Key point: *Reading input from the console enables the program to accept input from the user.*

2.3 Reading Input from the Console

- **System.in** is analogous to **System.out**. **System.in** is the standard input device.
- class **Scanner** is employed to parse in the input. To create a scanner for this program,
  Scanner input = new Scanner(System.in);
- Variable input is an instance of type Scanner in the same way as area was an instance of type double.
- To read a value for the radius from the input, we write
  double radius = input.nextDouble();

Listing 2.2 ComputeAreaWithConsoleInput.java

```
1  import java.util.Scanner;          // Scanner is in the java.util package
2
3  public class ComputeAreaWithConsoleInput {
4      public static void main(String[] args) {
5          // Create a Scanner object
6          Scanner input = new Scanner(System.in);
7
8          // Prompt the user to enter a radius
9          System.out.print("Enter a number for radius: ");
10         double radius = input.nextDouble();
11
12         // Compute area
13         double area = radius radius * 3.14159;
14
15         // Display results
16         System.out.println("The area for the circle of radius " +
17             radius + " is " + area);
18     }
19 }
```

```
run:
Enter a number for radius: 2.5
The area for the circle of radius 2.5 is 19.6349375
BUILD SUCCESSFUL (total time: 3 seconds)
```

```
run:
Enter a number for radius: 23
The area for the circle of radius 23.0 is 1661.90111
BUILD SUCCESSFUL (total time: 10 seconds)
```

Listing 2.3 ComputeAverage.java

```
 1  import java.util.Scanner;              // Scanner is in the java.util package
 2
 3  public class ComputeAverage {
 4      public static void main(String[] args) {
 5          // Create a Scanner object
 6          Scanner input = new Scanner(System.in);
 7
 8          // Prompt the user to enter three numbers
 9          System.out.print("Enter three numbers: ");
10          double number1 = input.nextDouble();
11          double number2 = input.nextDouble();
12          double number3 = input.nextDouble();
13
14          // Compute average
15          double average = (number1 + number2 + number3) / 3;
16
17          // Display results
18          System.out.println("The average of " + number1 + " " + number2
19              + " " + number3 + " is " + average);
20      }
21  }
```

```
run:
Enter three numbers: 1 2 3
The average of 1.0 2.0 3.0 is 2.0
BUILD SUCCESSFUL (total time: 17 seconds)
```

```
run:
Enter three numbers: 10.5
11
11.5
The average of 10.5 11.0 11.5 is 11.0
BUILD SUCCESSFUL (total time: 22 seconds)
```