



# Examples



Week 10

# Circle.java

---

```
public class Circle {  
  
    int radius;  
    String name;  
  
    public Circle() {  
        radius = 1; name = "";  
    }  
  
    public Circle(int r, String n) {  
        radius = r; name = n;  
    }  
  
    public double getArea() {  
        return 3.14*radius*radius;  
    }  
}
```

# Circle.java

---

```
public static void main(String[] args)
{
    Circle pizza = new Circle(10, "Java-pizza");
    double area = pizza.getArea();
    System.out.println("Area of " + pizza.name + ": " + area);

    Circle donut = new Circle();
    donut.name = "Java-donut";
    area = donut.getArea();
    System.out.println("Area of " + donut.name + ": " + area);
}
```

```
Area of Java-pizza: 314.0
Area of Java-donut: 3.14
```

# Book.java

---

```
public class Book {  
  
    String title;  
    String author;  
  
    public Book(String t) {  
        title = t; author = "unknown";  
    }  
  
    public Book(String t, String a) {  
        title = t; author = a;  
    }  
  
    public static void main(String [] args) {  
        Book littlePrince = new Book("Le Petit Prince", "Saint-Exupery");  
        Book loveStory = new Book("Chunhyang-jeon");  
        System.out.println(littlePrince.title + ": " + littlePrince.author);  
        System.out.println(loveStory.title + ": " + loveStory.author);  
    }  
}
```

Le Petit Prince: Saint-Exupery  
Chunhyang-jeon: unknown

# Circle1.java

---

```
public class Circle1
{
    int radius;
    void set( int r ) { radius = r; }
    double getArea() { return 3.14*radius*radius; }

    // public Circle1() { } ← default constructor

    public static void main( String[] args ) {
        Circle1 pizza = new Circle1();
        pizza.set(3);
        System.out.printf( "Area: %.2f\n", pizza.getArea() );
    }
}
```

Area: 28.26

# Circle2.java

---

```
public class Circle2
{
    int radius;
    void set(int r) { radius = r; }
    double getArea() { return 3.14*radius*radius; }

    // public Circle2() { radius = 0; }
    public Circle2(int r) { radius = r; }

    public static void main(String [] args)
    {
        Circle2 pizza = new Circle2(10);
        System.out.println(pizza.getArea());

        Circle2 donut = new Circle2();
        System.out.println(donut.getArea());
    }
}
```

# Circle3.java

---

```
public class Circle3
{
    int radius;

    public Circle3( int radius )
    {
        this.radius = radius;
    }

    public void set( int radius )
    {
        this.radius = radius;
    }

    public double getArea()
    {
        return 3.14 * radius * radius;
        //return 3.14 * this.radius * this.radius;
    }
}
```

# Circle3.java

---

```
public static void main( String[] args )
{
    Circle3 ob1 = new Circle3(1);
    Circle3 ob2 = new Circle3(2);
    Circle3 ob3 = new Circle3(3);

    System.out.printf( "ob1: %.2f\n", ob1.getArea() );
    System.out.printf( "ob2: %.2f\n", ob2.getArea() );
    System.out.printf( "ob3: %.2f\n", ob3.getArea() );

    ob1.set(4);
    ob2.set(5);
    ob3.set(6);

    System.out.printf( "ob1: %.2f\n", ob1.getArea() );
    System.out.printf( "ob2: %.2f\n", ob2.getArea() );
    System.out.printf( "ob3: %.2f\n", ob3.getArea() );
}
}
```

ob1: 3.14
ob2: 12.56
ob3: 28.26

ob1: 50.24
ob2: 78.50
ob3: 113.04



# Book2.java

---

```
public class Book2
{
    String title;
    String author;

    public Book2() {
        this( "", "" );
    }

    public Book2(String title) {
        this(title, "unknown");
    }

    public Book2(String title, String author) {
        this.title = title; this.author = author;
    }
}
```

# Book2.java

---

```
void show()
{
    System.out.println( title + ": " + author );
}

public static void main(String[] args)
{
    Book2 littlePrince = new Book2("Le Petit Prince", "Saint-Exupery");
    Book2 loveStory = new Book2("Chunhyang-jeon");
    Book2 emptyBook = new Book2();
    littlePrince.show();
    loveStory.show();
}
}
```

Le Petit Prince: Saint-Exupery  
Chunhyang-jeon: unknown

# Circle4.java

---

```
public class Circle4
{
    int radius;
    public Circle4( int radius ) { this.radius = radius; }
    public void set( int radius ) { this.radius = radius; }

    public static void main( String[] args )
    {
        Circle4 ob1 = new Circle4(1);
        Circle4 ob2 = new Circle4(2);
        Circle4 s;

        s = ob2;
        ob1 = ob2;
        System.out.println( "ob1.radius= " + ob1.radius );
        System.out.println( "ob2.radius= " + ob2.radius );
    }
}
```

# CircleArray.java

---

```
class Circle5 {  
    int radius;  
    public Circle5(int radius) {  
        this.radius = radius;  
    }  
    public double getArea() {  
        return 3.14*radius*radius;  
    }  
}
```

0 3 12 28

```
public class CircleArray {  
    public static void main(String[] args) {  
        Circle5 [] c;  
        c = new Circle5[4];  
  
        for(int i=0; i<c.length; i++)  
            c[i] = new Circle5(i);  
  
        for(int i=0; i<c.length; i++)  
            System.out.print( (int)(c[i].getArea()) + " " );  
    }  
}
```

# AlarmTime.java

---

- ▶ 알람시간을 나타내는 클래스 AlarmTime를 작성하시오.
  - ▶ 두 개의 생성자를 만드시오.
    - ▶ `public AlarmTime(int hour, int minute)`
    - ▶ `public AlarmTime(int hour, int minute, boolean active)`
    - ▶ hour는 0~23의 값을 갖는다. active는 알람의 활성화/비활성화를 지정한다.
    - ▶ this 레퍼런스와 this() 호출을 사용하시오.
  - ▶ 다음과 같은 메소드를 만드시오.
    - ▶ `public boolean isActive()`
    - ▶ `public int getHour(), public void setHour(int hour)`
    - ▶ `public int getMinute(), public void setMinute(int minute)`
    - ▶ `public static void main( String[] args )`
      - AlarmTime 객체의 배열 **AlarmTime[] arr**을 만든다 (10칸짜리 배열).
      - 3 개 이상의 AlarmTime 객체를 만들어 배열 arr에 저장한다.
      - 알람시간을 변경하고, 전체 알람시간을 출력하는 테스트를 수행한다.

