 결과 e1.count, e2.count = 5 -> 두 번째 if문 e1.count, e2.count을 더해 e1.count, e2.count = 10으로 변경 따라서 위와 같은 결과가 나옵니다.