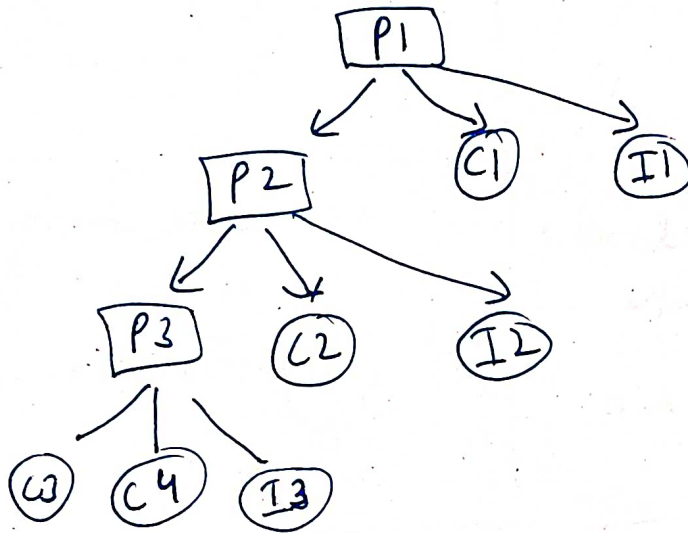


# Packages

## Unit-2

Q What is a package?

A A pack. is a collection of subpackage, classes & interfaces.



eg . P1 is a pack w/ subpackage P2,  
class C1 & I/f I1

- Subpack. P2 can have another subpack P3  
class C2 , & I/f I2
- Subpack P3 has C3, C4, I3

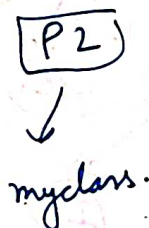
Q) What is the use of a pack?

A • A pack is basically a grouping of similar classes

• Pack has 2 uses:-

1) To prevent name conflicts.

- Suppose you want to create 2 classes w/ same name. It won't be possible
- So they can be placed inside diff. pack.
- This is similar to namespaces in C++



eg Pack p1 & p2 both have myclass. class w/ same name myclass.

- They can be imported as

import P1.myclass;  
import P2.myclass.;

2) Visibility Control mechanism

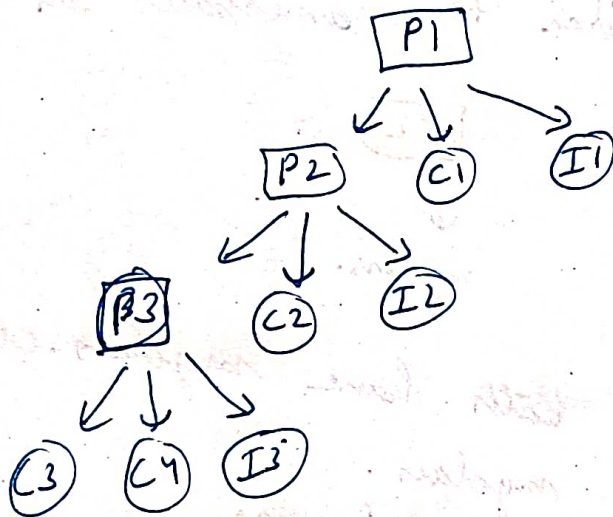
- Pack also allows visibility control thru access specifier

- Any class member declared w/ "default access." specifier can only be accessed within same pack.

- Members w/ default access specifier can't be accessed outside the pack.

## Import Rules

- When importing, only classes or interfaces can be imported.
- A complete package or subpack. can't be imported.



eg `import p1;` // Wrong. Error. Can't import complete pack.

`import p1.C1;` // Class C1 imported

" `p1.I1;` // Interface I1 "

" `p1.*;` // All classes & I/f in P1 imported i.e C1 & I1

" `p1.p2;` // X, Specify wh. class / I/f.

" `p1.p2.*;` // C2, I2 will be imported



## How to create a pack

myfolder

↓  
P1

↓  
P2

↓  
box

- Suppose we want to put box class inside package p1.p2.

Step-1 Create a box class & put it in box.java file

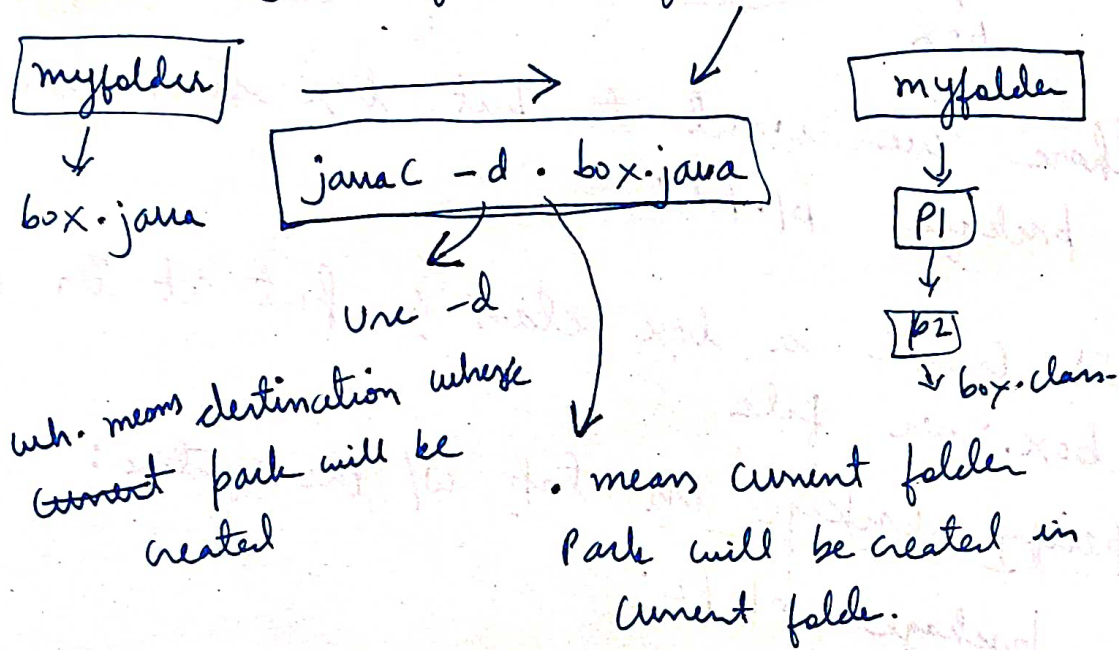
- Specify package on top w/ the syntax:  
package p1.p2;

```
package p1.p2;  
class box {  
    .  
    .  
    .  
}
```

box.java

Step-2 :- The pack. name must match the folder structure. So compiled code of box class must be in p1 → p2 folder.

• To create the folder structure auto<sup>y</sup>, compile the box.java file as follows.



• Now this box class in p1.p2 pack. can be imported in any file by specifying the pack & class

eg `import p1.p2.box;`

## Built in pack

• java provides some built in pack.

like `java.util.Scanner`.

`java.lang.System`

