1. Input/Output :: Reading from a Text File

To begin construct a *java.io.File* object and pass the file name as an argument:

```
import java.io.File;
import java.util.Scanner;
...
String fname = "inputs.txt";
...
File file = new File(fname);
```

Then pass the *file* object as an argument to the *java.util.Scanner* class:

```
Scanner scanner = new Scanner(file);
```

Or, these two steps can be performed in one statement:

```
String fname = "inputs.txt";
...
Scanner scanner = new Scanner(new File(fname));
```

1. Input/Output :: Scanner Methods

`void close()`

close() must be called when we are finished reading from the file.

`boolean hasNext()`

Returns true if there are more characters to be read from the file.

`String next()`

Skips whitespace until a nonwhitespace character is found and then reads characters until a whitespace character is encountered. Returns the string of nonwhitespace characters that was read.

`double nextDouble()`

Scans the next token assuming it is a real number.

`int nextInt()`

Scans the next token assuming it is an integer.

`String nextLine()`

Reads and returns all characters on the current line. After reading, the *Scanner* will be pointing to the first character of the next line of text.

1. Input/Output :: Example

Example: suppose a file named *input.txt* contains these characters:

```
Pebbles Flintstone\n
1 2.2\n
This is a line of text\n
```

We wish to read this file storing "Pebbles" in a *String* object named *s1*, "Flintstone" in a *String* object named *s2*, the integer 1 in an **int** variable named *x*, the double 2.2 in a **double** variable named *y*, and the entire last line of text in a *String* object named *s3*.

```
import java.io.File;
import java.util.Scanner();
...
Scanner scanner = new Scanner(new File("input.txt"));
String s1 = scanner.next();        // s1 is assigned "Pebbles"
String s2 = scanner.next();        // s2 is assigned "Flintstone"
int x = scanner.nextInt();         // x is assigned 1
double y = scanner.nextDouble();   // y is assigned 2.2
scanner.nextLine();                // Advance scanner to beginning of next line
String s3 = scanner.nextLine();    // s3 is assigned "This is a line of text"
scanner.close();
```