

CSA09-Java Programming

Access Modifiers in Java:-

There are two types of modifiers in Java. Access

* Access Modifiers

* Non-Access Modifiers

Access Modifiers:-

In Java specifies the accessibility or scope of a field, Method, constructor or class.

We can change the access level of fields, constructors, Methods and class by applying the access modifier on it.

⇒ There are four types of access modifiers in Java they are:

* Private

* default

* Protected

* Public

Private:-

The access level of a Private modifier is only within the class.

⇒ It cannot be accessed from outside the class.

Default:-

The access level of a default modifier is only within the package.

⇒ It cannot be accessed from outside the package. If you do not specify any access level it will be the default.

Protected :-

The access level of a Protected modifier is within the Package and outside the Package through child class.

⇒ If you do not make the child class, it cannot be accessed from outside the Package.

Public :-

The access level of a Public modifier is everywhere. It can be accessed from within the class, outside the class, within the Package and outside the Package.

There are many non access modifiers, such as static, abstract, synchronized, native, volatile etc.

Access Modifier	within class	within No Package	outside Package by subclass only	outside Package
Private	Y	N	N	N
Default	X	Y	N	N
Protected	Y	Y	Y	N
Public	Y	X	Y	Y

The Private access modifier is accessible only within the class

Example of Private class

```
class A {  
    Private int data = 40;  
    Private void msg ()  
    {  
        System.out.println("Hello");  
    }  
}  
  
Public class simple {  
    • Public static void main(String[] args) {  
        A obj = new A ();  
        System.out.println(obj.data);  
        obj.msg();  
    }  
}
```

example of default

```
Package my Pack;  
import Pack.*;  
  
Class B {  
    Public static void main(String[] args) {  
        A obj = new A ();  
        obj.msg();  
    }  
}
```


Example of Protected

```
Package myPack;  
import Pack.*;  
class B extends A  
{  
    public static void main(String[] args)  
    {  
        B obj = new B();  
        obj.msg();  
    }  
}
```

Example of Public

```
Package myPack;  
import Pack.*;  
class B {  
    public static void main(String[] args) {  
        A obj = new A();  
        obj.msg();  
    }  
}
```

Java Access Modifiers with Method overriding:-

```
class A {  
    protected void msg() {  
        System.out.println("Hello Java");  
    }  
}  
  
public class simple extends A {  
    void msg() {  
        System.out.println("Hello Java");  
    }  
    public void main(String[] args) {  
        simple obj = new simple();  
        obj.msg();  
    }  
}
```