ENCAPSULATION

(1) Java package :

- A package is simply a container that groups related types(java classes, interfaces, enumerations and annotations).
- To define a package in java we use keyword package.
- Java uses file system directories to store packages.

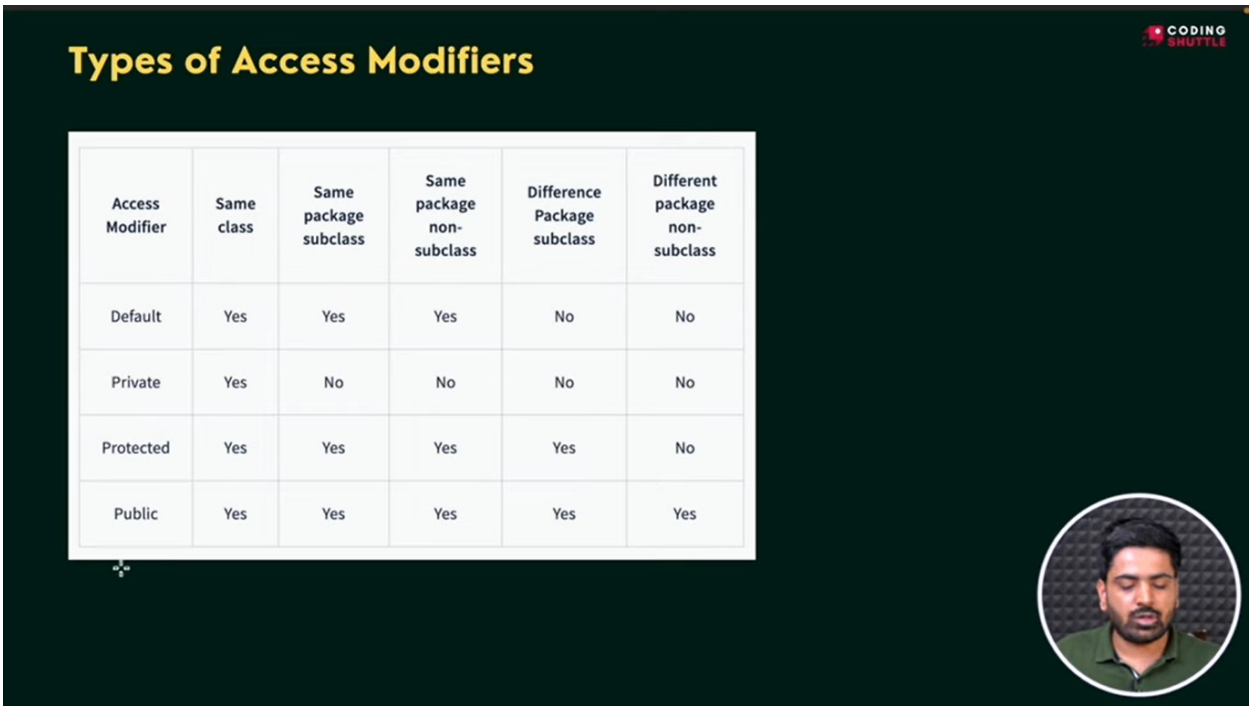
  Ex- com-> test-> employee.java

(2) Import keyword:

- Java has an import statement that allows you to import an entire package or use only certain classes and interfaces defined in the package.
- In java, import statement is written directly after the package statement(if it exists) and before the class definition.

(3) Access modifiers:

- In java access modifiers are used to set the accessibility(visibility) of classes , interfaces, variables, methods, constructors, data members and the setter method.



Access Modifier	Same class	Same package subclass	Same package non-subclass	Difference Package subclass	Different package non-subclass
Default	Yes	Yes	Yes	No	No
Private	Yes	No	No	No	No
Protected	Yes	Yes	Yes	Yes	No
Public	Yes	Yes	Yes	Yes	Yes

(4) Encapsulation:

- Encapsulation refers to the bundling of fields and methods inside a single class. It prevents outer classes from accessing and changing fields and methods of a class . This also helps to achieve data hiding.

  Data hiding: data hiding is a way of restricting the access of our data members by hiding the implementation details. We can use access modifier to achieve data hiding.

  Generally we create variable as private and publicly provide setters and getters

  Ex-

```
package org.example.opps_concept.encapsulation;

public class Encapsulation {
   private int age;
   private String name;

   public void setAge(int age){
       if(age>0){
           this.age=age;
```

```
        }
    }

    public int getAge(){
        return age;
    }

    public void setName(String name){
        this.name=name;
    }

    public String getName(){
        return name;
    }
}
```

```
package org.example.opps_concept.encapsulation;

public class Main {
    public static void main(String[] args) {
        Encapsulation e = new Encapsulation();
        e.setAge(12);
        System.out.println(e.getAge());
    }
}
```