

과제 3 풀이

1. 숫자 맞추는 게임 캡슐화

file : GuessNoGamePlayer.java

```
public class GuessNoGamePlayer {
    private int myNumber = (int) (Math.random() * 10);
    private int guessNumber;

    int getMyNumber() {
        return myNumber;
    }

    void setMyNumber(int n) {
        if (n >= 0 && n < 11) {
            myNumber = n;
        }
        else {
            System.out.println("잘못된값입니다");
        }
    }

    int getGuessNumber() {
        return guessNumber;
    }

    void setGuessNumber() {
        guessNumber = (int) (Math.random() * 10);
    }

    public void guess() {
        setGuessNumber();
        System.out.println("추정한값 " + guessNumber);
    }
}
```

file : GuessGame.java

```
public class GuessGame {
    GuessNoGamePlayer human;
    GuessNoGamePlayer computer;

    public void runGame() {
        human = new GuessNoGamePlayer();
        computer = new GuessNoGamePlayer();

        boolean hWin = false;
        boolean cWin = false;

        System.out.println("Game을 시작합니다");

        while (!hWin && !cWin) {
            System.out.print("인간이);
            human.guess();
            if (human.getGuessNumber() == computer.getMyNumber()) {
                hWin = true;
                System.out.println("인간이 맞추었습니다!!");
            }

            System.out.print("컴퓨터가");
            computer.guess();
            if (computer.getGuessNumber() == human.getMyNumber()) {
                cWin = true;
                System.out.println("컴퓨터가 맞추었습니다!!");
            }
        }

        if (hWin && cWin) {
            System.out.println("게임은 비겼습니다");
        }
        else if (hWin) {
            System.out.println("인간이 이겼습니다");
        }
        else if (cWin) {
            System.out.println("컴퓨터가 이겼습니다");
        }
    }
}
```

2. Triangle

file : Triangle.java

```
public class Triangle {
    private double length;
    private double height;

    public double getLength() {
        return length;
    }

    public double getHeight() {
        return height;
    }

    public void setLength(double l){
        if (l > 0.) {
            length = l;
        }
        else {
            System.out.println("Invalid value");
        }
    }

    public void setHeight(double h) {
        if (h > 0.) {
            height = h;
        }
        else {
            System.out.println("Invalid value");
        }
    }

    public double area() {
        if (length == 0. || height == 0.) {
            System.out.println("Please set values first!");
            return (0.);
        }
        else {
            return (length * height * 0.5);
        }
    }
}
```