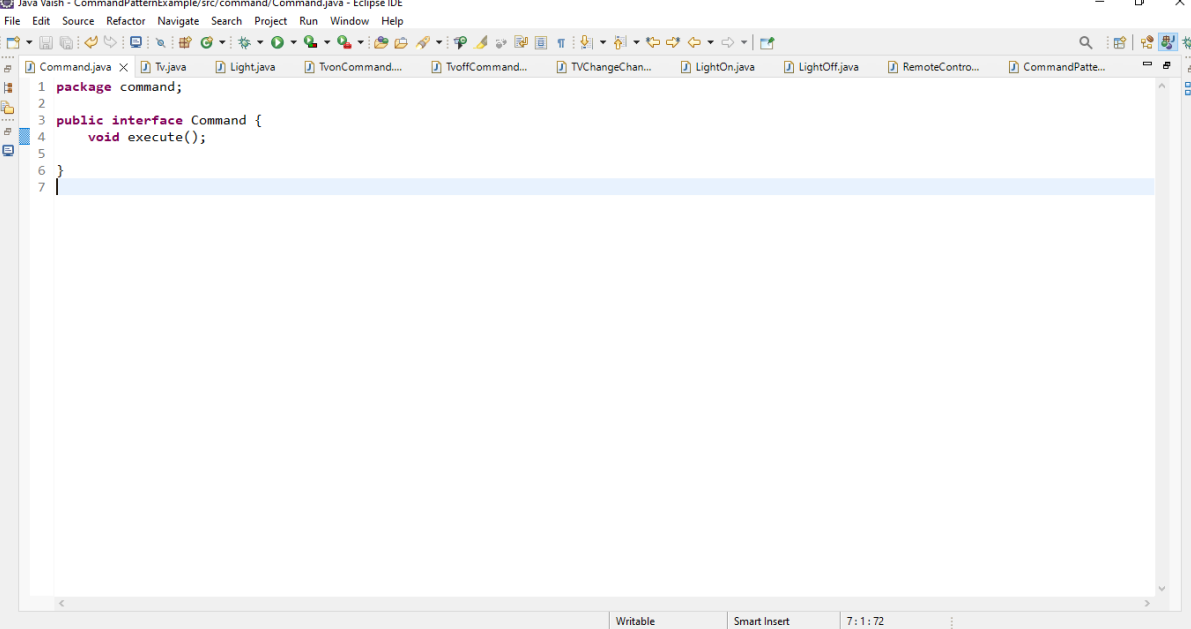


Vaishnavi Nitin Jagtap

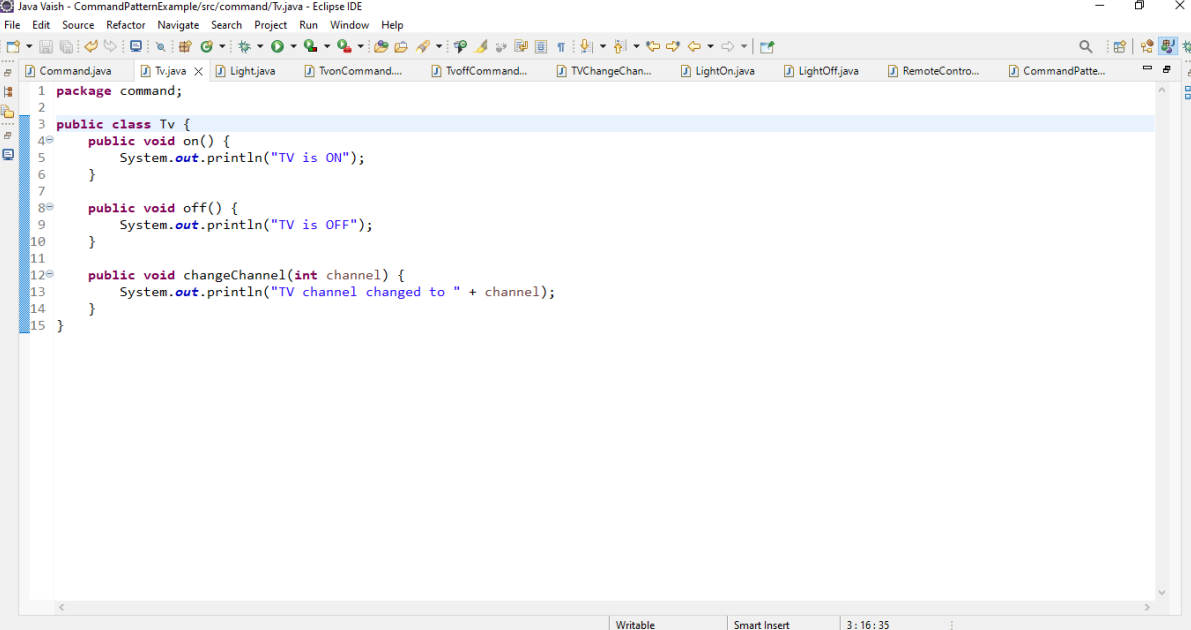
Email:Vaishuj203@gmail.com

Task 1:



This screenshot shows the Eclipse IDE with the file `Command.java` open. The code defines a `Command` interface with a single method `execute()`. The package is `command`. The IDE's toolbar and project explorer are visible.

```
1 package command;
2
3 public interface Command {
4     void execute();
5 }
6
7
```



This screenshot shows the Eclipse IDE with the file `Tv.java` open. The code defines a `Tv` class that implements the `Command` interface. It has three methods: `on()`, `off()`, and `changeChannel(int channel)`, each printing a message to the console. The package is `command`. The IDE's toolbar and project explorer are visible.

```
1 package command;
2
3 public class Tv {
4     public void on() {
5         System.out.println("TV is ON");
6     }
7
8     public void off() {
9         System.out.println("TV is OFF");
10    }
11
12    public void changeChannel(int channel) {
13        System.out.println("TV channel changed to " + channel);
14    }
15 }
```

Java Vaish - CommandPatternExample/src/command/Light.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

```
1 package command;
2
3 public class Light {
4     public void on() {
5         System.out.println("Light is ON");
6     }
7
8     public void off() {
9         System.out.println("Light is OFF");
10    }
11 }
```

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Java Vaish - CommandPatternExample/src/command/TvonCommand.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

```
1 package command;
2
3 public class TvonCommand implements Command {
4     private Tv tv;
5
6     public TvonCommand(Tv tv) {
7         this.tv = tv;
8     }
9
10    @Override
11    public void execute() {
12        tv.on();
13    }
14 }
```

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Java Vaish - CommandPatternExample/src/command/TvoffCommand.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

```
1 package command;
2
3 public class TvoffCommand implements Command {
4     private Tv tv;
5
6     public TvoffCommand(Tv tv) {
7         this.tv = tv;
8     }
9
10    @Override
11    public void execute() {
12        tv.off();
13    }
14 }
```

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Java Vaish - CommandPatternExample/src/command/TVChangeChannelCommand.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

```
1 package command;
2
3 public class TVChangeChannelCommand implements Command {
4     private Tv tv;
5     private int channel;
6
7     public TVChangeChannelCommand(Tv tv, int channel) {
8         this.tv = tv;
9         this.channel = channel;
10    }
11
12    @Override
13    public void execute() {
14        tv.changeChannel(channel);
15    }
16 }
```

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Java Vaish - CommandPatternExample/src/command/LightOn.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Command.java Tv.java Light.java TvonCommand... TvoffCommand... TVChangeChan... LightOn.java X LightOff.java RemoteContro... CommandPatte...

```
1 package command;
2
3 public class LightOn implements Command {
4     private Light light;
5
6     public LightOn(Light light) {
7         this.light = light;
8     }
9
10    @Override
11    public void execute() {
12        light.on();
13    }
14 }
```

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Java Vaish - CommandPatternExample/src/command/LightOff.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Command.java Tv.java Light.java TvonCommand... TvoffCommand... TVChangeChan... LightOn.java X LightOff.java RemoteContro... CommandPatte...

```
1 package command;
2 public class LightOff implements Command {
3     private Light light;
4
5     public LightOff(Light light) {
6         this.light = light;
7     }
8
9     @Override
10    public void execute() {
11        light.off();
12    }
13 }
```

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Java Vaish - CommandPatternExample/src/command/RemoteControl.java - Eclipse IDE

```
1 package command;
2
3 import java.util.HashMap;
4 import java.util.Map;
5
6 public class RemoteControl {
7     private Map<String, Command> buttons = new HashMap<>();
8
9     public void setCommand(String button, Command command) {
10         buttons.put(button, command);
11     }
12
13     public void pressButton(String button) {
14         if (buttons.containsKey(button)) {
15             buttons.get(button).execute();
16         } else {
17             System.out.println("No command assigned to this button");
18         }
19     }
20 }
21
```

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Java Vaish - CommandPatternExample/src/command/CommandPatternDemo.java - Eclipse IDE

```
1 package command;
2
3 public class CommandPatternDemo {
4     public static void main(String[] args) {
5
6         Tv tv = new Tv();
7         Light light = new Light();
8
9         Command tvOn = new TvOnCommand(tv);
10        Command tvOff = new TvOffCommand(tv);
11        Command tvChangeChannel = new TVChangeChannelCommand(tv, 5);
12        Command lightOn = new LightOn(light);
13        Command lightOff = new LightOff(light);
14
15        RemoteControl remote = new RemoteControl();
16
17        remote.setCommand("TV ON", tvOn);
18        remote.setCommand("TV OFF", tvOff);
19        remote.setCommand("TV CHANNEL", tvChangeChannel);
20        remote.setCommand("LIGHT ON", lightOn);
21        remote.setCommand("LIGHT OFF", lightOff);
22
23        remote.pressButton("TV ON");
24        remote.pressButton("TV CHANNEL");
25        remote.pressButton("LIGHT ON");
26        remote.pressButton("LIGHT OFF");
27        remote.pressButton("TV OFF");
28    }
29 }
```

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