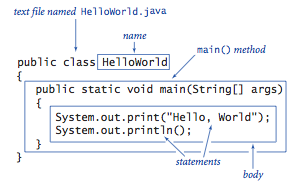
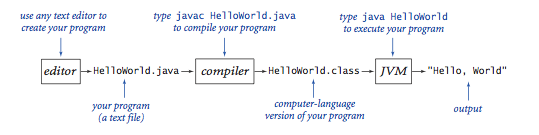
Java Programming Cheatsheet

This appendix summarizes the most commonly-used Java language features in the textbook. Here are the [APIs](http://introcs.cs.princeton.edu/java/11cheatsheet/api.pdf) of the most common libraries.

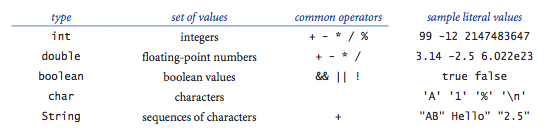
**Hello, World.**



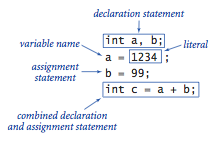
**Editing, compiling, and executing.**



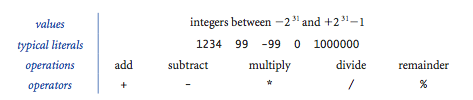
**Built-in data types.**

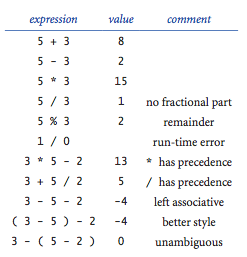


**Declaration and assignment statements.**

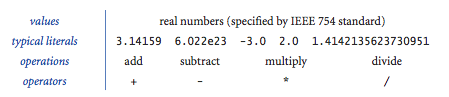


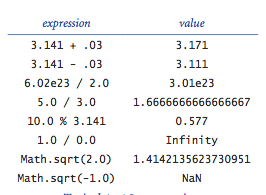
**Integers.**



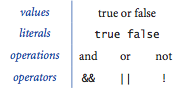


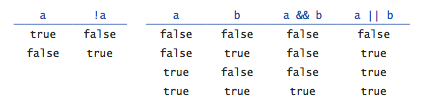
**Floating-point numbers.**



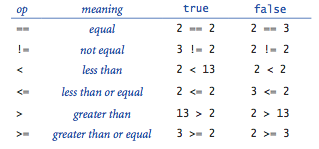


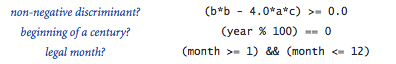
**Booleans.**



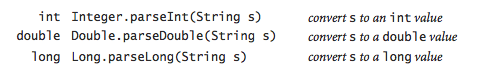


**Comparison operators.**

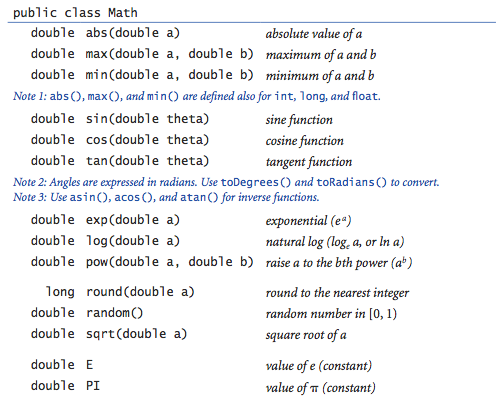


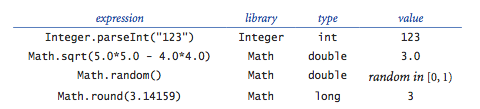


**Parsing command-line arguments.**



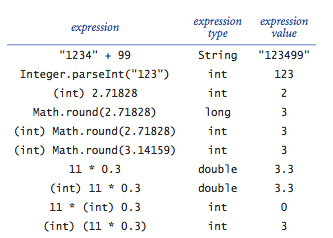
**Math library.**



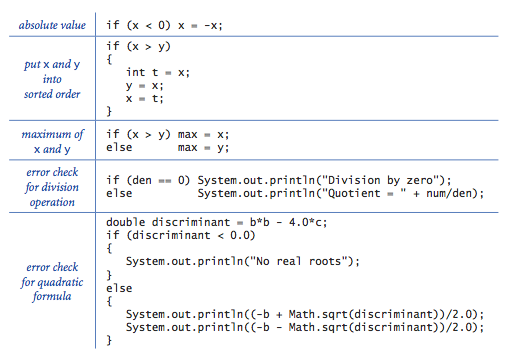


The full [java.lang.Math API](http://docs.oracle.com/javase/6/docs/api/java/lang/Math.html).

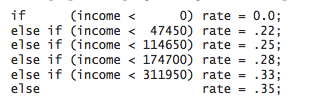
**Type conversion.**



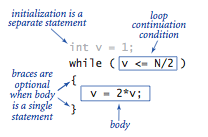
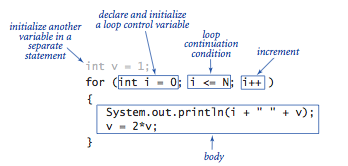
**If and if-else statements.**

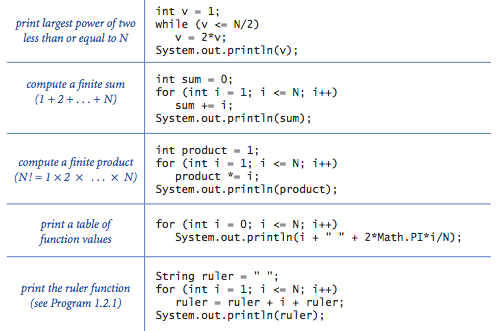


**Nested if-else statement.**

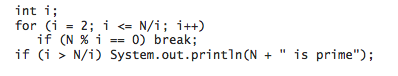


**While and for loops.**

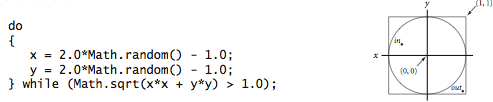
       



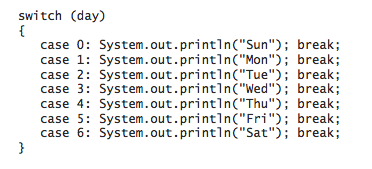
**Break statement.**



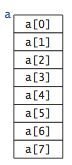
**Do-while loop.**



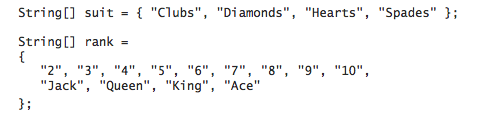
**Switch statement.**



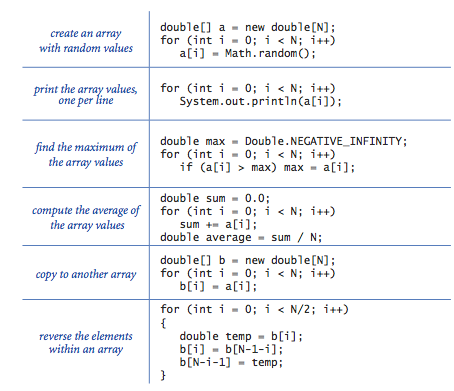
**Arrays.**



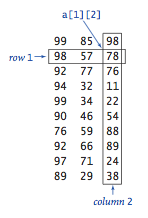
Compile-time initialization.



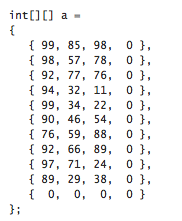
Typical array-processing code.



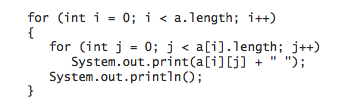
**Two-dimensional arrays.**



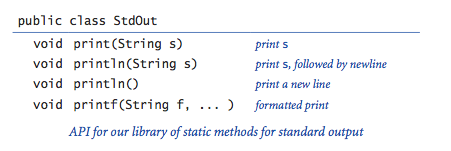
Compile-time initialization.



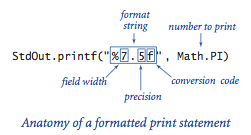
Ragged arrays.

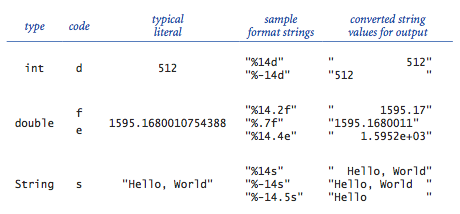


**Our standard output library.**

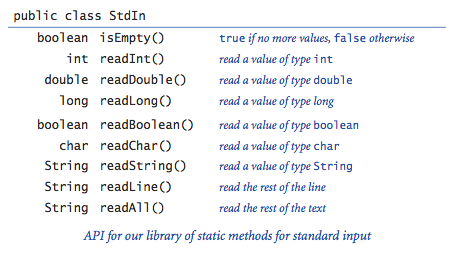


The full [StdOut API](http://introcs.cs.princeton.edu/java/stdlib/javadoc/StdOut.html).



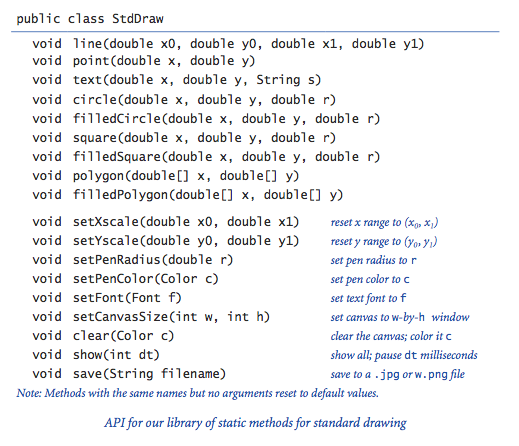


**Our standard input library.**



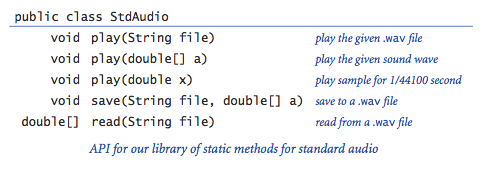
The full [StdIn API](http://introcs.cs.princeton.edu/java/stdlib/javadoc/StdIn.html).

**Our standard drawing library.**



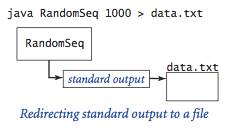
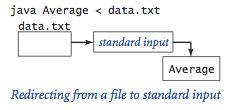
The full [StdDraw API](http://introcs.cs.princeton.edu/java/stdlib/javadoc/StdDraw.html).

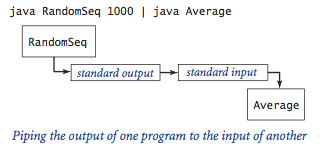
**Our standard audio library.**



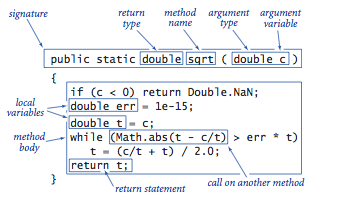
The full [StdAudio API](http://introcs.cs.princeton.edu/java/stdlib/javadoc/StdAudio.html).

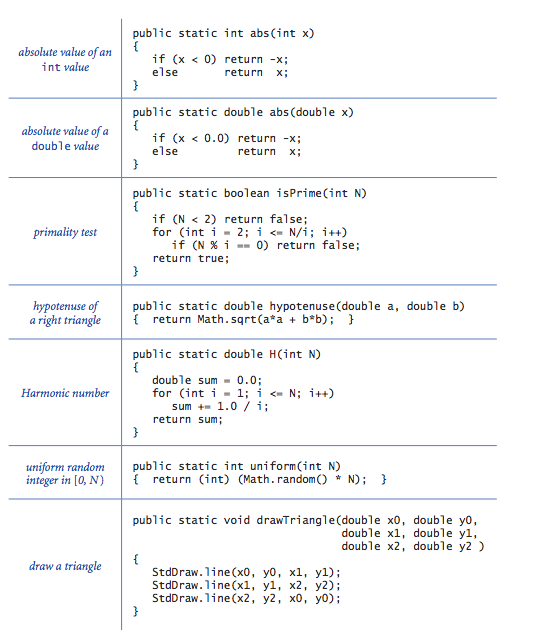
**Redirection and piping.**

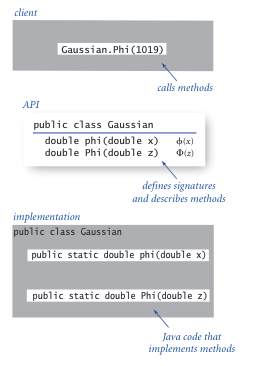


**Functions.**

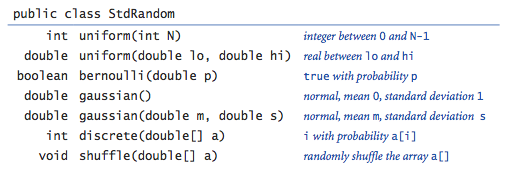




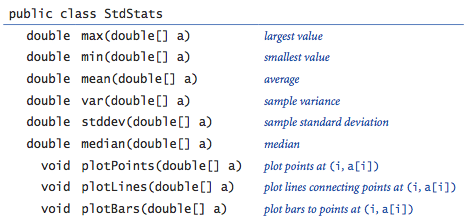
**Libraries of functions.**



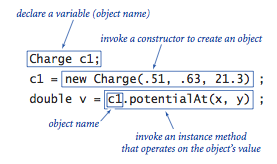
**Our standard random library.**



**Our standard statistics library.**

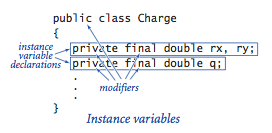


**Using an object.**

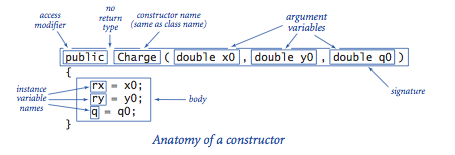


**Creating an object.**

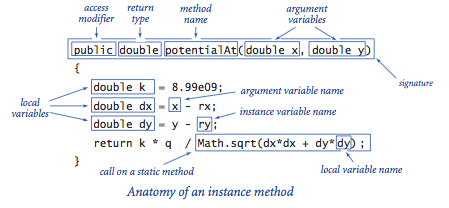
Instance variables.



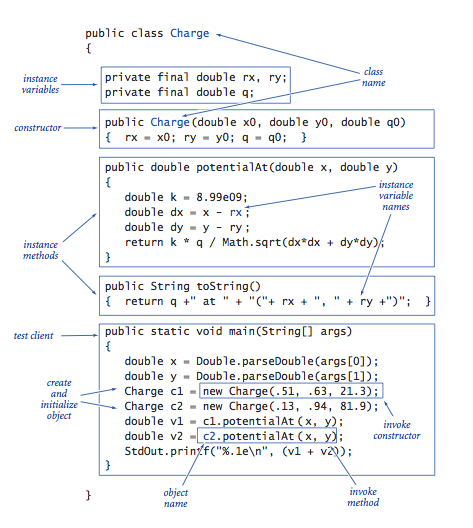
Constructors.



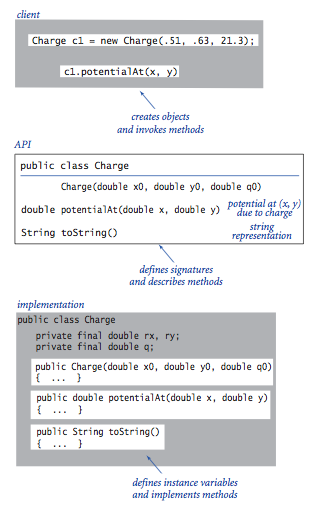
Instance methods.



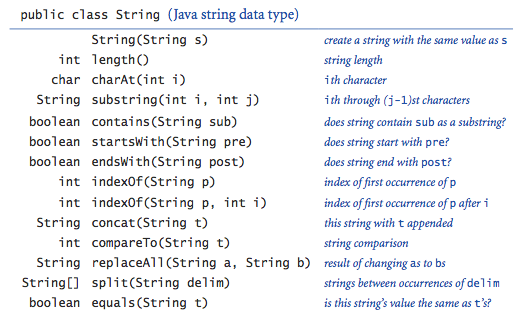
**Classes.**



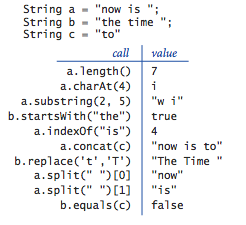
**Object-oriented libraries.**



**Java's String data type.**

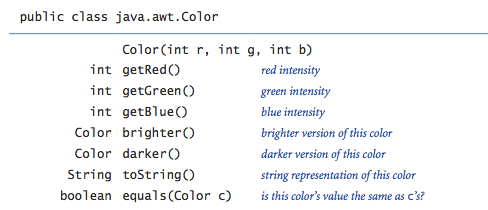


The full [java.lang.String API](http://docs.oracle.com/javase/6/docs/api/java/lang/String.html).



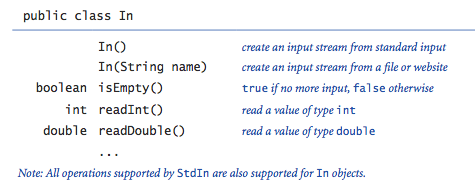
*Note*: the [java.lang.StringBuilder](http://docs.oracle.com/javase/6/docs/api/java/lang/StringBuilder.html) API is similar, but StringBuilder supports some operations more efficiently than String (notably, string concatenation) and some operations less efficiently (notably, substring extraction).

**Java's Color data type.**



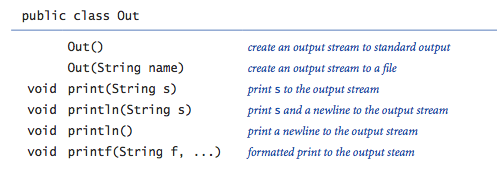
The full [java.awt.Color API](http://docs.oracle.com/javase/6/docs/api/java/awt/Color.html).

**Our input library.**



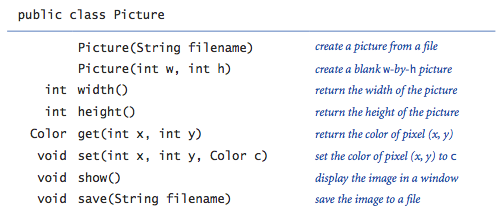
The full [In API](http://introcs.cs.princeton.edu/java/stdlib/javadoc/In.html).

**Our output library.**



The full [Out API](http://introcs.cs.princeton.edu/java/stdlib/javadoc/Out.html).

**Our picture library.**



The full [Picture API](http://introcs.cs.princeton.edu/java/stdlib/javadoc/Picture.html).