Access and Non Access Modifiers in Java

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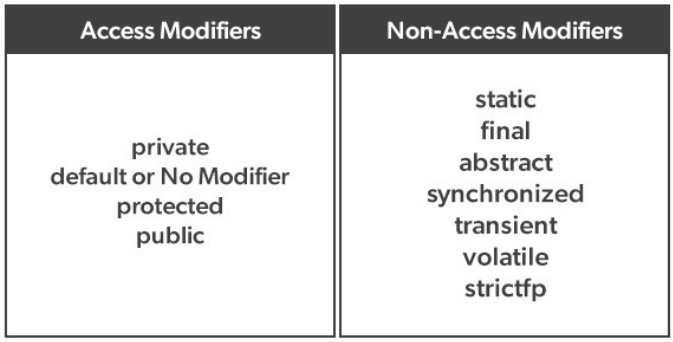
Java provides a rich set of modifiers. They are used to control access mechanisms and also provide information about class functionalities to JVM. They are divided into two categories namely:

1. Access modifiers
2. Non-access modifiers



Access Modifiers

Java's access modifiers are **public**, **private**, and **protected**. Java also defines a default access level (called package-private).

- **public:** When a member of a class is modified by **public**, then that member can be accessed by any other code.
- **private:** When a member of a class is specified as **private**, then that member can only be accessed by other members of its class.

- **default:** It is also referred to as no modifier. Whenever we do not use any access modifier it is treated as default where this allows us to access within a class, within a subclass, and also non-sun class within a package but when the package differs now be it a subclass or non-class we are not able to access.
- **protected:** With the above default keyword we were facing an issue as we are getting closer to the real world with the above default modifier but there was a constriction as we are not able to access class sub-class from a different package. So protected access modifier allows not only to access class be it subclass or non-sub class but allows us to access subclass of the different package which brings us very close to a real-world and hence strong understanding of inheritance is required for understanding and implementing this keyword.

	default	private	protected	public
same class	yes	yes	yes	yes
same package subclass	yes	no	yes	yes
same package non-subclass	yes	no	yes	yes
different package subclass	no	no	yes	yes
different package non-subclass	no	no	no	yes

Types of Access Modifiers

Note: Now you can understand why main( ) has always been preceded by the public modifier. It is called by code that is outside the program—that is, by the Java run-time system. When no access modifier is used, then by default the member of a class is public within its own package, but cannot be accessed outside of its package. **protected** applies only when inheritance is involved.

```
class GFG
{
public static void main(String[] args)
```

```
    {
        // Insert your code here
    }
}
```

Non-access Modifiers

In java, we have 7 non-access modifiers. They are used with classes, methods, variables, constructors, etc to provide information about their behavior to JVM. They are as follows:

1. static
2. final
3. abstract
4. synchronized
5. transient
6. volatile
7. native

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