Model 1 Review of Scanner

The `java.util.Scanner` class is useful for reading and parsing text from various sources:

```
// Example 1
Scanner in = new Scanner(System.in);
while (in.hasNextLine()) {
    String line = in.nextLine();
    System.out.println(line);
}

// Example 2
String text = "1 fish 2 fish red fish blue fish";
Scanner sc = new Scanner(text);
System.out.println(sc.nextInt());
System.out.println(sc.next());
System.out.println(sc.nextInt());
System.out.println(sc.next());
```

Questions (10 min) Start time:

1. For each example above, describe what the `Scanner` is scanning.

a) Example 1: `new Scanner(System.in)` keyboard input

b) Example 2: `new Scanner(text)` the "fish" string

2. Based on the documentation for `Scanner`, explain the following:

a) `in.hasNextLine()`

Returns true if there is another line in the input of this scanner.

b) `in.nextLine()`

Advances this scanner past the current line and returns the input that was skipped.

c) `s.nextInt()`

Scans the next token of the input as an int.

d) `s.next()`

Finds and returns the next complete token from this scanner.

3. Open *ScannerDemo.java* in Eclipse, and run the program. Enter three lines of input, and notice the output. Then press Ctrl+D, which is the keyboard shortcut for "end of file" (EOF).

a) In the Console, what color was the user's input? blue/green

b) In the Console, what color was the program's output? black

c) What was the complete output of the program? (Note: Do not include the input lines.)

```
==== Example 1 ====
Line 1
Line 2
Line 3
==== Example 2 ====
1
fish
2
fish
```

4. What effect did pressing Ctrl+D have on the program? Explain how you think EOF works.

The first example repeated while the input had a next line. EOF caused the program to exit the while loop and move on to Example 2. Once the keyboard input "file" ended, `hasNextLine` returned false.

5. Rewrite the code for Example 2 to output each *word* of the string using a `while` loop. Run your code to make sure it works.

```
Scanner sc = new Scanner(text);
while (sc.hasNext()) {
    System.out.println(sc.next());
}
```