Code Analysis

1. Identify the four Variable Types:

    a. Instance Variable - Attribute of a specific object of a class
    b. Class Variable - Attribute of an entire class, declared static
    c. Temporary Variable - A local variable that only exists within the data structure it is created in
    d. Parameter Variable - Data required by a specific method as stated in its signature

2. For each of the 4 variable types, discuss how each of the following terms applies to them:
    a. Use
    b. Constant
    c. Data Type
    d. Scope
    e. Accessibility

	Instance Variable	Class Variable	Temporary Variable	Parameter Variable
Use	To describe an attribute of a specific object of the class	To describe an attribute of all objects of the class	To store a piece of information for use within the current data structure	To store data required to run the method
Constant	Usually not constant	Usually constant, static	Usually not constant	Never constant
Data Type	Any	Any	Any	Any
Scope	Private (rarely Protected)	Public	Only accessible in the method where they are defined	Follows scope of the method they are defined in
Accessibility	Anywhere within the class	Anywhere within the class	Within the current data structure only	Within the current method

3. Explain the concept of encapsulation? How is this implemented in Java?

Encapsulation is one of the fundamental OOP concepts.

Encapsulation in Java is a mechanism of wrapping the data (variables) and code acting on the data (methods) together as a single unit. In encapsulation, the variables of a class will be hidden from other classes,and can be accessed only through the methods of their current class. Therefore, it is also known as data hiding.

To achieve encapsulation in Java −

Declare the variables of a class as private.

Provide public accessor methods to modify and view the variables values. Ie. setXXX() and getXXX()