



FACULTY OF ENGINEERING & TECHNOLOGY

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Object in Programming
Creating an Object
Source File Declaration Rules



Object in Programming

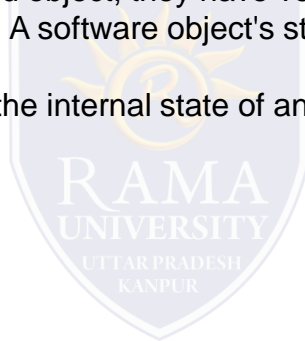
If we consider the real-world, we can find many objects around us, cars, dogs, humans, etc. All these objects have a state and a behavior.

If we consider a dog, then its state is - name, breed, color, and the behavior is - barking, wagging the tail, running.

If you compare the software object with a real-world object, they have very similar characteristics.

Software objects also have a state and a behavior. A software object's state is stored in fields and behavior is shown via methods.

So in software development, methods operate on the internal state of an object and the object-to-object communication is done via methods.



Creating an Object

a class provides the blueprints for objects. So basically, an object is created from a class. In Java, the new keyword is used to create new objects.

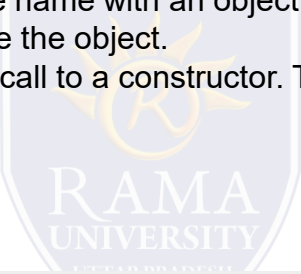
There are three steps when creating an object from a class –

Declaration – A variable declaration with a variable name with an object type.

Instantiation – The 'new' keyword is used to create the object.

Initialization – The 'new' keyword is followed by a call to a constructor. This call initializes the new object.

Following is an example of creating an object –



```
public class Puppy {
    public Puppy(String name) {
        // This constructor has one parameter, name.
        System.out.println("Passed Name is :" + name );
    }

    public static void main(String []args) {
        // Following statement would create an object myPuppy
        Puppy myPuppy = new Puppy( "tommy" );
    }
}
```

Source File Declaration Rules

There can be only one public class per source file.

A source file can have multiple non-public classes.

The public class name should be the name of the source file as well which should be appended by **.java** at the end. For example: the class name is *public class Employee*} then the source file should be as Employee.java.

If the class is defined inside a package, then the package statement should be the first statement in the source file.

If import statements are present, then they must be written between the package statement and the class declaration. If there are no package statements, then the import statement should be the first line in the source file.

Import and package statements will imply to all the classes present in the source file. It is not possible to declare different import and/or package statements to different classes in the source file.

