



TECNOLÓGICO NACIONAL DE MÉXICO INSTITUTO TECNOLÓGICO DE TIJUANA

SUBDIRECCIÓN ACADÉMICA

DEPARTAMENTO DE SISTEMAS Y COMPUTACIÓN

Tarea
Patrón observer

Docente
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SEMESTRE agosto – diciembre 2021

**INGENIERÍA EN TECNOLOGÍAS DE LA INFORMACIÓN Y
COMUNICACIONES**

Patrones de diseño
Sergio Alberto Garza Aguilar 15211700

06 de octubre del 2021

Practica patrón observer

Capturas

Display.java



SergioG93 Patron Strategi

Latest commit 76c265a 7 minutes ago [History](#)

1 contributor

4 lines (4 sloc) | 80 Bytes

[Raw](#) [Blame](#)

```
1 //Interface display//
2 public interface Display {
3     public void display();
4 }
```

Condicion_acutual.java



SergioG93 Patron Strategi

Latest commit 76c265a 7 minutes ago [History](#)

1 contributor

23 lines (19 sloc) | 618 Bytes

[Raw](#) [Blame](#)

```
1 //Condiciones climaticas//
2 public class Condicion_actual implements Observer, Display {
3     private float temperatura;
4     private float humedad;
5     private Subject clima;
6
7     public Condicion_actual(Subject clima) {
8         this.clima = clima;
9         clima.registerObserver(this);
10    }
11
12    public void update(float temperatura, float humedad, float pressure) {
13        this.temperatura = temperatura;
14        this.humedad = humedad;
15        display();
16    }
17
18    public void display() {
19        System.out.println("Condiciones Actuales: " + temperatura
20            + "°F grados y " + humedad + "% humedad");
21    }
22 }
23
```

Mostrar_clima.java



SergioG93 Patron Strategi

Latest commit 76c265a 8 minutes ago [History](#)

1 contributor

15 lines (12 sloc) | 447 Bytes

Raw

Blame



```
1 public class Mostrar_clima {
2
3     public static void main(String[] args) {
4         clima clima = new clima();
5
6         Condicion_actual Condicion_actual =
7             new Condicion_actual(clima);
8         mediciones statisticsDisplay = new mediciones(clima);
9         pronostico forecastDisplay = new pronostico(clima);
10
11         clima.setMeasurements(80, 65, 30.4f);
12         clima.setMeasurements(82, 70, 29.2f);
13         clima.setMeasurements(78, 90, 29.2f);
14     }
15 }
```

Observer.java



SergioG93 Patron Strategi

Latest commit 76c265a 9 minutes ago [History](#)

1 contributor

8 lines (4 sloc) | 146 Bytes

Raw

Blame



```
1 //Creacion de interface de observer//
2 public interface Observer {
3     public void update(float temp, float humidity, float pressure);
4 }
5
6
7
8
```

Subject.java



SergioG93 Patron Strategi

Latest commit 76c265a 10 minutes ago [History](#)

1 contributor

5 lines (5 sloc) | 156 Bytes

Raw

Blame



```
1 public interface Subject {
2     public void registerObserver(Observer o);
3     public void removeObserver(Observer o);
4     public void notifyObservers();
5 }
```

Clima.java



SergioG93 Patron Strategist

Latest commit 76c265a 10 minutes ago [History](#)

1 contributor

53 lines (43 sloc) 1.02 KB


Raw

Blame



```
1  import java.util.*;
2
3  public class clima implements Subject {
4      private ArrayList<Observer> observers;
5      private float temperatura;
6      private float humedad;
7      private float presion;
8
9      public clima() {
10         observers = new ArrayList<>();
11     }
12
13     public void registerObserver(Observer o) {
14         observers.add(o);
15     }
16
17     public void removeObserver(Observer o) {
18         int i = observers.indexOf(o);
19         if (i >= 0) {
20             observers.remove(i);
21         }
22     }
23
24     public void notifyObservers() {
25
26         public void notifyObservers() {
27             for (int i = 0; i < observers.size(); i++) {
28                 Observer observer = (Observer)observers.get(i);
29                 observer.update(temperatura, humedad, presion);
30             }
31         }
32
33         public void measurementsChanged() {
34             notifyObservers();
35         }
36
37         public void setMeasurements(float temperatura, float humedad, float presion) {
38             this.temperatura = temperatura;
39             this.humedad = humedad;
40             this.presion = presion;
41             measurementsChanged();
42         }
43
44         public float getTemperature() {
45             return temperatura;
46         }
47
48         public float getHumidity() {
49             return humedad;
50         }
51
52         public float getPressure() {
53             return presion;
54         }
55     }
56 }
```

mediciones.java

 SergioG93 Patron Strategist

Latest commit 76c265a 12 minutes ago [History](#)


1 contributor

34 lines (26 sloc) | 770 Bytes

Raw Blame

```
1 public class mediciones implements Observer, Display {
2     private float maxTemp = 0.0f;
3     private float minTemp = 200;
4     private float tempSum = 0.0f;
5     private int numReadings;
6     private clima clima;
7
8     public mediciones(clima weatherData) {
9         this.clima = weatherData;
10        weatherData.registerObserver(this);
11    }
12
13    public void update(float temp, float humidity, float pressure) {
14        tempSum += temp;
15        numReadings++;
16
17        if (temp > maxTemp) {
18            maxTemp = temp;
19        }
20
21        if (temp < minTemp) {
22            minTemp = temp;
23        }
24
25        display();
26    }
27
28    public void display() {
29        System.out.println("Media/Maxima/Minima temperatura = " + (tempSum / numReadings)
30            + "/" + maxTemp + "/" + minTemp);
31    }
32 }
33
34
```

pronostico.java

 SergioG93 Patron Strategist

Latest commit 76c265a 13 minutes ago [History](#)

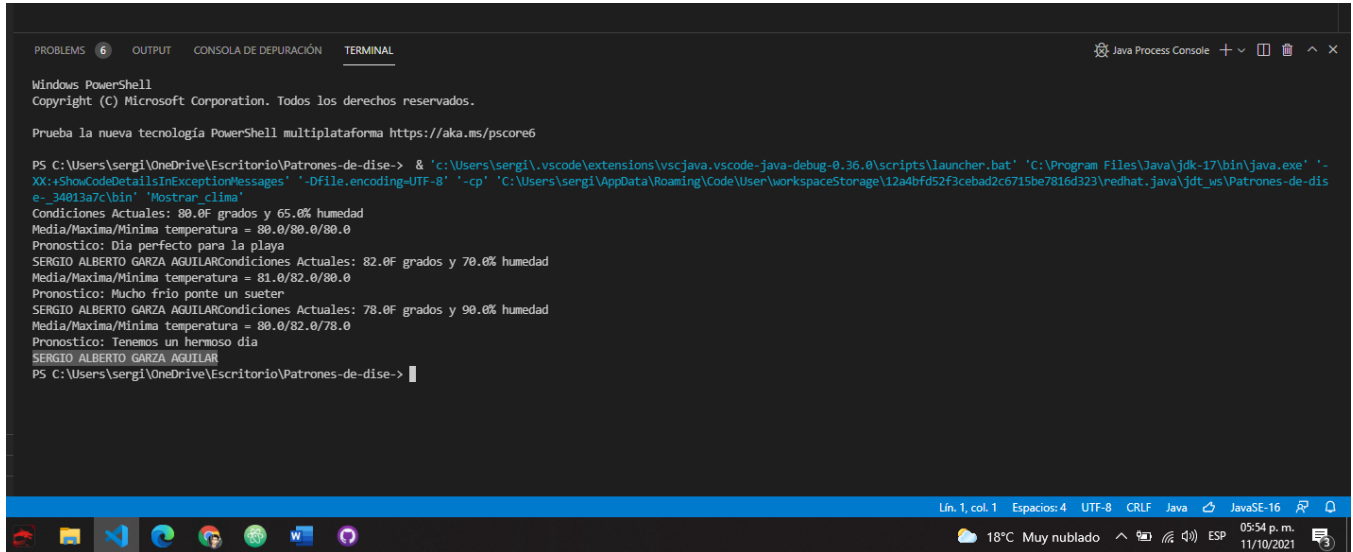
1 contributor

28 lines (24 sloc) | 862 Bytes

Raw Blame

```
1 public class pronostico implements Observer, Display {
2     private float currentPressure = 29.92f;
3     private float lastPressure;
4     private clima clima;
5
6     public pronostico(clima weatherData) {
7         this.clima = weatherData;
8         weatherData.registerObserver(this);
9     }
10
11    public void update(float temp, float humidity, float pressure) {
12        lastPressure = currentPressure;
13        currentPressure = pressure;
14
15        display();
16    }
17
18    public void display() {
19        System.out.print("Pronostico: ");
20        if (currentPressure > lastPressure) {
21            System.out.println("Dia perfecto para la playa");
22        } else if (currentPressure == lastPressure) {
23            System.out.println("Tenemos un hermoso dia");
24        } else if (currentPressure < lastPressure) {
25            System.out.println("Mucho frio ponte un sueter");
26        }
27    }
28 }
```

Salida de Código (Visual Studio Code)



The screenshot shows a Visual Studio Code interface with a terminal window open. The terminal is running PowerShell and displays the following output:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. Todos los derechos reservados.

Prueba la nueva tecnología PowerShell multiplataforma https://aka.ms/powershell

PS C:\Users\sergi\OneDrive\Escritorio\Patrones-de-dise-> & 'c:\Users\sergi\.vscode\extensions\vscjava.vscode-java-debug-0.36.0\scripts\launcher.bat' 'C:\Program Files\Java\jdk-17\bin\java.exe' '-
XX:+ShowCodeDetailsInExceptionMessages' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\sergi\AppData\Roaming\Code\User\workspaceStorage\12a4bfd52f3cebad2c6715be7816d323\redhat_java_jdt_ws\Patrones-de-dis
e-34813a7c\bin' 'Mostrar_clima'
Condiciones Actuales: 80.0F grados y 65.0% humedad
Media/Maxima/Minima temperatura = 80.0/80.0/80.0
Pronostico: Día perfecto para la playa
SERGIO ALBERTO GARZA AGUILARCondiciones Actuales: 82.0F grados y 70.0% humedad
Media/Maxima/Minima temperatura = 81.0/82.0/80.0
Pronostico: Mucho frio ponte un sueter
SERGIO ALBERTO GARZA AGUILARCondiciones Actuales: 78.0F grados y 90.0% humedad
Media/Maxima/Minima temperatura = 80.0/82.0/78.0
Pronostico: Tenemos un hermoso día
SERGIO ALBERTO GARZA AGUILAR
PS C:\Users\sergi\OneDrive\Escritorio\Patrones-de-dise->
```

The status bar at the bottom of the terminal shows the following information: Ln. 1, col. 1, Espacios: 4, UTF-8, CRLF, Java, JavaSE-16, 05:54 p. m., 11/10/2021.

Enlace para ver en GitHub:

<https://github.com/SergioG93/Patrones-de-dise->