Chapter 2: Java Fundamentals

Input and Output statements
Standard Output Window

- Using **System.out**, we can output multiple lines of text to the standard output window.

- The exact style of standard output window depends on the Java tool you use.
The println Method

- We use `println` instead of `print` to skip a line.

```java
int x = 123, y = x + x;
System.out.println( "Hello, Dr. Caffeine." );
System.out.print( " x = " );
System.out.println( x );
System.out.print( " x + x = " );
System.out.println( y );
System.out.println( " THE END" );
```
Standard Input

- To input primitive data values, we use the Scanner class.
- 4 steps are needed to be able to use input primitive:
  - **Step 1:** import the Scanner class:
    - import Java.util.Scanner;
  - **Step 2:** declaring a reference variable of a Scanner
    - Scanner read; //we named the object read
  - **Step 3:** creating an instance of the Scanner
    - read = new Scanner (System.in);
  - **Step 4:** use specific methods to enter data
    - int x = read.nextInt();
import java.util.Scanner;

Scanner input; // declaring the reference variable of a Scanner

int area, length, width; // declaring variables to store entries

input = new Scanner(System.in); // creating an instance

length = input.nextInt(); // reading the length from the keyboard

width = input.nextInt(); // reading the width from the keyboard

area = length * width; // computing the area

// displaying the result

System.out.println("the length is " + length);

System.out.println("the width is " + width);

System.out.println("the area is " + area);
# Common Scanner Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>nextByte( )</td>
<td>byte b = input.nextByte( );</td>
</tr>
<tr>
<td>nextDouble( )</td>
<td>double d = input.nextDouble( );</td>
</tr>
<tr>
<td>nextFloat( )</td>
<td>float f = input.nextFloat( );</td>
</tr>
<tr>
<td>nextInt( )</td>
<td>int i = input.nextInt( );</td>
</tr>
<tr>
<td>nextLong( )</td>
<td>long l = input.nextLong( );</td>
</tr>
<tr>
<td>nextShort( )</td>
<td>short s = input.nextShort( );</td>
</tr>
<tr>
<td>next()</td>
<td>String str = input.next();</td>
</tr>
</tbody>
</table>