COLOR

API class **`java.awt.Color`** provides a data abstraction for color based on the sRGB color space, a standardized color model developed by Hewlett-Packard and Microsoft and designed for viewing under lighting conditions commonly found in homes and offices. This topic gives an introduction to the class sufficient to do basic programming with color. For details, you need to read the API specification.

The sRGB color space is a set of 16,777,216 colors, each of which is represented by three numbers indicating the amount of red, green and blue components that, mixed together, make up the color. Each component is a number from 0 to 255; the larger the number, the more of that component.

Example

Each color is represented by a triple of values (r, g, b) representing the amount of red, green and blue components, respectively.

(r, g, b)	Color
(0, 0, 0)	black (i.e. no color)
(255, 0, 0)	red
(0, 255, 0)	green
(0, 0, 255)	blue
(255, 255, 255)	white (i.e. all color)

`java.awt.Color` has static fields defining a dozen or so common colors. You can use these colors simply by properly referencing the field identifier.

Some Static Fields of java.awt.Color			
`Color.BLACK`	`Color.BLUE`	`Color.GREEN`	`Color.GRAY`
`Color.ORANGE`	`Color.RED`	`Color.WHITE`	`Color.YELLOW`

You can create custom colors by building a **`Color`** object and calling one of its constructors. Each requires arguments specifying the red, green and blue components of the color to be constructed. There are many web sites that help you choose colors by showing you their component values. Google *web color picker* to find them.

Two Constructors of java.awt.Color

`public Color( int r, int g, int b )`
`// Creates an sRGB color with the given red, green and blue`
`// components, which must be in the range 0-255.`

`public Color( int htmlCode )` `// Creates an sRGB color with the given hexadecimal HTML code.`

Examples	
`Color a = new Color( 255, 255, 0 );` `Color b = new Color( 0xFFFF00 );`	Both objects are yellow.
`Color c = new Color( 255, 0, 0 );` `Color d = new Color( 0xFF0000 );`	Both objects are red.
`Color e = new Color( 128, 128, 128 );` `Color f = new Color( 0x808080 );`	Both objects are 50% gray.

Exercises

	For each statement below, circle what's wrong and explain. None of them is correct.
1.	`Color white = new Color( );`
2.	`Color hue = new Color( 256, 0, 128 );`
3.	`Color gray = new Color( 808080 );`

4.	Write the statement to build a new **Color** object containing the color blue. Use the static field in **Color**.
5.	Write the statement to build a new **Color** object containing the color blue. Use the three-argument constructor explained above.
6.	Write the statement to build a new **Color** object containing the color blue. Use the one-argument constructor explained above.
7.	Find your favorite color on a color picker web site. Write the statement to build a new **Color** object containing the color. Use the three-argument constructor explained above.
8.	Find your favorite color on a color picker web site. Write the statement to build a new **Color** object containing the color. Use the one-argument constructor explained above.