

PATTERNS – Documentación Laboratorio 2 CVDS

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EJERCICIO DE LAS FIGURAS

CREAR UN PROYECTO CON MAVEN

Busque cómo ejecutar desde línea de comandos el objetivo "generate" del plugin "archetype", con los siguientes parámetros:

- Grupo: edu.eci.cvds
- Id del Artefacto: Patterns
- Paquete: edu.eci.cvds.patterns
- archetypeArtifactId: maven-archetype-quickstart

```
Símbolo del sistema
Define value for property 'version' 1.0-SNAPSHOT: :
Define value for property 'package' edu.eci.cvds: : edu.eci.cvds.patterns
Confirm properties configuration:
groupId: edu.eci.cvds
artifactId: Patterns
version: 1.0-SNAPSHOT
package: edu.eci.cvds.patterns
Y: :
[INFO] -----
[INFO] Using following parameters for creating project from Archetype: maven-archetype-quickstart:1.4
[INFO] -----
[INFO] Parameter: groupId, Value: edu.eci.cvds
[INFO] Parameter: artifactId, Value: Patterns
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Parameter: package, Value: edu.eci.cvds.patterns
[INFO] Parameter: packageInPathFormat, Value: edu/eci/cvds/patterns
[INFO] Parameter: package, Value: edu.eci.cvds.patterns
[INFO] Parameter: groupId, Value: edu.eci.cvds
[INFO] Parameter: artifactId, Value: Patterns
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Project created from Archetype in dir: C:\Users\Nicolas Ariza\Patterns
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 01:48 min
[INFO] Finished at: 2023-02-15T11:44:49-05:00
[INFO] -----
C:\Users\Nicolas Ariza>mvn archetype:generate -DgroupId=edu.eci.cvds -DartifactId=Patterns -DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeGroupId=org.apache.maven.archetypes
```

```
Símbolo del sistema
C:\Users\Nicolas Ariza\Patterns>tree/f
Listado de rutas de carpetas para el volumen Windows
El número de serie del volumen es EAA0-1C45
C:.
  pom.xml
  src
    main
      java
        edu
          eci
            cvds
              patterns
                App.java
    test
      java
        edu
          eci
            cvds
              patterns
                AppTest.java

C:\Users\Nicolas Ariza\Patterns>
```

COMPILAR Y EJECUTAR

Ejecutar nuevamente la clase desde línea de comandos y verificar la salida: Hello World!

```
Símbolo del sistema

C:\Users\Nicolas Ariza\Patterns>mvn exec:java -Dexec.mainClass="edu.eci.cvds.patterns.App" -Dexec.args="Nicolas"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< edu.eci.cvds:Patterns >-----
[INFO] Building Patterns 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ Patterns ---
Hello world!
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 1.048 s
[INFO] Finished at: 2023-02-15T12:46:23-05:00
[INFO]
C:\Users\Nicolas Ariza\Patterns>
```

Ejecutar la clase desde línea de comandos enviando su nombre como parámetro y verificar la salida. Ej: Hello Pepito!

```
Símbolo del sistema

C:\Users\Nicolas Ariza\Patterns>mvn exec:java -Dexec.mainClass="edu.eci.cvds.patterns.App" -Dexec.args="Nicolas"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< edu.eci.cvds:Patterns >-----
[INFO] Building Patterns 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ Patterns ---
Hello Nicolas!
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 1.038 s
[INFO] Finished at: 2023-02-15T12:51:51-05:00
[INFO]
C:\Users\Nicolas Ariza\Patterns>
```

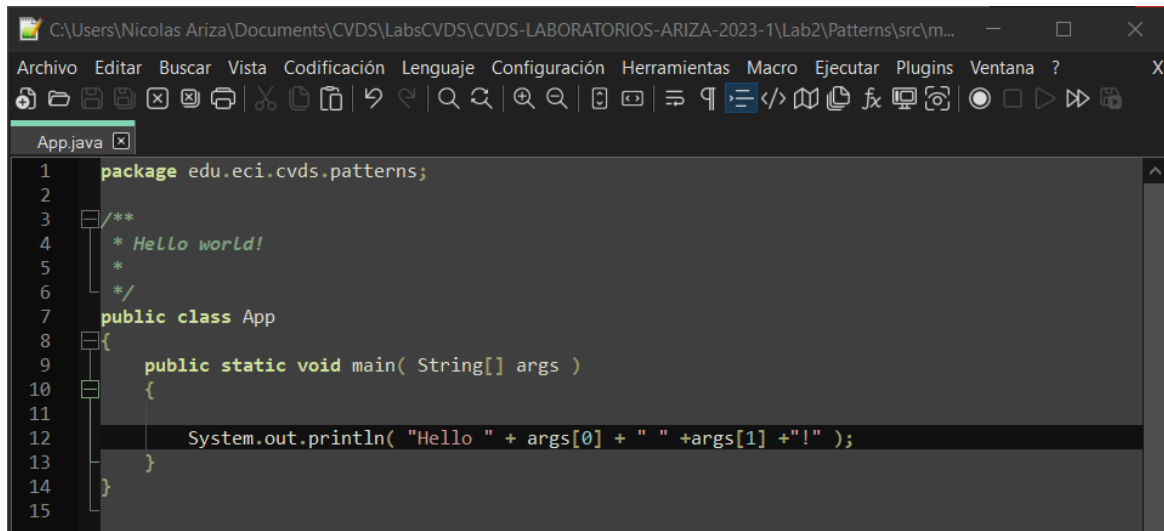
```
C:\Users\Nicolas Ariza\Patterns\src\main\java\edu\eci\cvds\patterns>App.java
1 package edu.eci.cvds.patterns;
2
3 /**
4  * Hello world!
5  *
6  */
7 public class App
8 {
9     public static void main( String[] args )
10    {
11        System.out.println( "Hello " + args[0] + "!" );
12    }
13 }
14
15
```

Ejecutar la clase con su nombre y apellido como parámetro. ¿Qué sucedió?

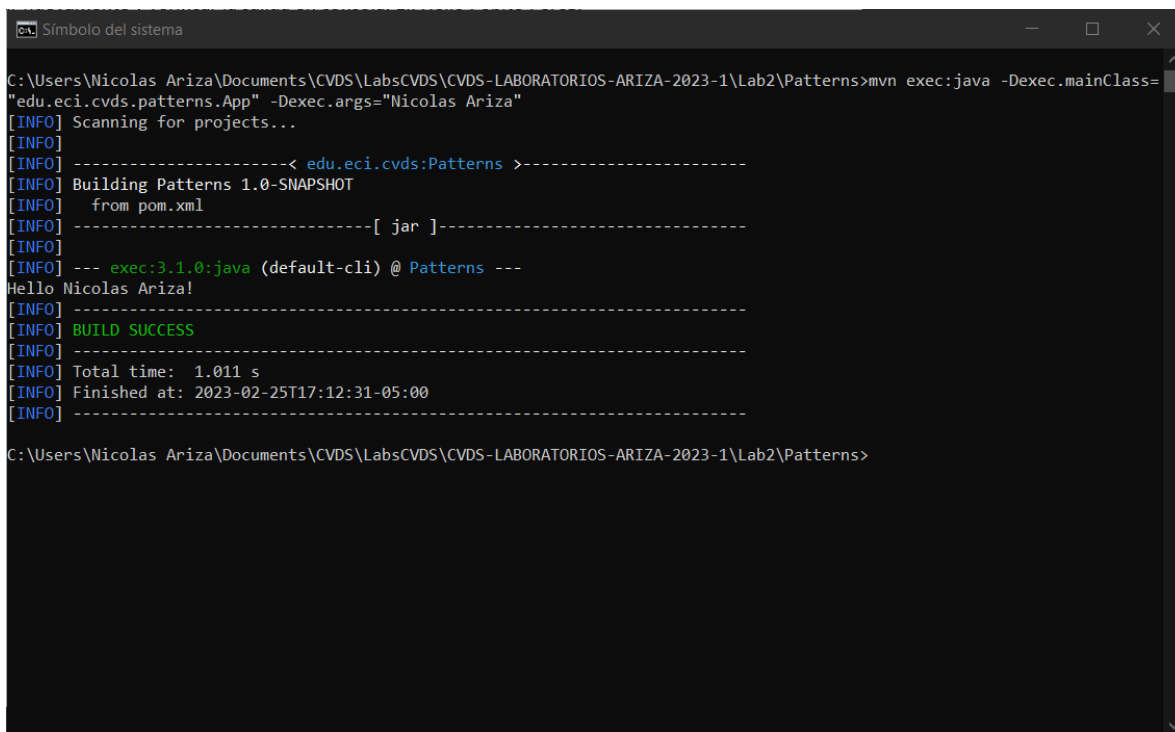
```
Símbolo del sistema

C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>mvn exec:java -Dexec.mainClass="edu.eci.cvds.patterns.App" -Dexec.args="Nicolas Ariza"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< edu.eci.cvds:Patterns >-----
[INFO] Building Patterns 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ Patterns ---
Hello Nicolas!
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 1.012 s
[INFO] Finished at: 2023-02-25T17:08:03-05:00
[INFO]
C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>
```

Verifique cómo enviar los parámetros de forma "compuesta" para que el saludo se realice con nombre y apellido. Ejecutar nuevamente y verificar la salida en consola. Ej: Hello Pepito Perez!



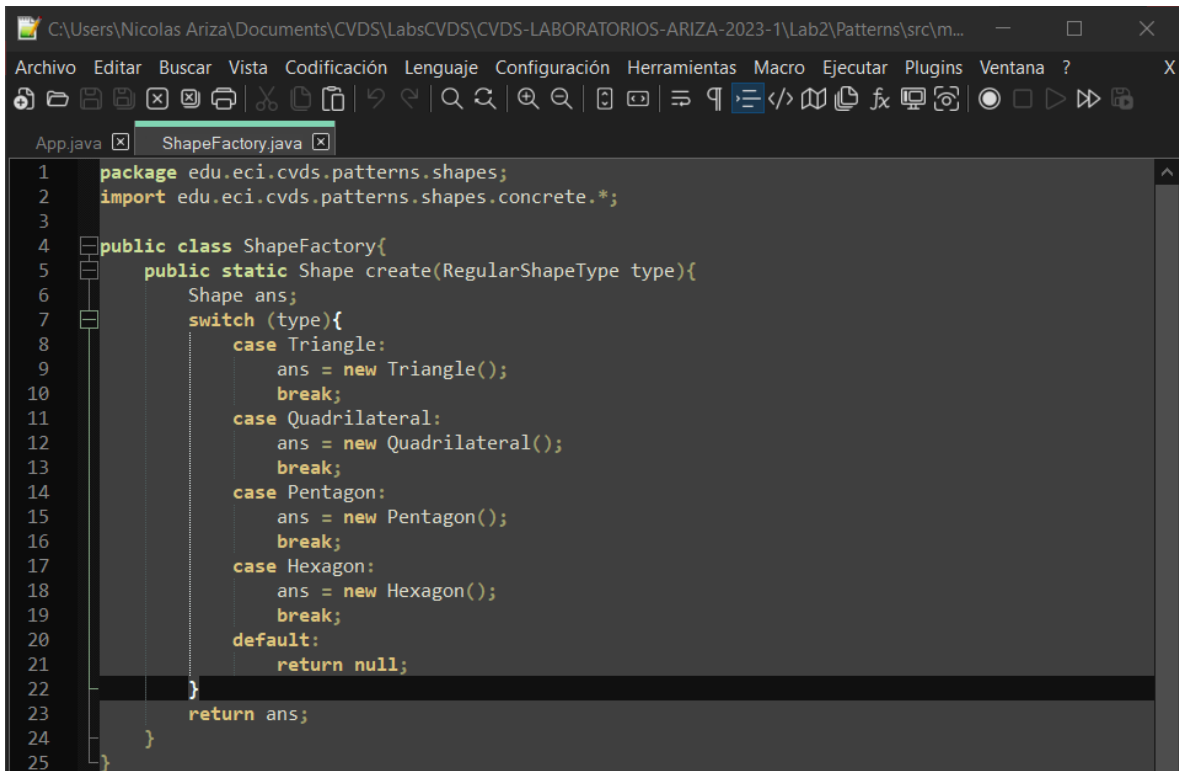
```
1 package edu.eci.cvds.patterns;
2
3 /**
4  * Hello world!
5  */
6
7 public class App
8 {
9     public static void main( String[] args )
10    {
11
12        System.out.println( "Hello " + args[0] + " " +args[1] +"!" );
13    }
14 }
15
```



```
C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>mvn exec:java -Dexec.mainClass=
"edu.eci.cvds.patterns.App" -Dexec.args="Nicolas Ariza"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< edu.eci.cvds:Patterns >-----
[INFO] Building Patterns 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ Patterns ---
Hello Nicolas Ariza!
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time:  1.011 s
[INFO] Finished at: 2023-02-25T17:12:31-05:00
[INFO]
C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>
```

HACER EL ESQUELETO DE LA APLICACIÓN

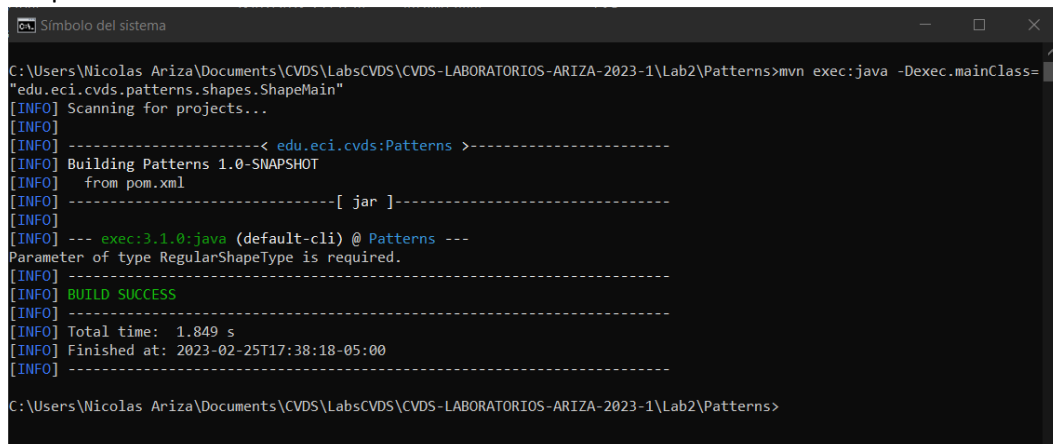
Analice y asegúrese de entender cada una de las instrucciones que se encuentran en todas las clases que se crearon anteriormente. Cree el archivo ShapeFactory.java en el directorio src/main/java/edu/eci/cvds/patterns/shapes implementando el patrón fábrica, haciendo uso de la instrucción switch-case de Java y usando las enumeraciones.



```
1 package edu.eci.cvds.patterns.shapes;
2 import edu.eci.cvds.patterns.shapes.concrete.*;
3
4 public class ShapeFactory{
5     public static Shape create(RegularShapeType type){
6         Shape ans;
7         switch (type){
8             case Triangle:
9                 ans = new Triangle();
10                break;
11             case Quadrilateral:
12                 ans = new Quadrilateral();
13                break;
14             case Pentagon:
15                 ans = new Pentagon();
16                break;
17             case Hexagon:
18                 ans = new Hexagon();
19                break;
20             default:
21                 return null;
22         }
23         return ans;
24     }
25 }
```

Ejecute múltiples veces la clase ShapeMain, usando el plugin exec de maven con los siguientes parámetros y verifique la salida en consola para cada una:

- Sin parámetros



```
C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>mvn exec:java -Dexec.mainClass=
"edu.eci.cvds.patterns.shapes.ShapeMain"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< edu.eci.cvds:Patterns >-----
[INFO] Building Patterns 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ Patterns ---
Parameter of type RegularShapeType is required.
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 1.849 s
[INFO] Finished at: 2023-02-25T17:38:18-05:00
[INFO]
C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>
```

- Parámetro: qwerty

```
Símbolo del sistema

C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>mvn exec:java -Dexec.mainClass=
"edu.eci.cvds.patterns.shapes.ShapeMain" -Dexec.args="qwerty"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< edu.eci.cvds:Patterns >-----
[INFO] Building Patterns 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ Patterns ---
Parameter 'qwerty' is not a valid RegularShapeType
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time:  1.217 s
[INFO] Finished at: 2023-02-25T17:39:06-05:00
[INFO] -----

C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>
```

- Parámetro: pentagon

```
Símbolo del sistema

C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>mvn exec:java -Dexec.mainClass=
"edu.eci.cvds.patterns.shapes.ShapeMain" -Dexec.args="Pentagon"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< edu.eci.cvds:Patterns >-----
[INFO] Building Patterns 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ Patterns ---
Successfully created a Pentagon with 5 sides.
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time:  1.061 s
[INFO] Finished at: 2023-02-25T17:39:59-05:00
[INFO] -----

C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>
```

- Parámetro: Hexagon

```
Símbolo del sistema

C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>mvn exec:java -Dexec.mainClass=
"edu.eci.cvds.patterns.shapes.ShapeMain" -Dexec.args="Hexagon"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< edu.eci.cvds:Patterns >-----
[INFO] Building Patterns 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ Patterns ---
Successfully created a Hexagon with 6 sides.
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time:  1.068 s
[INFO] Finished at: 2023-02-25T17:40:28-05:00
[INFO] -----

C:\Users\Nicolas Ariza\Documents\CVDS\LabsCVDS\CVDS-LABORATORIOS-ARIZA-2023-1\Lab2\Patterns>
```