

Lecture#4

Object Oriented Programming (JAVA)

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Faculty Profile



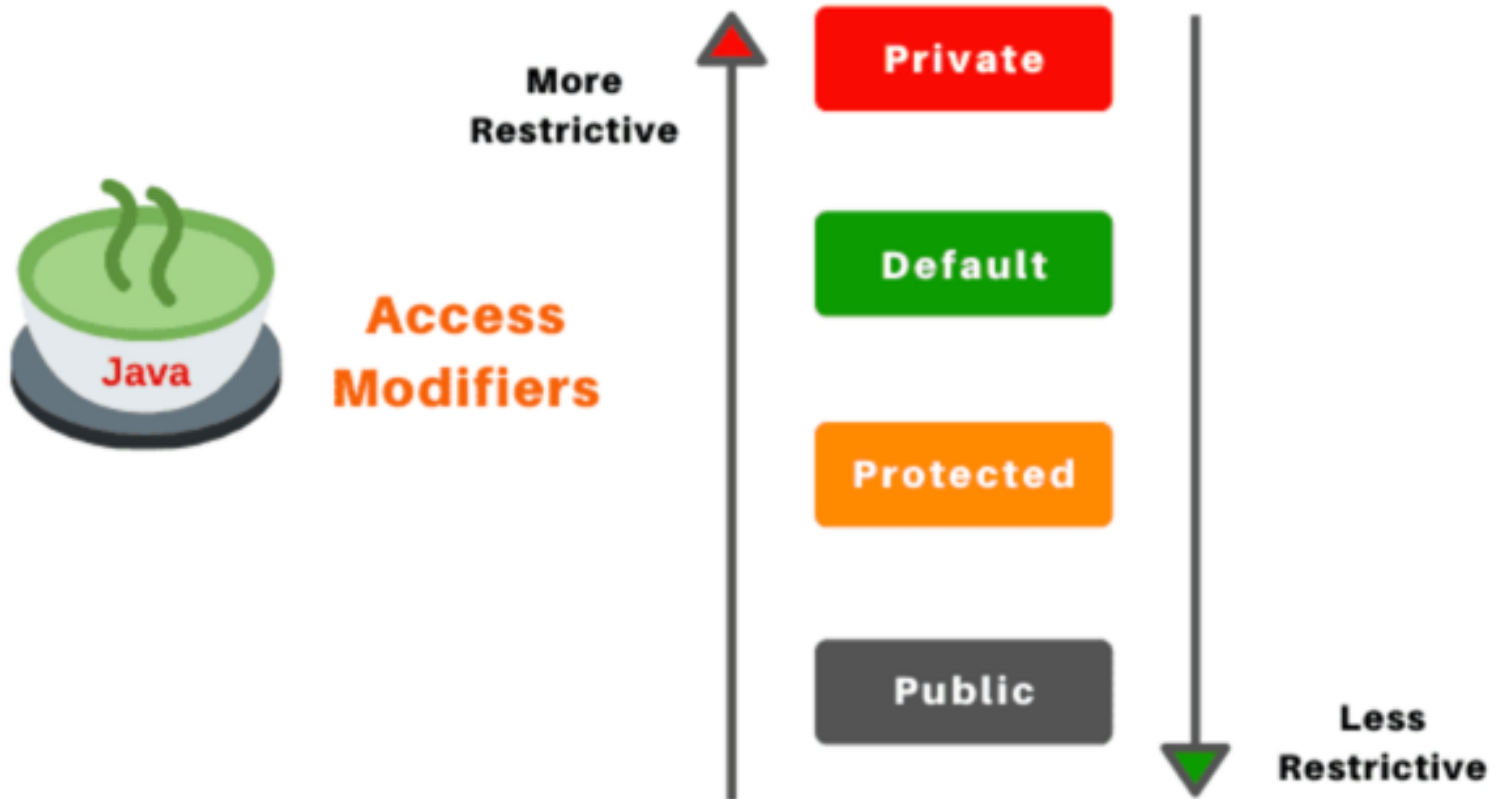
Features of OOP

The three important features of OOP are-

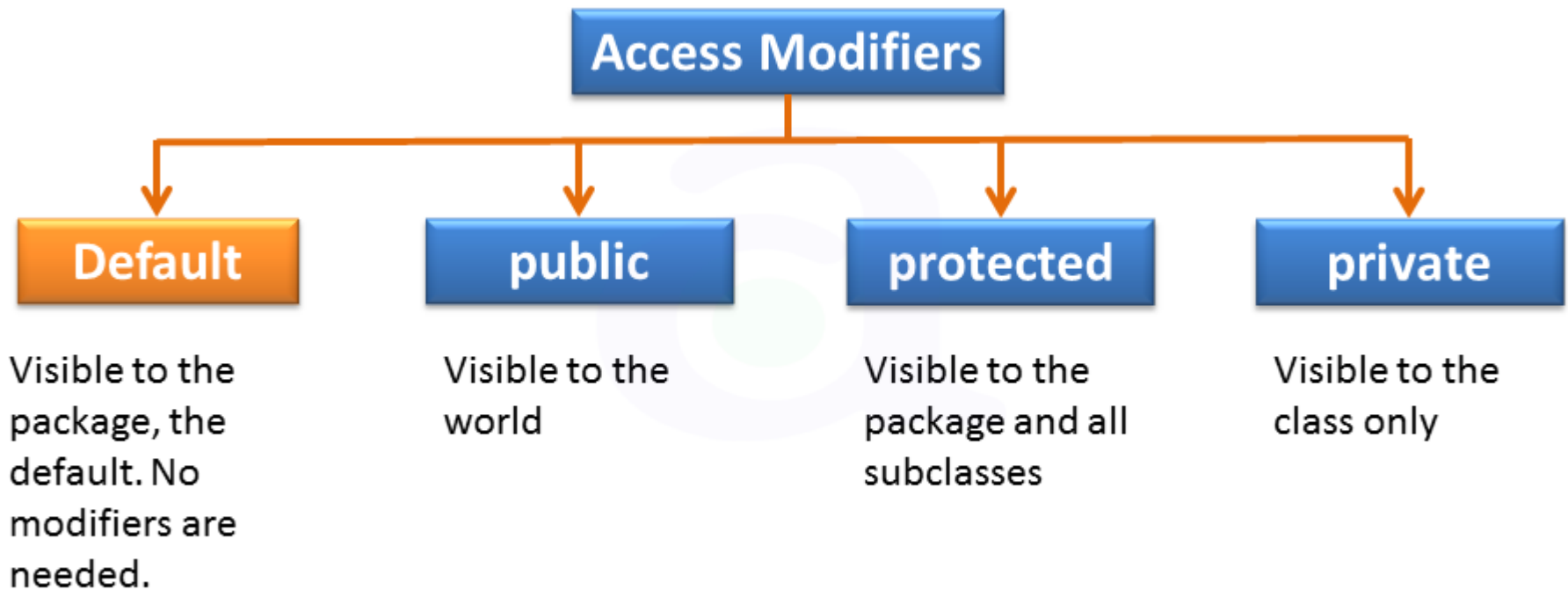
- ❖ Encapsulation
- ❖ Polymorphism
- ❖ Inheritance



Access Modifiers



Access Modifiers / Specifiers



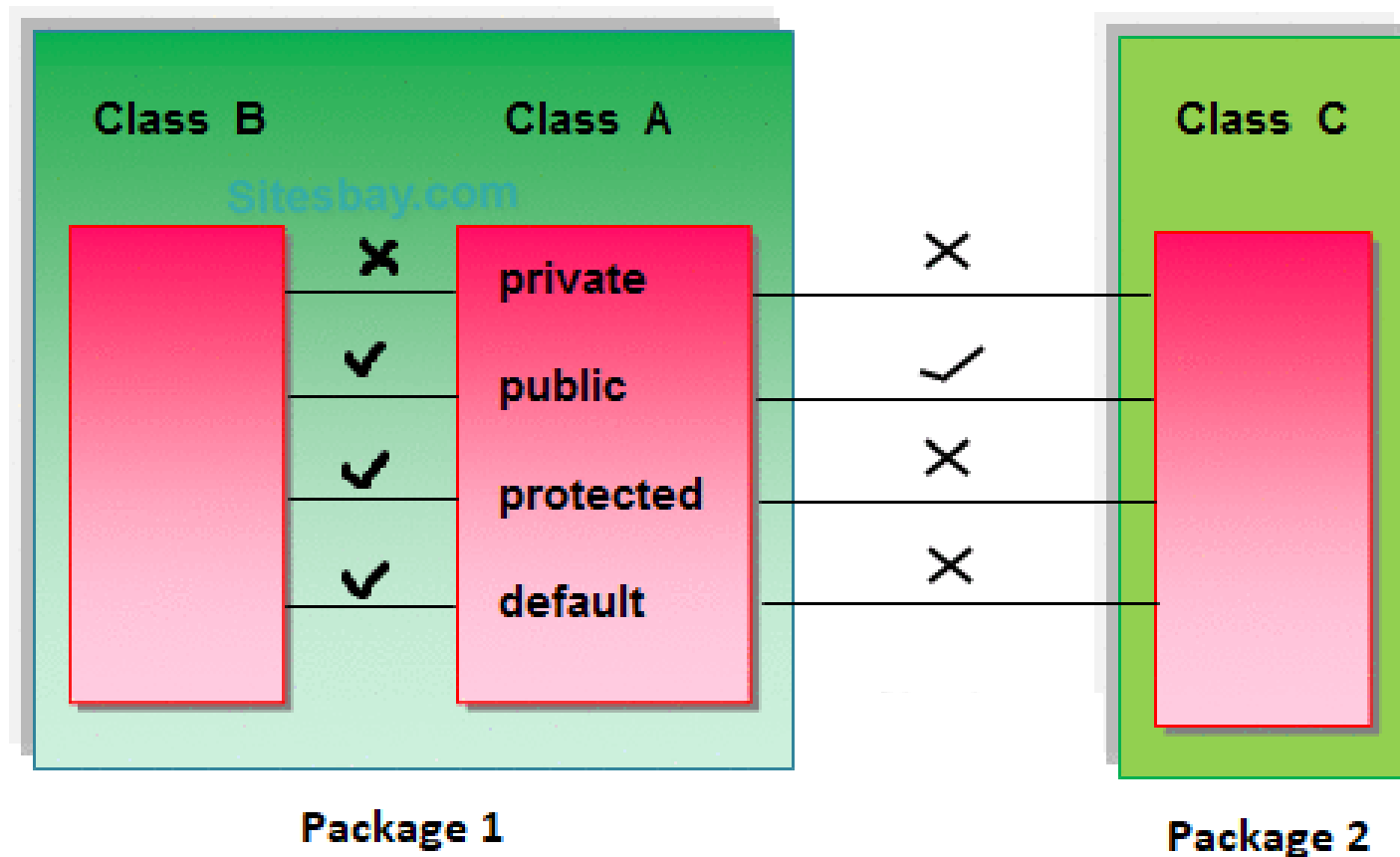
Access Modifiers / Specifiers



Access Modifier	Within Class	Within Package	Same Package by subclasses	Outside Package by subclasses	Global
Public	Yes	Yes	Yes	Yes	Yes
Protected	Yes	Yes	Yes	Yes	No
Default	Yes	Yes	Yes	No	No
Private	Yes	No	No	No	No



Access Modifiers / Specifiers



Access Modifiers / Specifiers

different packages

```
package p1;  
  
public class Class1  
{ }  
  
class Class2  
{ }
```



```
package p2;  
  
import p1.*;  
  
public class Other  
{  
    Class1 c1;  
    Class2 c2;  
}
```

only the public class is visible

same package

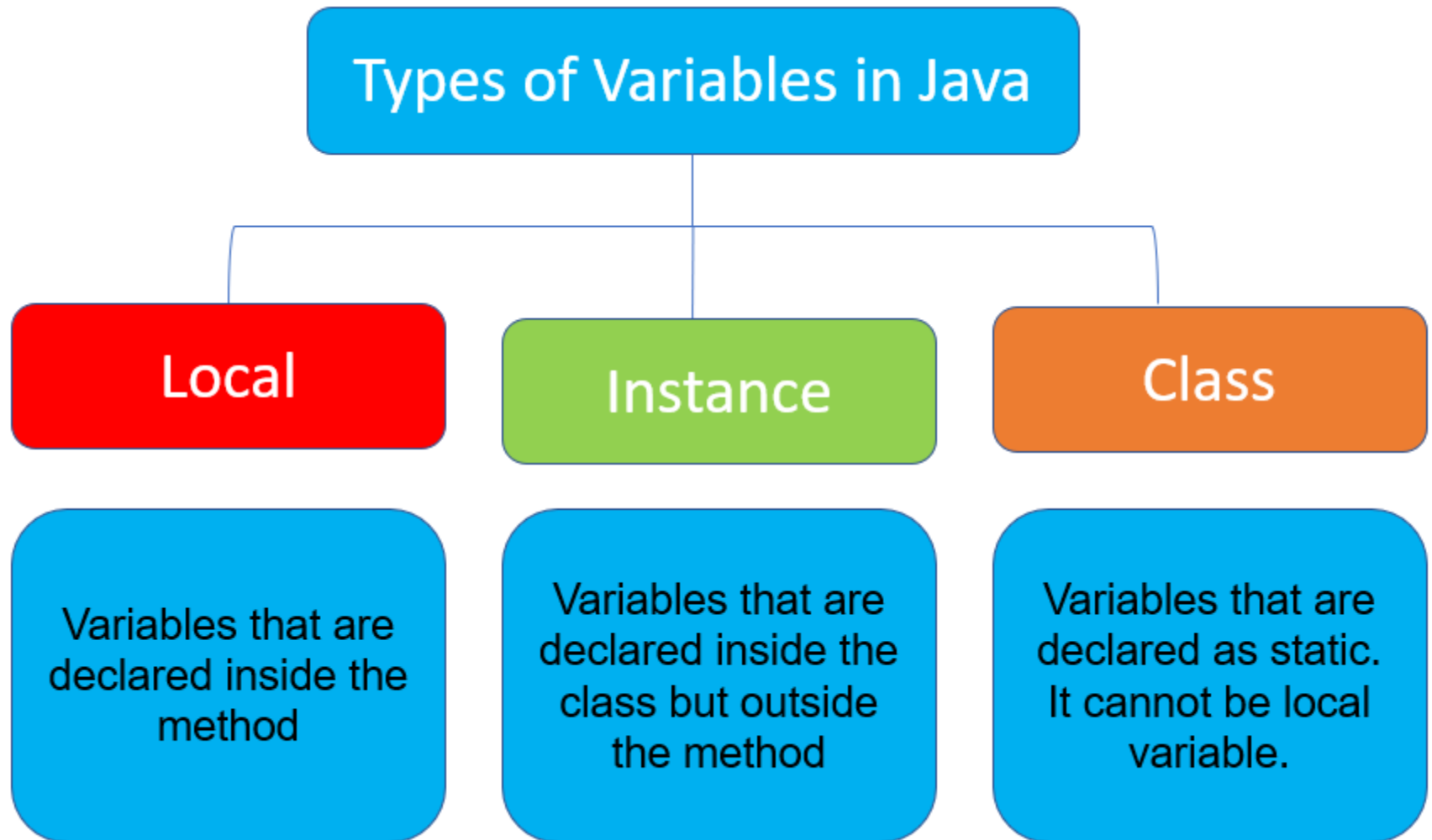
```
package p1;  
  
public class Class1  
{ }  
  
class Class2  
{ }
```



```
package p1;  
  
public class Other  
{  
    Class1 c1;  
    Class2 c2;  
}
```

all classes are visible

Types of Variables in Java



This Keyword



When you use "this" in a method, it refers to the class's instance variable, not the method's local variable. This makes it easy to distinguish between a class's instance variables and local variables.

Benefits of using this Keyword in Java:

- ❖ Avoiding name conflicts
- ❖ Improving readability
- ❖ Enhancing code reusability
- ❖ Improving encapsulation



This Keyword

```
public class MyNumber {  
    public class Student {  
        int rollNumber;  
        int marks;  
        public Student(int rollNumber, int marks) {  
            this.rollNumber = rollNumber;  
            this.marks = marks;  
        }  
        public void setRollNumber(int rollNumber) {  
            this.rollNumber = rollNumber;  
        }  
        public void setMarks(int marks) {  
            this.marks = marks;  
        }  
    }  
}
```



Thank You!

