ACCESSIBILITY MODIFIERS

To define the above four levels we have 3 keywords

1. **private:**

The class members which have private keyword in its creation statement are called private members. **Those members are only accessible with in that class.**

2.**public:**

The class and its members which have public keyword in its creation statement are called public members. Those members can be accessible from all places of Java application.

protected:

3.**protected**

The class members which have protected keyword in its creation statement are called protected members. **Those members can be accessible within package from all classes, but from outside package only in subclass that too only by using subclass object** (This ruie is only for non-static protected members. Static protected members can be accessible by using same class name or by using subclass name).

Note: if we do not use any of the above 3 accessibility modifiers, package level is the **default** accessibility modifier of class and its members. It means that **class and its members are not accessible from outside of that package.**

```
//sample.java
public class sample
{
private        int a = 10;      //private variable
               int b = 20;      //package levelvariable
protected      int c = 30;      //protected variable
public         int d = 40;      //public variable

public static void main(String[] args)
(
 sample e = new sample();
 System. out. println ("a:"  +e.a);
System. out. println ("b: "  +e.b);
System .out. println("c: "  +e.c);
System .out. println("d: " +e.d);
}
}
```

```
D:\CodeWithShiv\Accessmod\prog1> javac sample.java
D:\CodeWithShiv\Accessmod\prog1> java Example
a: 10
b: 20
c: 30
d: 40
```

The above program is compiled and executed without errors, but outside of the class only non-private members are accessible. If we access private members from outside class members it leads to compiler throws CE:

```
//Example.java
 public class Example(
public static void main(String[] args)
{
 sample e = new sample();
 //System. out. printIn (“a:”+e.a);  //CE: a has private
access in sample
System.out.println (“b:”+e.b);
System. out. println(“c:”+e.c);
System. out. println(“d:”+e.d);
}}

D:\CodeWithShiv\Accessmod\prog1> javac
Example.java
D:\CodeWithShiv\Accessmod\prog1> java Example
b: 20
c: 30
d: 40
```