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Interpretation in Imerclasses



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Inner Classes FAQs

Q1. What is inner class and when we should go for inner classes?

Ans. Some times we can declare a class inside another class such type of classes are called inner classes

Example

```
Class Car{
//more code here
Class Engine{
    //more code here
}
```

Without existing Car object there is no chance of existing Engine object, hence Engine class has declared inside Car class.

Q2. How many types of inner classes are present?

Ans. There are four types of inner classes are present

- o Normal or regular inner class
- Method local inner class
- Anonymous inner class
- Static nested class



Q3.What is method local inner class?

Ans. Sometimes we can declare a class inside a method such type of classes are called method local

inner classes

• The main purpose of method local inner classes is to define method specific functionality

The scope of method local inner classes is the scope of the method where it is declared.

• This is the mostly rarely used type of inner classes.

Example

```
class Test{
  public void m1(){
       class Inner {
                 public void sum(int I,int j){
         System.out.println(i+J);
      }//sum
      }//inner
     Inner i=new Inner();
     i.sum(10,20);
     //more code here
     I.sum(100,303);
     //more code here
   i.sum(102,84);
   \frac{1}{m1}
Public static void main(){
```

New Test().m1();

}



Q4. What is anonymous inner class?

 Ans. Some times we can declare a inner class without name such type of inner classes are called

anonymous inner classes

- Anonymous inner classes can be divided into 3 categories
 - Anonymous inner class that extends a class
 - Anonymous inner class that implements an interface
 - Anonymous inner class that defines inside a method argument

ANONYMOUS INNER CLASS THAT EXTENDS A CLASS

Example

```
Class popcorn{
    Public void taste(){
        System.out.println("it is salty");
}
```

```
//more code here
Class Test{
   Public static void main(String[] args)
       Popcorn p=new Popcorn()
          // here we are creating child class for popcorn
                          Public void taste(){
                          System.out.println("it is sweet");
                       };//here semicolon indicates we r creating child class object
                       with parent
                       // class reference here child class dosent contain name
   p.taste()// it is sweet
   Popcorn p=new Popcorn();
   p1.taste() //it is salty
```

ANONYMOUS INNER CLASS THAT IMPLEMENTS AN INTERFACE

example

```
class Test{
    Public static void main(String[] args){
    Runnable r=new Runnable(){
        Public void run(){
            for(int i=0;i<10;i++){</pre>
```

```
System.out.printin("child thread");
}

};

Thread t=new Thread(r);

t.start();

for(int i=0;i<10;i++){

    System.out.printin("main thread");
    }
}</pre>
```

Don't become fool that here we are creating object of interface Runnable. Here we are actually

creating an object of class that is implemented Runnable interface.

ANONYMOUS INNER CLASS THAT DEFINES INSIDE A METHOD ARGUMENT

Example

```
}).start();
for(int i=0;i<10;i++){
    System.out.printin("main thread");
    }
}//main
}//Test</pre>
```

Q5. With out having name of class how we can create an object and utilize the functionality of Anonymous inner class?

Ans. By using parent class names

Q6. What is difference between anonymous inner class and general class?

Ams. A general class can extend only one class at a time of course inner class can extend only one class at a Time.

- A general class can implement any no of interfaces at a time but a anonymous inner class can
- implement only one interface at a time
- A general class can extend a class and can implement an interface simultaneously but an

anonymous inner class can extend a class or can implement an interface one at a time but not

both simualtaneously

Q7. What is difference between normal inner class and static nested class?

Ans.

Normal Inner Class	Static Nested Class
1. Inner class object always associated with outer class object ie without existing outer class object there is no chance of existing inner class object.	Nested class object never associated with outer class object, ie without existing outer class object inner class object can exist
Inside normal inner class we cant declare static members.	Inside static nested class can declare static members
4. We cant place main method in norma inner class and hence innocation of	1 2. We can place main method in static nested class and hence innocation of nested

inner class directly from command prompt is not possible.	class directly from command prompt is possible
5. From normal inner class we can access both static and non static members of outer class.	3. From static nested class we can access only static member of outer class



Q8. What is static nested calss? why the term nested instead of inner in static nested class?

Ans. Some times we can declare inner class with static modifier such type of inner class are called static

nested classes.the term nested instead of static because without existing outer class object inner

class object can exist.

Example

```
Class outer{
Static class Nested{
Public static void main(String[] args){
System.out.println("nested class main()");
}
Public static void main(String[] args){
System.out.println("outer class main()");
```

}

• Java Outer

O/P

Outer class main()

Java Outer\$Nested

O/P

Nested class main()

Q9. Inside inner class is it possible to declare main()?

Ans. No it is not possible to declare main () inside inner class but in static nested class it is possible for

Example refer above code





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