Coding Demo 1

This demo is designed to give you practice writing code and applying lessons and topics for the current module.

This **practice demo** deals with the following topics:
- An introduction to Java programming, syntax, and style
- Noting some of the key differences between Python and Java

The Assignment

For this first Java **demo**, we will just have you program in the *main* method of your program. There are the six mini-programs we want you to code. All of the code you write should be in the *main* method of the MiniProgram class in the "MiniProgram.java" file.

The *main* method has been defined for you, but without most of the code. See the comments for each mini-program for instructions on what each part is supposed to do and how to write the code. It should be clear enough. In some cases, we have provided hints to help you get started.

For example, we have described a "Say Hello" mini-program for you (see below) which gets input of a full name (first name and last name, separated by a space) and prints a greeting in the form "Hello, <full name>!". Read the comments, which explain what the code is supposed to do. Then write your code where it says "// TODO" to implement the mini-program and replace the placeholder. You'll do this for each mini-program in the *main* method.

```
/*
 * Say Hello
 * Gets input of full name (first name and last name, separated by a
space).
 * Prints "Hello, <full name>!".
 *
 * Example(s):
 * - If input is Brandon Krakowsky, print "Hello, Brandon Krakowsky!"
 */

//Scanner to be used for user input throughout the main method
Scanner scanner = new Scanner(System.in);

//TODO: Add your code here
```

Note: Do not be concerned with invalid input for this assignment. Assume a user being asked to enter an integer or double WILL enter an integer or double (and not some other text).

These are the six mini-programs that need to be implemented in the *main* method:

1. *Say Hello*
   a. Ask the user to enter their full name.
   b. The user should type in their first name and last name, separated by a space.
      i. Print "Hello, <full name>!" where <full name> gets replaced by the full name of the user.

2. *Add Five Numbers*
   a. Ask the user to enter a total of 5 numbers (ints or doubles), and hit enter after each. Assume each number is an int or a double.
   b. Print the sum (as a double) of all the numbers each time.

3. *Even or Odd*
   a. Ask the user to enter an integer.
   b. Check if the number is even or odd. Assume this will be a positive integer.
      i. If it is even, print "<number> is even", where <number> gets replaced by the number.
      ii. If it is odd, print "<number> is odd", where <number> gets replaced by the number.

4. *Prime or Composite*
   a. Ask the user to enter a positive integer. Assume this will be a positive integer.
   b. Check if the number is prime or composite.
      i. If it is prime, print "<number> is prime", where <number> gets replaced by the number.
      ii. If it is composite, print "<number> is composite", where <number> gets replaced by the number.
      iii. If the number is 1, print 1.

5. *Convert Seconds to Time*
   a. Ask the user to enter some number of seconds (as an int) and convert it to hours:minutes:seconds.
      i. For example, if input seconds is 1432, print output in the format: 0:23:52
      ii. If input seconds is 0, print output in the format: 0:0:0
      iii. If input seconds is negative, print output in the format: -1:-1:-1

6. *Say Goodbye*

a. Print "Goodbye, <full name>!" where <full name> gets replaced by the full name of the user.

Separate the printed output from each mini-program above with a blank line, a "----------", and another blank line. For example, the output from the first two mini-programs should look something like this:

Hello, Luke Skywalker!

Sum: 3.4
Sum: 5.74
Sum: 11.06
Sum: 12.06
Sum: 12.06

Write comments using // for any non-trivial lines of code. In general, all of the style conventions from Python also apply in Java. The main differences are in naming conventions (lowercase and underscores versus camelCase) and the syntax for comments (/* */ versus ''' ''' and // versus #). The content of your comments should be very similar.

Tips for this demo

In this assignment, some tips are given as follows:

- There is a line of code that has been provided for you (in the *main* method) that creates a Scanner object and stores it in the `scanner` variable. This can be used for getting user input throughout the *main* method.
  ```
  Scanner scanner = new Scanner(System.in);
  ```
- Each print statement should follow the specified format exactly. If the specified format for a print statement contains whitespace or punctuation, make sure the print statement has them.