Object Oriented Programming JAVA

Dr. Prafulla Kalapatapu

Computer Science Engineering

Mahindra Ecole Centrale

prafulla.kalapatapu@mechyd.ac.in

ABSTRACTION

Abstraction

- **What is an Abstraction?**

  Hiding essential details and unhiding the non-essential details.

  Abstraction is a process of hiding the implementation details and showing only functionality to the user.

- **How can we implement Abstraction in Java**

  Using abstract classes and interfaces.

- **What is an Access specifier?**

  It specifies the accessibility.

- **How many Access specifiers are there?**
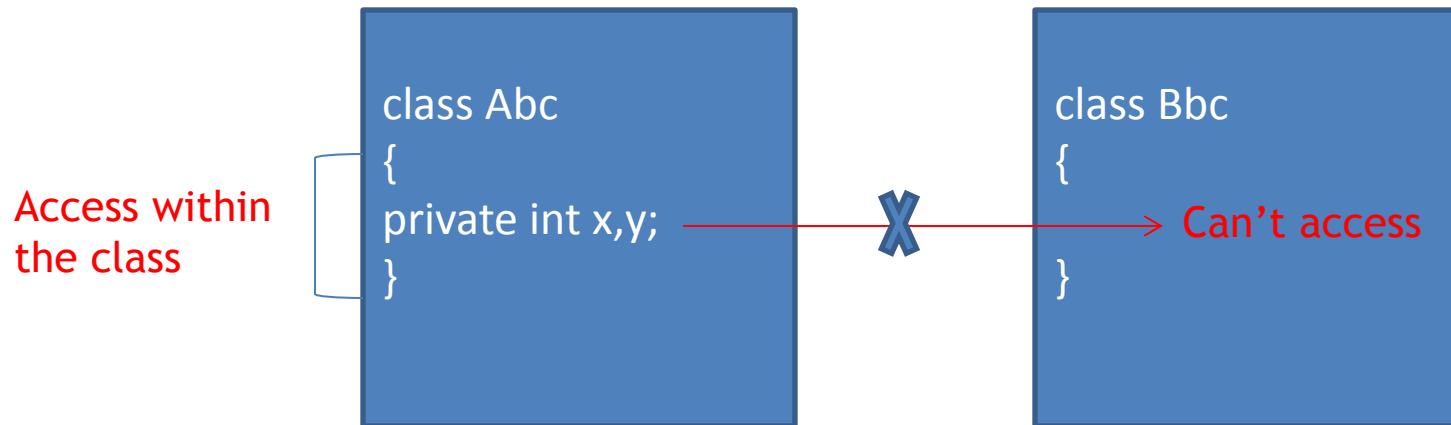
  4 Access specifiers

      1. private
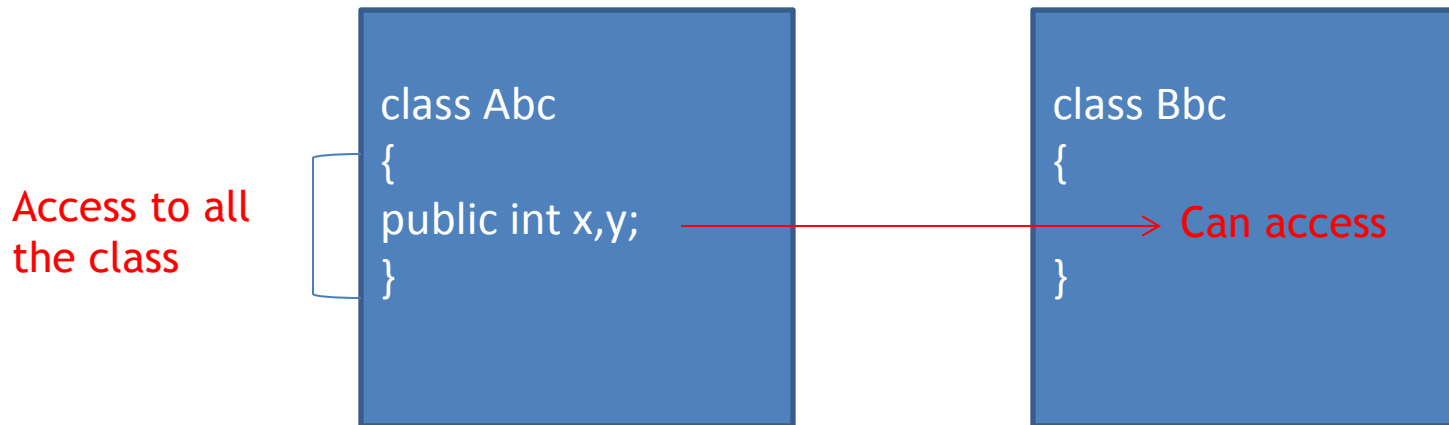
      2. public   **Three are keywords**

      3. protected

      4. default

1. private

- Private members can't access outside the class.

Access within the class

```
class Abc
{
private int x,y;
}
```

X

Can't access

```
class Bbc
{

}
```

2. public

- Public members can access anywhere in the Java program.

Access to all the class

```
class Abc
{
public int x,y;

}
```

→ Can access

```
class Bbc
{

}
```

3. protected

- Protected members can be accessed when there is relation between classes (when classes in different packages).

```
p1
class Abc
{
protected int a;
}
```
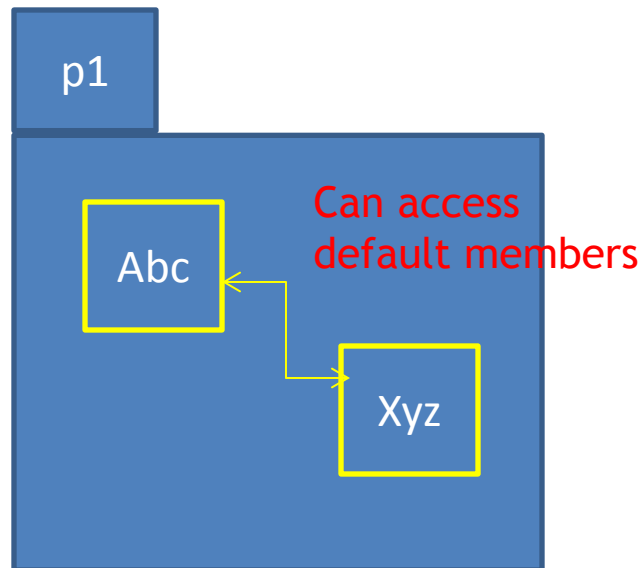
```
p2
class Xyz
{

}
```

If and only if Xyz extends Abc
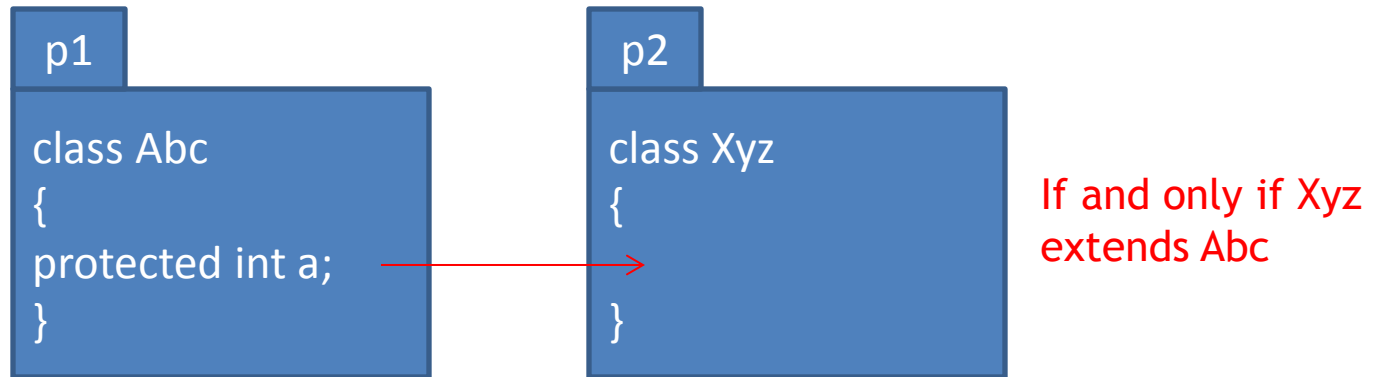
- Protected members can be accessed between the classes, even if there is no relation (classes with in the same package).

Can be accessed

```
p1
class Abc{
protected int a;
}
class Xyz
{ -----}
```
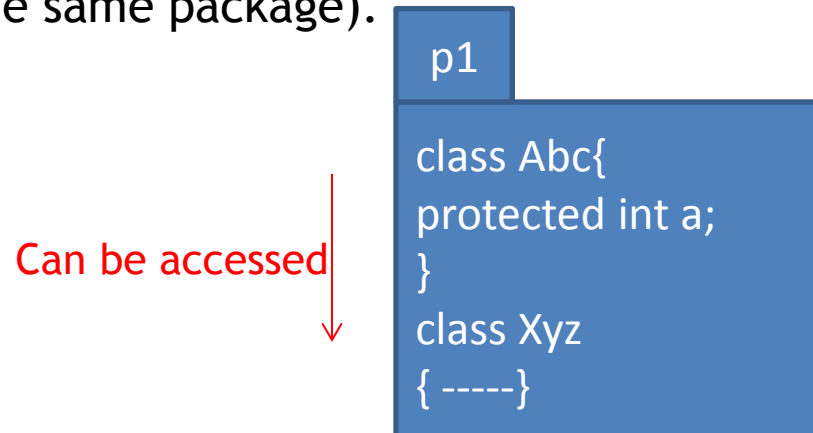
4. default

- Default members can be accessed with in the same package only.

Summary- Access specifiers

1. Private – within the class
2. Public – anywhere in Java environment [even if it is non-child class]
3. Protected – same package+ other package[only if there is a relation between classes]
4. Default – within the same package/folder.

Very Imp : Encapsulation and Abstraction goes hand in hand