LAB ASSIGNMENT 12

DECORATOR DESIGN PATTERN

CODE:

- Instrument.java

```
package decoratorDP;

public interface Instrument {
    void play();
}
```

- Guitar.java

```
package decoratorDP;

public class Guitar implements Instrument {

    @Override
    public void play() {
        System.out.println("Instrument is Guitar");
    }
}
```

- Drum.java

```
package decoratorDP;

public class Drum implements Instrument {

    @Override
    public void play() {
        System.out.println("Instrument is Drum");
    }
}
```

- InstrumentDecorator.java

```java
package decoratorDP;

public abstract class InstrumentDecorator implements Instrument {
    protected Instrument decoratedInstrument;

    public InstrumentDecorator(Instrument decoratedShape){
        this.decoratedInstrument = decoratedShape;
    }

    public void play(){
        decoratedInstrument.play();
    }
}
```

- EnhancedInstrumentDecorator.java //main file

```java
package decoratorDP;

public class EnhancedInstrumentDecorator extends InstrumentDecorator {

    public EnhancedInstrumentDecorator(Instrument decoratedInstrument) {
        super(decoratedInstrument);
    }

    @Override
    public void play() {
        decoratedInstrument.play();
        setElectricBoard(decoratedInstrument);
    }

    private void setElectricBoard(Instrument decoratedInstrument){
        System.out.println("Enhance Feature: Electric");
    }
}
```

- DecoratorPatternDemo.java

```java
package decoratorDP;

public class DecoratorPatternDemo {
    public static void main(String[] args) {

        Instrument guitar = new Guitar();

        Instrument electricGuitar = new EnhancedInstrumentDecorator(new Guitar());

        Instrument electricDrum = new EnhancedInstrumentDecorator(new Drum());
        System.out.println("Acoustic Guitar : Basic Version");
        guitar.play();

        System.out.println("\nElectric Guitar : Enhanced Version");
        electricGuitar.play();

        System.out.println("\nElectric Drum : Enhanced Version");
        electricDrum.play();
    }
}
```

OUTPUT:

```
"C:\Users\Shruti Mishra\.jdks\openjdk-18.0.2.1\bin\java.exe" "-javaagent:
Acoustic Guitar : Basic Version
Instrument is Guitar

Electric Guitar : Enhanced Version
Instrument is Guitar
Enhance Feature: Electric

Electric Drum : Enhanced Version
Instrument is Drum
Enhance Feature: Electric
```