Chapter- 3

3.1 Fill in the blanks in each of the following:

a) Each class declaration that begins with keyword **class** must be stored in a file that has exactly the same name as the class and ends with the .java file-name extension.
b) Keyword **class** in a class declaration is followed immediately by the class's name.
c) Keyword **new** requests memory from the system to store an object, then calls the corresponding class's constructor to initialize the object.
d) Each parameter must specify both a(n) **type** and a(n) **name** .
e) By default , classes that are compiled in the same directory are considered to be in the same package, known as the **default package** .

f) When each object of a class maintains its own copy of an attribute, the field that represents

the attribute is also known as a(n) **instance variable**.
g) Java provides two primitive types for storing floating-point numbers in memory: **float** and **double**.
h) Variables of type double represent **double-precision** floating-point numbers.
i) Scanner method **nextDouble** returns a double value.
j) Keyword public is an access **modifier** .

k) Return type **void** indicates that a method will not return a value.

l) Scanner method **nextLine** reads characters until it encounters a newline character, then returns those characters as a String.

m) Class String is in package **java.lang** .

n) A(n) **import declaration** is not required if you always refer to a class with its fully qualified class name.

o) A(n) **floating-point number** is a number with a decimal point, such as 7.33, 0.0975 or 1000.12345.

p) Variables of type float represent **single-precision** floating-point numbers.

q) The format **%f** specifier is used to output values of type float or double.
r) Types in Java are divided into two categories— types **primitive** and types **reference**.

3.2 State whether each of the following is *true* or *false*. If *false*, explain why.

a) By convention, method names begin with an uppercase first letter, and all subsequent words in the name begin with a capital first letter.

False. By convention, method names begin with a lowercase first letter and all subsequent words in the name beginwith a capital first letter.

b) An import declaration is not required when one class in a package uses another in the same package.

True.

c) Empty parentheses following a method name in a method declaration indicate that the method does not require any parameters to perform its task.

True.

d) Variables or methods declared with access modifier private are accessible only to methods of the class in which they're declared.

True

e) A primitive-type variable can be used to invoke a method.

False. A prim itive-type variable cannot be used to invoke a method—a reference to an object is required to invoke the object's methods.

f) Variables declared in the body of a particular method are known as instance variables and can be used in all methods of the class.

False. Such variables are called local variables and can be used only in the method in which they're declared.

g) Every method's body is delimited by left and right braces ({ and }).

True

h) Primitive-type local variables are initialized by default.

False. Primitive-type instance variables are initialized by default. Each local variable must explicitly be assigned a value.

i) Reference-type instance variables are initialized by default to the value null.

True

j) Any class that contains public static void main(String[] args) can be used to execute an application.

True

k) The number of arguments in the method call must match the number of parameters in the method declaration's parameter list.

True

l) Floating-point values that appear in source code are known as floating-point literals and are type float by default.

False. Such literals are of type double by default.