

# Chapter 11

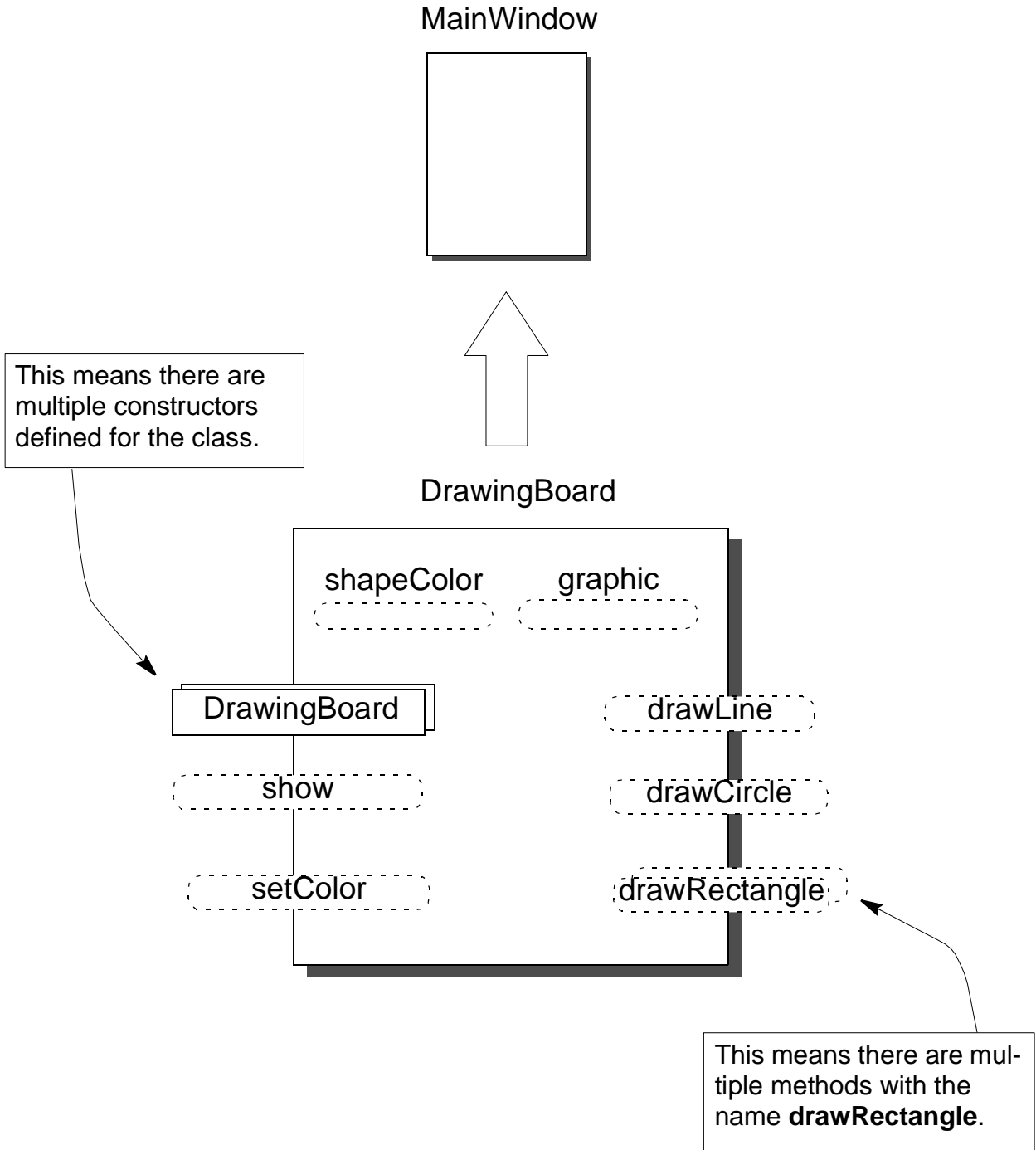
## Reusable Classes and Packages

### OBJECTIVES

After you have read and studied this chapter, you should be able to

- Describe four different object categories and use them effectively in designing classes.
- Define a package and place reusable classes in it.
- Write a method that calls the superclass's method explicitly by using the reserved word `super`.
- Define overloaded methods.

FIGURE 11.1 The diagram for the **DrawingBoard** class.



### Public Methods of DrawingBoard

```
public void drawLine( int x1, int y1, int x2, int y2 )
```

Draws a line from point (x1,y1) to (x2,y2)

```
public void drawCircle( int centerX, int centerY, int radius)
```

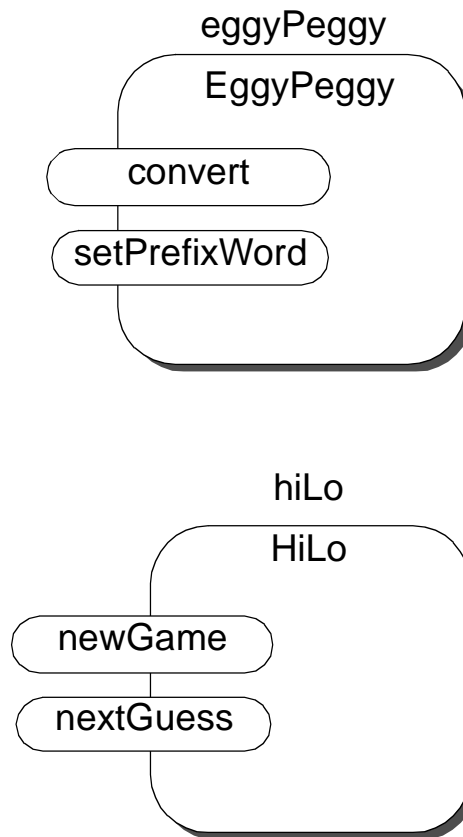
Draws a circle centered at (centerX,centerY) with radius radius.

```
public void drawRectangle( int x, int y, int width, int height)
```

Draws a rectangle whose top left corner is at (x,y) with width width and height height.

```
public void setColor( Color color)
```

Sets the color to color. All subsequent shapes will be drawn in the color color.



$$N = \lceil \log_2(\text{high} - \text{low} + 1) \rceil$$

$$= \left\lceil \frac{\log_{10}(\text{high} - \text{low} + 1)}{\log_{10}(2)} \right\rceil$$

**Note:**

$$\log_a b = \frac{\log_c b}{\log_c a}$$

```

low bound:      1
high bound:     100
max guess:      7
secret number:  34

low bound:      200
high bound:     500
max guess:      9
secret number:  344

low bound:      101
high bound:     150
max guess:      3
secret number:  129

low bound:      250
high bound:     500
max guess:      8
secret number:  417
    
```

### Test Input for the Constructors

low	high
10	10
100	32000
-35	-150
0	1