

## # Inner classes

→ This is class inside a class

→ To reduce complexity of bigger class define another class inside a class (Nested).

### ④ Types of Inner classes.

- (A) Nested inner class
- (B) Local inner class
- (C) Anonymous inner class
- (D) Static inner class

#### (A) nested inner class

```
class outerClass{
```

```
    private int a=25;
```

```
    class innerClass{
```

```
        private int d=10;
```

```
        public double e=25;
```

```
        public void func1() {
```

```
            System.out.println("func1 from innerclass");
```

```
}
```

```
for
```

```
{ pub
```

```
    }
```

```
    public void ea Func2() {
```

```
        System.out.println("function from outerclass");
```

```
}
```

```
 } → end of class
```

⇒ Outer operator need to create object if it want to access

it

⇒ Inner class will be able to access data members  
and functions from outer class

→ so In other context after declaration of value in  
inner class how can you access value of outer class in main

main() {

outer a = new outer(); You can easily create outer class  
o. func2();

|| So if you want to create function for inner class

outer.inner aa = new outer().new inner();  
↑ aa. func1()

3. But inner class will mostly used by class for its internal  
operations. This will not be very much important

new outer().new inner()

④ So as you know in java for each class a .class  
file will get generated so for outer class outer.class  
& for inner class outer\$inner.class this file will get  
generated.

→ Inner class will get separate file but it will link to outer class

⑤ local inner classes

It is a class which is created inside a method & its  
scope is betn locally inside that function only such classes  
called as local inner classes,

→ their scope is only for that specific class only.

⇒ I will write code next

If you want to use a class to inherit something  
or implement a interface for specific function only

we use local classes

Ex:

Class Outer {

    void function()

    // class declaration

    class Inner {

        int h = 10;

        void hell()

    S.O.P (Something);

}

// class object create

    Inner z = new Inner();

    z.hell();

} → function end

3 classes ends

→ such like that we can use classes in order to use only for a local scope (local function)

→ Such kind of inner class, we can't access them outside in main function & not inside outer class also we can't create object for it.

⇒ It's overall scope is local hence it is called as local inner class.

## # Anonymous inner class

As we know abstract classes and they can't create the object directly but there is way such that you can override those functions.

Ex: abstract class & Hell?

↳ abstract void function();

}

main?

// You can do following

Hell a = new Hell();

public void function()

s.o.p("Hello world");

}

a.function();

}

If you do

(object)a.getclass()  
-getSimpleNames();

It will show

blank as

such class called  
as anonymous  
class

this is a  
anonymous  
class and  
don't have  
a name

Such like that you can override the function from abstract classes on initialisation can able access their functions also

→ Such can be done to create a inner class provided a abstract class is exist in file

⇒ You can create new object of abstract class and override ~~the~~ abstract method while initialisation or that specific object itself

→ Such

So if we use such classes as inner class  
so such inner classes called as anonymous

inner classes called as anonymous

You can use interface also to create anonymous classes

```
interface Joker {
```

```
    void net() function();
```

```
}
```

```
main() {
```

```
    Joker zz = new Joker() {
```

```
        public void function() {
```

```
            System.out.println("Hello Welcome to array");
```

```
    };
```

    ↳ semicolon is important

- ⇒ this will also create anonymous class object

---

```
# static inner classes
```

static inner class are class which can be accessed outside outer class without creating object of outer class

→ As in nested inner classes we have perform a large no. of operations to access inner class, in static we just have to add keyword static before class and you can able access directly from outside of outer class

Ex.

```
class outer {
```

```
    static int a = 100;
```

```
    int y = 20;
```

private static class inner {

    public void function() {

        System.out.println("Hello world");  
    }

}

} ← end of inner class

}

We will study  
about static  
& final  
in next

main() {

    Outer.Inner m = new

~~Outer~~ m = new Outer();

lesson

Outer.Inner();

    m.function();

}

→ We can directly able to create object for inner class  
using static keyword

→ Static data members →

→ A ~~static~~ static class can only able to access static  
data members.

to <sup>create</sup> static inner class object

Outer.Inner i = new Outer.Inner();