

Java I/O

Input: The Scanner class

The scanner class is used to read in data from the end-user, providing functionality similar to Python's `input()` and `raw_input()` methods.

Example:

```
import java.util.*;
class ScannerDemo
{
    public static void main(String[] args)
    {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string:");
        String s = scanner.next();
        System.out.println(s);
    }
}
```

The specification for Scanner class can be found within the [Java 1.5 API](http://java.sun.com/j2se/1.5.0/docs/api/index.html):
<http://java.sun.com/j2se/1.5.0/docs/api/index.html>

Scanner has `nextX` methods for each type:

Java	Python
<code>s=scanner.next()</code>	<code>s = raw_input()</code>
<code>i=scanner.nextInt()</code>	<code>i = input()</code>
<code>f=scanner.nextFloat()</code>	<code>f = input()</code>

Consider the line:

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

The parameter is a file. `System.in` is a system defined 'file' mapped to the keyboard.

If you want to read from a file, you can just do something like the following:

```
Scanner sc = new Scanner(new File("myNumbers"));
```

The `'hasNext()'` method can be used to see if at end of file:

```
while (sc.hasNext())
{
    s = sc.next()
}
```

We'll look at file I/O in more detail later.

Output: System.out.println

In Java, everything is object-oriented. So you can't just call a 'print' function as in Python. Even printing requires an class, in this case a Java library class named System:

Java

```
System.out.print("hello world")
```

Python

```
print ("hello world")
```

In Class Assignment:

For your Person class, write a method named 'readData' that allows the user to enter the data (name, age) for a person. To test your method add code like the following to your main:

```
Person ralph= new Person();  
ralph.readData();  
System.out.println(ralph.name);  
System.out.println(Ralph.age);
```