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JAVA LAB-6

INNER CLASS EXERCISES

Exercise 1:

MainClass.java

```
class OuterClass {
    int x = 10;
    class InnerClass {
        int y = 5;
    }
}
public class MainClass {
    public static void main(String[] args) {
        OuterClass myOuter = new OuterClass();
        OuterClass.InnerClass myInner = myOuter.new InnerClass();
        System.out.println(myInner.y + myOuter.x);
    }
}
```

```
15


Process finished with exit code 0
```

Exercise 2:

TestOuterClass.java

```
public class TestOuterClass{
    static int data=30;
    static class Inner{
        static void msg(){System.out.println("data is "+data);}
    }
    public static void main(String args[]){
        TestOuterClass.Inner.msg();//no need to create the instance of
static nested class
    }
}
```

```
data is 30


Process finished with exit code 0
```

Exercise 3:

MainClass.java

```
class OuterClass {
    int x = 10;
    class InnerClass {
        public int myInnerMethod() {
            return x;
        }
    }
}
public class MainClass2 {
    public static void main(String args[]) {
        OuterClass myOuter = new OuterClass();
        OuterClass.InnerClass myInner = myOuter.new InnerClass();
        System.out.println(myInner.myInnerMethod());
    }
}
```

```
10


Process finished with exit code 0
```

Exercise 4:

Car.java

```
package Car;
public class Car {
    int num;
    // inner class
    private class Engine {
        public void print()
        {
            System.out.println("This is Engine class inside the CAR
class");
        }
    }
    // Accessing the inner class from the method within
    void display_Inner() {
        Engine engine = new Engine();
```

```
        engine.print();
    }
}
```

Car_main.java

```
package Car;
public class Car_main {
    public static void main(String args[]) {
        // Instantiating the outer class
        Car outer = new Car();
        // Accessing the display_Inner() method.
        outer.display_Inner();
    }
}
```

```
This is Engine class inside the CAR class


Process finished with exit code 0
```

Exercise 5:

Outer_Demo.java

```
package Class_Pack;

class Outer_Demo {
    // private variable of the outer class
    private int num = 175;
    // inner class
    public class Inner_Demo {
        public int getNum() {
            System.out.println("This is the getnum method of the inner
class");
            return num;
        }
    }
}
```

My_class.java

```java
package Class_Pack;

public class My_class {
    public static void main(String args[]) {
        // Instantiating the outer class
        Outer_Demo outer = new Outer_Demo();
        // Instantiating the inner class
        Outer_Demo.Inner_Demo inner = outer.new Inner_Demo();
        System.out.println(inner.getNum());
    }
}
```

```
This is the getnum method of the inner class
175


Process finished with exit code 0
```

Exercise 6:

LocalInner.java

```java
public class LocalInner{
    private int data=30;//instance variable
    void display(){
        class Local{
            void msg(){System.out.println(data);}
        }
        Local l=new Local();
        l.msg();
    }
    public static void main(String args[]){
        LocalInner obj=new LocalInner();
        obj.display();
    }
```

```
30


Process finished with exit code 0
```

Exercise 7:

Outerr.java

```java
public class Outerr {
    static class Nested_Demo {
        public void my_method() {
```

```
            System.out.println("This is my nested class");
        }
    }
    public static void main(String args[]) {
        Nested_Demo nested = new Nested_Demo();
        nested.my_method();
    }
}
```

```
This is my nested class


Process finished with exit code 0
```

Exercise 8:

AnonymousInner.java

```
package Anonymous;

abstract class AnonymousInner {
    public abstract void mymethod();
}
```

Outer_class.java

```
package Anonymous;

public class Outer_class {
    public static void main(String args[]) {
        AnonymousInner inner = new AnonymousInner() {
            public void mymethod() {
                System.out.println("This is an example of anonymous inner
class");
            }
        };
        inner.mymethod();
    }
}
```

```
This is an example of anonymous inner class


Process finished with exit code 0
```

Exercise 9:

Age.java

```
package Age;
interface Age {
    int x = 21;
    void getAge();
}
```

AnonymousDemo.java

```
package Age;
class AnonymousDemo {
    // Main driver method
    public static void main(String[] args)
    {
        Age oj1 = new Age() {
            @Override public void getAge()
            {
                // printing age
                System.out.print("Age is " + x);
            }
        };
        oj1.getAge();
    }
}
```

```
Age is 21
Process finished with exit code 0
```

Exercise 10:

Bus.java

```
package Bus;

public class Bus
{
    void show()
    {
        System.out.println("i am in show method of super(Bus) class");
    }
}
```

EngineBus.java

```
package Bus;


class EngineBus {
    // An anonymous class with Demo as base class
    static Bus busobj = new Bus() {
        void show() {
            System.out.println("i am in Engine Bus class");
```

```
        }
    };

    public static void main(String[] args) {
        busobj.show();
    }
}
```

```
i am in Engine Bus class

Process finished with exit code 0
```