Applets

An applet is a piece of Java code that can be run under certain network browsers (and appletviewer, a Java program). Applets are embedded in html and invoked by viewing the page (or running appletviewer on the page). Every applet extends java.applet.Applet, which in turn extends java.awt.Panel. When an applet is invoked, an instance is created (i.e., its constructor is called). No arguments are supplied to the constructor; instead, there is html syntax for providing parameters to applets. At applet creation time, three methods are called in sequence:

1. the applet's constructor
2. the applet's `public void init()` method.
3. the applet's `public void start()` method.

Each of these is provided by java.applet.Applet, but can be overridden by the subclass. The `init` method will be called exactly once. The `start` method may be called repeatedly, e.g., each time the applet scrolls off of and then back on to the page. Applets also inherit `stop` and `destroy` methods (both `public void`, no parameters) which are called when the applet temporarily disappears or is permanently removed, respectively. It is conventional to start and stop any Threads that the applet uses in the applet's `start` and `stop` methods. In this sense, `start` serves some of the role of `public static void main( String[] )` in standalone Java applications. (Other parts of that role may be played by `init` or even by the constructor.)

The primary differences between applets and standalone applications are:

- An instance of the applet is always created, and its constructor, `init`, and `start` methods are always run. (These are the only things guaranteed to run, but both `stop` and `destroy` may also be called.) In addition, because an Applet instance is a Panel instance, a visible component is created, awt events are (potentially) handled, etc.
- When a standalone application is invoked, **only** `public static void main( String[] )` (and code called by it) is run.

Other than this information, applets are largely outside the scope of this course.
<webmaster@cs101.org>