자바프로그래밍및실습 과제 5

214823 컴퓨터정보통신공학과 박종현

June 2022

코드 주석은 Javadoc 코드 문서화 스펙을 참조하여 작성함.
참조: https://docs.oracle.com/en/java/javase/17/docs/specs/javadoc/doc-comment-spec.html

1 과제 1

1.1 과제 1.1

1.1.1 소스 코드

```
public class Main {
  public static void main(String[] args){
    Circle a = new Circle(2, 3, 5);
    Circle b = new Circle(2, 3, 30);
    System.out.println("  a : " + a);
    System.out.println("  b : " + b);
    if(a.equals(b))
      System.out.println("    ");
    else
      System.out.println("      ");
  }
}

class Circle {
  int x, y, radius;

  Circle(int x, int y, int radius) {
    this.x = x;
    this.y = y;
    this.radius = radius;
  }

  public String toString() { return String.format("Circle(%d, %d)   %d", this.x, this.y, this.radius); }
  boolean equals(Circle circle) { return this.x == circle.x && this.y == circle.y; }
}
```

1.1.2 실행 예제

1.2 과제 1.2

'main.java'

1.2.1 소스 코드

프로그램 진입점 /java/Prob1/Prob1.2/main.java

```
package main;
import etc.Calc;

public class MainApp {
 public static void main (String[] args) {
 Calc c= new Calc(10,20);
 System.out.println(c.sum());
 }
}
```

/java/Prob1/Prob1.2/etc/Calc.java

```
package etc;

// class Calc {
// main.java:2: error: Calc is not public in etc; cannot be accessed from outside package
```

```
public class Calc {
 private int x,y;
 public Calc(int x, int y) {this.x = x ; this.y = y; }
 public int sum() { return x+y; }
}
```

1.2.2 실행 예제

1.3 과제 1.3

1.3.1 소스 코드

프로그램 진입점 /java/Prob1/Prob1.3/app/GraphicEditor.java

```
package app;
import base.Shape;
import derived.Circle;

public class GraphicEditor {
  public static void main(String[] args) {
    Shape shape = new Circle();
    shape.draw();
  }
}
```

/java/Prob1/Prob1.3/base/Shape.java

```
package base;

// class Shape {
public class Shape {
  public void draw() {System.out.println("Shape");}
}
```

/java/Prob1/Prob1.3/derived/Circle.java

```
package derived;
import base.Shape;

// class Circle extends Shape{
public class Circle extends Shape{
  public void draw() {System.out.println("Circle");}
}
```

1.3.2 실행 예제

2 과제2

2.1 소스 코드

```
import java.util.Scanner;
import java.util.Vector;

public class Main {
  public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    Vector<Integer> gets = new Vector<Integer>();
    int get = -1;

    System.out.print("  (-1         ) >> ");
```

```
11
12      do {
13        get = sc.nextInt();
14        if (get == -1) continue;
15        gets.add(get);
16      } while (get != -1);
17
18      int max = -1;
19      for (int n: gets)
20        if (max < n) max = n;
21
22      System.out.println("        " + max);
23    }
24  }
```

2.2 실행 예제

3 과제3

3.1 소스 코드

```
1   import java.util.Scanner;
2   import java.util.List;
3   import java.util.ArrayList;
4
5   public class Main {
6     public static void main(String[] args) {
7       Scanner sc = new Scanner(System.in);
8       List<Character> grades = new ArrayList<Character>();
9
10      System.out.print("6                    (A/B/C/D/E/F) >> ");
11      for (int i = 0; i < 6; i++)
12        grades.add(sc.next().charAt(0));
13
14      double sums = 0;
15      for (char grade: grades) {
16        switch (grade) {
17          case 'A':
18            sums += 4;
19            break;
20          case 'B':
21            sums += 3;
22            break;
23          case 'C':
24            sums += 2;
25            break;
26          case 'D':
27            sums += 1;
28            break;
29          case 'F':
30            //    F        Context
31            sums += 0;
32            break;
33        }
34      }
35
36      System.out.println(sums/6);
37    }
38  }
```

3.2 실행 예제