

[Introduction to Interactive Programming](#)by [Lynn Andrea Stein](#)A [Rethinking CS101](#) Project

## 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.

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