

SOLUTIONS MANUAL

COMPREHENSIVE VERSION

INTRODUCTION TO

JAVA™ PROGRAMMING

SEVENTH EDITION



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Solutions for UML Class Diagrams

Chapter 7

Exercise 7.1:

Rectangle	
-width: double	The width of this rectangle (default 1).
-height: double	The height of this rectangle (default 1).
-color: <u>String</u>	The color of the rectangle. Assume all rectangles have the same color (default "yellow").
+Rectangle()	Constructs a default rectangle.
+Rectangle(width: double, height: double)	Constructs a rectangle with the specified width and height.
+getWidth(): double	Returns the width of this rectangle.
+setWidth(width: double): void	Sets a new width for this rectangle.
+getHeight(): double	Returns the height of this rectangle.
+setHeight(height: double): void	Sets a new height for this rectangle.
+getColor(): <u>String</u>	Returns the color of all rectangles.
+setColor(color: <u>String</u>): void	Sets a new color for all rectangles.
+getArea(): double	Returns the area of this rectangle.
+getPerimeter(): double	Returns the perimeter of this rectangle.

Exercise 7.2:

Fan	
+ <u>SLOW = 1</u>	Constant.
+ <u>MEDIUM = 2</u>	Constant.
+ <u>FAST = 3</u>	Constant.
-speed: int	The speed of this fan (default 1).
-on: boolean	Indicates whether the fan is on (default false).
-radius: double	The radius of this fan (default 5).
-color: String	The color of this fan (default white).
+Fan()	Constructs a fan with default values.
+getSpeed(): int	Returns the speed of this fan.
+setSpeed(speed: int): void	Sets a new speed for this fan.
+isOn(): boolean	Returns true if this fan is on.
+setOn(on: boolean): void	Sets this fan on to true or false.
+getRadius(): double	Returns the radius of this fan.
+setRadius(radius: double): void	Sets a new radius for this fan.
+getColor(): String	Returns the color of this fan.
+setColor(color: String): void	Sets a new color for this fan.
+toString(): String	Returns a string representation for this fan.