Chapter 2: Java Fundamentals
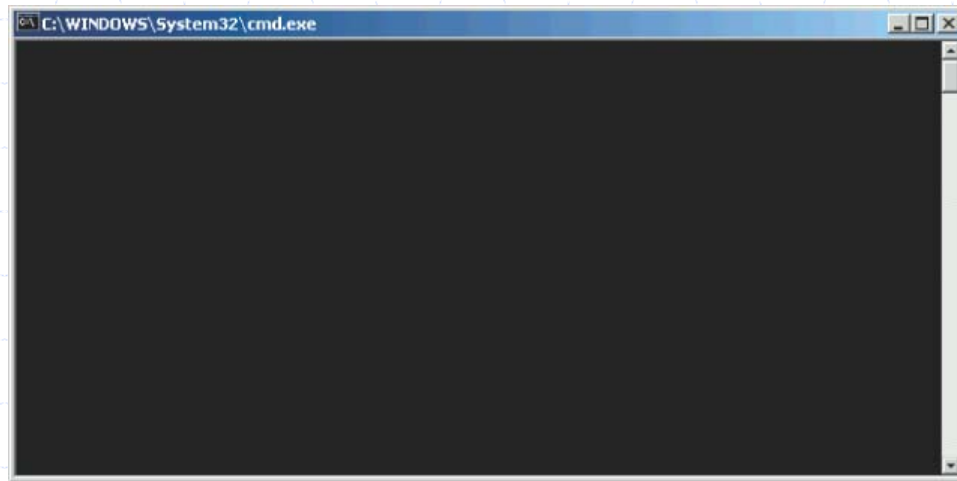
Input and Output statements

Standard Output Window

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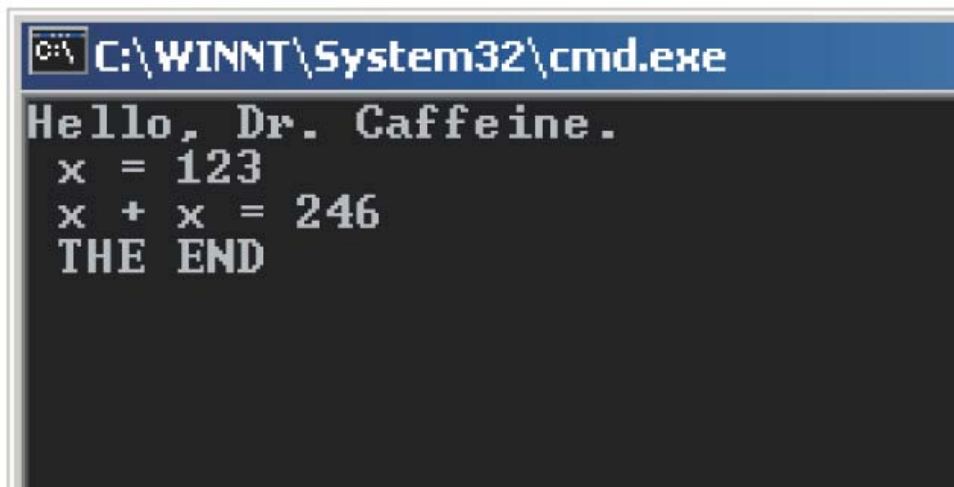

- The exact style of standard output window depends on the Java tool you use.

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The println Method

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

```
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" );
```

```
C:\WINNT\System32\cmd.exe
Hello, Dr. Caffeine.
 x = 123
 x + x = 246
THE END
```

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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();`

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Example

```java
1 import Java.util.Scanner;

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

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

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

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

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

7 area = length * width ;  // computing the area

      // displaying the result

8 System.out.println("the legnth is "+ lenght);

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

10 System.out.println("the area is "+ area);
```

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Common Scanner Methods

- Method   Example

     Scanner input = new Scanner (System.in);

```
nextByte( )        byte b = input.nextByte( );
nextDouble( )      double d = input.nextDouble( );
nextFloat( )       float f = input.nextFloat( );
nextInt( )         int i = input.nextInt( );
nextLong( )        long l = input.nextLong( );
nextShort( )       short s = input.nextShort( );
next()             String str = input.next();
```