### ****Classes and Objects****

* **Classes**:
  + A **class** in Java is a blueprint or template for creating objects. It defines the structure (attributes) and behavior (methods) that the objects of the class will have.
  + **Example**:

class Dog {

String name; // Attribute

public Dog(String name) {

this.name = name;

}

public void bark() {

System.out.println("Woof!"); // Behavior

}

}

* **Objects**:
  + An **object** is an instance of a class. When a class is defined, no memory is allocated until objects are created from the class.
  + **Example**:

Dog myDog = new Dog("Rex");   
// Object created from the Dog class

myDog.bark(); // Outputs: Woof!

* **Relationship**:
  + **Classes** define the blueprint, while **objects** are instances created from that blueprint. Each object has its own attributes and can perform the behaviors defined in the class.
* **Difference**:
  + A **class** is an abstract concept that defines what the objects will look like and how they will behave, whereas **objects** are actual instances that hold data and execute methods.