

| Package     | Class            | Selected Methods and/or Properties                                                                 | Description/Comments                                                                                              |
|-------------|------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| javax.swing | JFrame           | setSize()                                                                                          | Sets the size of a <i>JFrame</i> window.                                                                          |
|             |                  | setLocation()                                                                                      | Sets the location of a <i>JFrame</i> window.                                                                      |
|             |                  | setTitle()                                                                                         | Sets the title of a <i>JFrame</i> window.                                                                         |
|             |                  | setVisible()                                                                                       | Sets the visibility of a <i>JFrame</i> window.                                                                    |
|             |                  | getContentPane()                                                                                   | Returns the <i>JFrame</i> 's <i>ContentPane</i> object.                                                           |
| javax.swing | JOptionPane      | static showMessageDialog()                                                                         | Shows a message <i>String</i> in a <i>JFrame</i> window.                                                          |
|             |                  | static showInputDialog()                                                                           | Shows a message in a <i>JFrame</i> window, returns entered <i>String</i> .                                        |
|             |                  | static showConfirmationDialog()                                                                    | Shows a message in a <i>JFrame</i> window, returns selected option.                                               |
| java.lang*  | String           | indexOf()                                                                                          | Returns the location of a letter or letters in a <i>String</i> .                                                  |
|             |                  | length()                                                                                           | Returns the length of a <i>String</i> .                                                                           |
|             |                  | substring()                                                                                        | Returns a portion of a <i>String</i> .                                                                            |
|             |                  | equals()                                                                                           | Returns true if two <i>Strings</i> have matching content.                                                         |
|             |                  | static format()                                                                                    | Returns a <i>String</i> containing formatted data. See <i>String</i> and <i>Formatter</i> classes for details.    |
| java.util   | Date             | Use for times (use <i>GregorianCalendar</i> for dates). See Wu, 4 <sup>th</sup> ed. Section 2.4.3. |                                                                                                                   |
| java.text   | SimpleDateFormat | format()                                                                                           | Returns a <i>String</i> containing a formatted date.                                                              |
| java.lang*  | Double           | static parseDouble()                                                                               | Returns a <i>double</i> extracted from a <i>String</i> .                                                          |
| java.lang*  | Integer          | static parseInteger()                                                                              | Returns an <i>integer</i> extracted from a <i>String</i> .                                                        |
| java.lang*  | System           | in                                                                                                 | The <i>InputStream</i> tied to <i>standard input</i> (the console keyboard).                                      |
|             |                  | out                                                                                                | The <i>PrintStream</i> tied to <i>standard output</i> (the console screen).                                       |
|             |                  | err                                                                                                | The <i>PrintStream</i> tied to <i>standard error</i> (typically the screen).                                      |
|             |                  | nanoTime()                                                                                         | Returns the system time in nanoseconds as a long. Useful for seeding random number generators.                    |
|             |                  | exit()                                                                                             | Shuts down the Java VM. Often used to end GUI programs.                                                           |
| java.util   | Scanner          | nextInt()                                                                                          | Returns the next <i>integer</i> from the associated source ( <i>String</i> , <i>File</i> , <i>stream</i> , etc.). |
|             |                  | nextDouble()                                                                                       | Returns the next <i>double</i> from the associated source.                                                        |
|             |                  | next()                                                                                             | Returns the next <i>String</i> from the associated source.                                                        |
|             |                  | hasNext()                                                                                          | Returns true if another “token” is available.                                                                     |
|             |                  | close()                                                                                            | Closes the source (often a file) associated with a Scanner.                                                       |
| java.io     | PrintStream      | print()                                                                                            | Sends <i>String</i> output to the associated <i>PrintStream</i> .                                                 |
|             |                  | println()                                                                                          | Sends <i>String</i> output to the <i>PrintStream</i> and goes to a new line.                                      |
|             |                  | format()                                                                                           | Sends text output to the stream using <i>C printf</i> style formatting.                                           |

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| java.text   | DecimalFormat     | format()                                                                                             | Returns a <i>String</i> containing a formatted decimal number. I prefer to use <i>String.format()</i> .                          |
| java.lang*  | Math              | See Table 3.8 in Wu, 4 <sup>th</sup> ed. (includes static methods sin(), log(), pow(), sqrt(), etc.) |                                                                                                                                  |
| java.util   | GregorianCalendar | Use for dates. See Wu, 4 <sup>th</sup> ed. Section 3.9.                                              |                                                                                                                                  |
| java.awt    | Container         | getGraphics()                                                                                        | Returns the <i>container's Graphics</i> object.                                                                                  |
|             |                   | setBackground()                                                                                      | Sets the <i>container's</i> background color.                                                                                    |
| java.awt    | Graphics          | setColor()                                                                                           | Sets the <i>Graphic's</i> objects drawing color.                                                                                 |
|             |                   | drawLine()                                                                                           | Draws a line.                                                                                                                    |
|             |                   | drawRect()                                                                                           | Draws a rectangle. See Table 5.4 for other shapes.                                                                               |
|             |                   | drawString()                                                                                         | Renders given <i>String</i> at specified location.                                                                               |
|             |                   | BLUE, red, etc.                                                                                      | See page 259 for a number of other predefined color constants.                                                                   |
| java.awt    | Point             | x                                                                                                    | The <i>point's</i> x coordinate.                                                                                                 |
|             |                   | y                                                                                                    | The <i>point's</i> y coordinate.                                                                                                 |
| java.awt    | Dimension         | width                                                                                                | A <i>width</i> .                                                                                                                 |
|             |                   | height                                                                                               | A <i>height</i> .                                                                                                                |
| java.util   | Formatter         | format()                                                                                             | Sends formatted text (similar to C's <i>printf</i> function) to an associated <i>File</i> , <i>StringBuffer</i> or other stream. |
|             |                   | close()                                                                                              | Closes a stream (often a file) associated with a Formatter.                                                                      |
| java.util   | Random            | setSeed()                                                                                            | Seeds the random number generator. Seeding can also be done with the constructor.                                                |
|             |                   | nextDouble()                                                                                         | Returns a random value uniformly distributed between 0.0 (inclusive) and 1.0 (exclusive).                                        |
|             |                   | nextGaussian()                                                                                       | Returns a normally distributed value from a distribution with a mean of 0.0 and a standard deviation of 1.0                      |
| javax.swing | JFileChooser      | showOpenDialog()                                                                                     | Displays a GUI style file open dialog.                                                                                           |
|             |                   | showSaveDialog()                                                                                     | Displays a GUI style file save dialog.                                                                                           |
|             |                   | setCurrentDirectory()                                                                                | Sets the “default” directory for a JFileChooser.                                                                                 |
|             |                   | getSelectedFile()                                                                                    | Returns the selected file as a File.                                                                                             |
| java.io     | File              | getName()                                                                                            | Returns the file name as a String.                                                                                               |
|             |                   | canRead()                                                                                            | Returns true if file exists and can be read from.                                                                                |
|             |                   | canWrite()                                                                                           | Returns true if file can be written to.                                                                                          |