Files and Streams

4-22-2003

Renunciation

- Do you have any questions about the quiz?
- What did we talk about last class?
- Do you have any questions about the assignment?

Retention

- The most important things we do on computers is store and access large collections of data. Typically this is done with files.
- File access comes in two flavors: random and sequential. Files on the latte are often called streams. A stream is the basic unit of data, though more elaborate
  ways can be fit around that.
in the normal way of doing things in Java is with the classes in the java.io package.

This package has an elaborate class hierarchy with different classes that lay the different roles of almost everything you want to do.

There are also some special classes that handle tasks like the RandomAccessible class.

Streams and Input Streams

The most basic classes in Java are the InputStream and OutputStream classes.

These are the base classes dealing with streams of bytes.

Look in the documentation to see the methods of these classes. The most significant ones are the read and write methods though the others can be important as well.

Streams

Readers and Writers

The stream classes handle reading and writing bytes. At first, data can be easier to read and write character data.

This functionality is divided by the Reader and Writer classes.

Personally, I've never really seen the need for these classes. But if you do need it, it could be helpful.
**InputStream Classes**

- InputStream classes have multiple subclasses to give you more specific abilities. We can look at these in the docs:
  - File versions of InputStream
  - Buffered versions of connecting different streams
  - Internal streams of the file
  - Data and object streams we will discuss next class

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- The thing that you might notice is missing is the ability to do basic input/output. We can do text output with a `TextWriter`, but there is no equivalent `Reader/Writer` in Java.

  This design decision was based on the idea that programs rarely need to do generic text I/O. Reading is very easy to do, even with other functions, so doing this...

**File Class**

- The other `File` class in Java is the `File` class, which represents a specific file and allows us to get information about it. It is written in a way to be largely independent.

  This class also gives us the basic functionality that we would like to have when interacting with files.
File Placeholder

- Programs that use files is often nice to bring u a component to let the
  user click a file. This can be quite a pain. Java makes it easy by providing a class
  that automatically views and selects files.
- Simply creating and showing one of these files can very easily have the use a
  specific file to use. It's up to you to work with.

File Placeholder

- A simple little text editor program that uses a file and allows us to
  edit text files.
- We will also use some object even though we could avoid them.

File Placeholder

- Why is inheritance used so much in the Java package? How might having it
  work the way hel you in you.
- Remember that design files due on:

File Placeholder