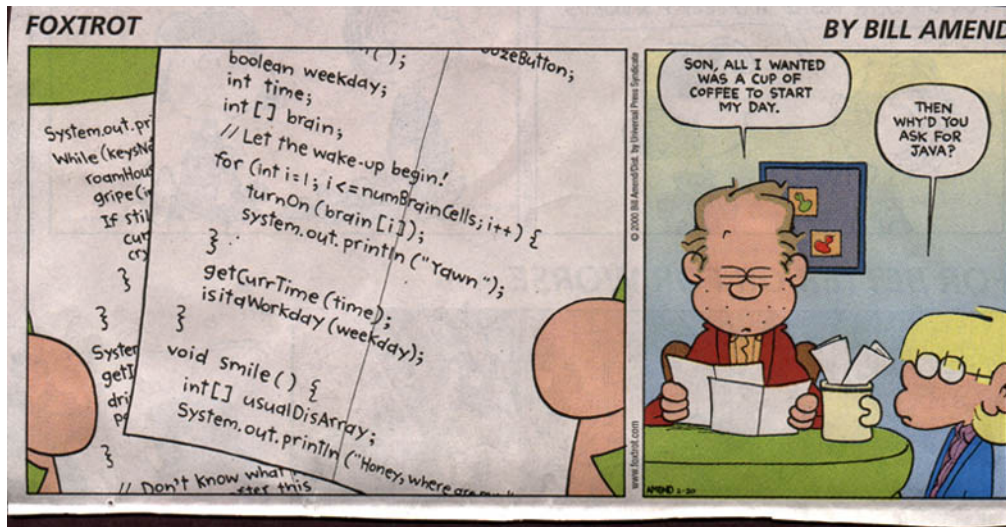


CS201 - Assignment 2, Part 1
Due: Friday February 21,
when the beginning of class would normally be



<http://www.bkahn.us/comic.htm>

So far, all we've seen is how you can print things to the console. You can also *get* text from the user from the console as well. This can be useful for making your programs interactive and for collecting data from the user.

1 Scanner class

There are many different ways to read user input from the console. One of the most straightforward ways is to use the `Scanner` class which is in the `java.util` package. The `Scanner` class allows you to read from a stream of text and it has different functions to parse the text depending on what the type of the expected data is (e.g. `String` versus `int` versus `double`, etc.).

To use this class, you first have to import it into *your* class (remember `import` statements go *outside* of the class definition):

```
import java.util.Scanner
```

Once you've done this, then you can create a new scanner object by giving it a stream to read from. For now, we'll use the `System.in` stream, which reads from the console (the parallel to the `System.out` stream that we've been using for printing to the console):

```
Scanner in = new Scanner(System.in);
```

where `in` is just a variable name that I chose (it could have been anything) and the code on the right of the '=' sign is a call to the constructor for the `Scanner` class. You can then read data from the user, depending on what type you expect. For example:

- If you just want to read the next line as a string:

```
String s = in.nextLine();
```

- If you know that the thing entered by the user is an integer:

```
int num = in.nextInt();
```

- If you know that the thing entered by the user is a decimal number:

```
double num = in.nextDouble();
```

There are other types of things that the `Scanner` class can read, but these are the most useful for now. If you're curious, you can see the documentation at:

<http://docs.oracle.com/javase/7/docs/api/java/util/Scanner.html>

2 An example

Create a new project and create a new class called `UserInputExamples`. Then, copy and paste the code from:

<http://www.cs.middlebury.edu/~dkauchak/classes/cs201/assignments/assign2/part1/UserInputExamples.java>

into this class.

Look at the two functions in this code and try them out.

3 What to submit

When you think you understand how the `Scanner` class works and how the two methods work, answer the following questions in a `.txt` file and then submit via the digital submission mechanism on the course web page as assignment number "2.1".

1. What happens if you enter something that is not a number for either the years or GPA prompt?

2. What happens if you enter a decimal number for the number of years at Middlebury?
3. Explain how to modify the `guessingGame` code to keep track of the number of guesses the user took to get the correct answer. You can either describe how to fix the code (be specific) or just fix it and copy and paste the code for that function in your text file.