**Access Specifiers-**

They are used to restrict the access.

There are four types of access specifiers as

Private

Default

Protected

Public

**Private-**

It apply to global variable, static variables, method, constructor and inner class only.

Outer Class cannot be private.

It can access within class only not outside class or outside package as scope is very limited.

Local variables cannot private.

**Default-**

It apply to global variable, static variable, constructors, method, inner class and outer class.

It can be accessible within the same package only.

When the access specified is not specified then it will be treated as default members.

No need to use keyword default like private.

**Protected-**

It apply to global variable, static variable, constructors, method, inner class.

It cannot apply to local variables and outer class.

It is accessible within the same package and also possible into another package if inheritance is happened while calling.

**Public-**

It apply to global variable, static variable, constructors, method, inner class and outer class.

It can access anywhere in the class or outside the class or same package or different package

Local variables cannot public because they have limited scope within the method only. If we make it public then getting error only. “Illegal modifier for parameter”

Note-

1. We can apply default access Specifiers or final on local variable.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Private | Default | Protected | public |
| Same class | Yes | Yes | Yes | Yes |
| Same package child class | No | Yes | Yes | Yes |
| Same package non child class | No | Yes | Yes | Yes |
| Different package child class | No | No | Yes | Yes |
| Different package non child subclass | No | No | No | Yes |

**Points to remember:-**

1. Local variable can only be final.

2. The only access specifier applicable to outer class is public and default.

3. Generally the variable should be declared as private and method should be declared as public.