What does a class define?

*A class defines the properties and behaviors for objects.* An *object* represents

an entity. An object has a unique

identity, state, and behavior. A *class* is a template, blueprint,

or *contract* that defines what an object’s data fields and methods will be. An object is an

instance of a class. A Java class uses variables to define data fields and methods to define actions.

■ The *state* of an object (also known as its *properties* or *attributes*) is represented by

*data fields* with their current values.

The *behavior* of an object (also known as its *actions*) is defined by methods. To

invoke a method on an object is to ask the object to perform an action.

**What is constructor?**

Constructor is a block of code that initializes the newly created object. a class provides methods of a special type, known as *constructors*. A constructor can perform any action, but constructors are designed to perform initializing actions, such as initializing the data fields of objects.

Or

*A constructor is invoked to create an object using the* **new** *operator.*

Constructors are a special kind of method. They have three peculiarities:

■ A constructor must have the same name as the class itself.

■ Constructors do not have a return type—not even **void**.

■ Constructors are invoked using the **new** operator when an object is created.

Constructors play the role of initializing objects.

Accessing Objects via Reference Variables

*An object’s data and methods can be accessed through the dot (***.***) operator via the*

*object’s reference variable.* also known as the *object member access operator*:

Newly created objects are allocated in the memory. They can be accessed via reference

variables. Here is an example:

Circle myCircle = **new** Circle();

The variable **myCircle** holds a reference to a **Circle** object.

**Note**

Arrays are treated as objects in Java. Arrays are created using the **new** operator. An array

variable is actually a variable that contains a reference to an array.