

[Return to Module Overview Page \(https://onlinelearning.berkeley.edu/courses/665040/pages/module-eight\)](https://onlinelearning.berkeley.edu/courses/665040/pages/module-eight)

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## 8.3: Chaining Streams

Virtually all of the Java stream classes offer a constructor that accepts an instance of that stream's ancestor class as an argument, e.g.

```
PrintStream(OutputStream os)
BufferedReader(Reader r)
LineNumberInputStream(InputStream is)
FilterWriter(Writer w)
```

These constructors allow you to chain streams together. For example, to read individual numbered lines of text from a file, you might use

```
LineNumberReader lnr =
    new LineNumberReader(new FileReader("MYFILE.TXT"));
```

**lnr** has the interface of the **LineNumberReader** class, and it takes its input from the file MYFILE.TXT. Similarly,

```
StringWriter sw = new StringWriter();
PrintWriter pw = new PrintWriter(sw);
```

gives you a **PrintWriter** (a stream to which you can conveniently send numeric, string, or other data, which is transformed into textual output) connected to a **StringWriter**, a stream that collects information into a string. You can use this combination to produce a formatted string for display in a GUI, for example.