

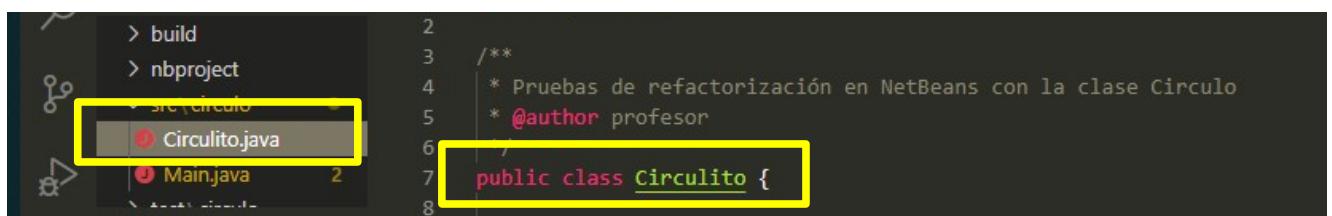
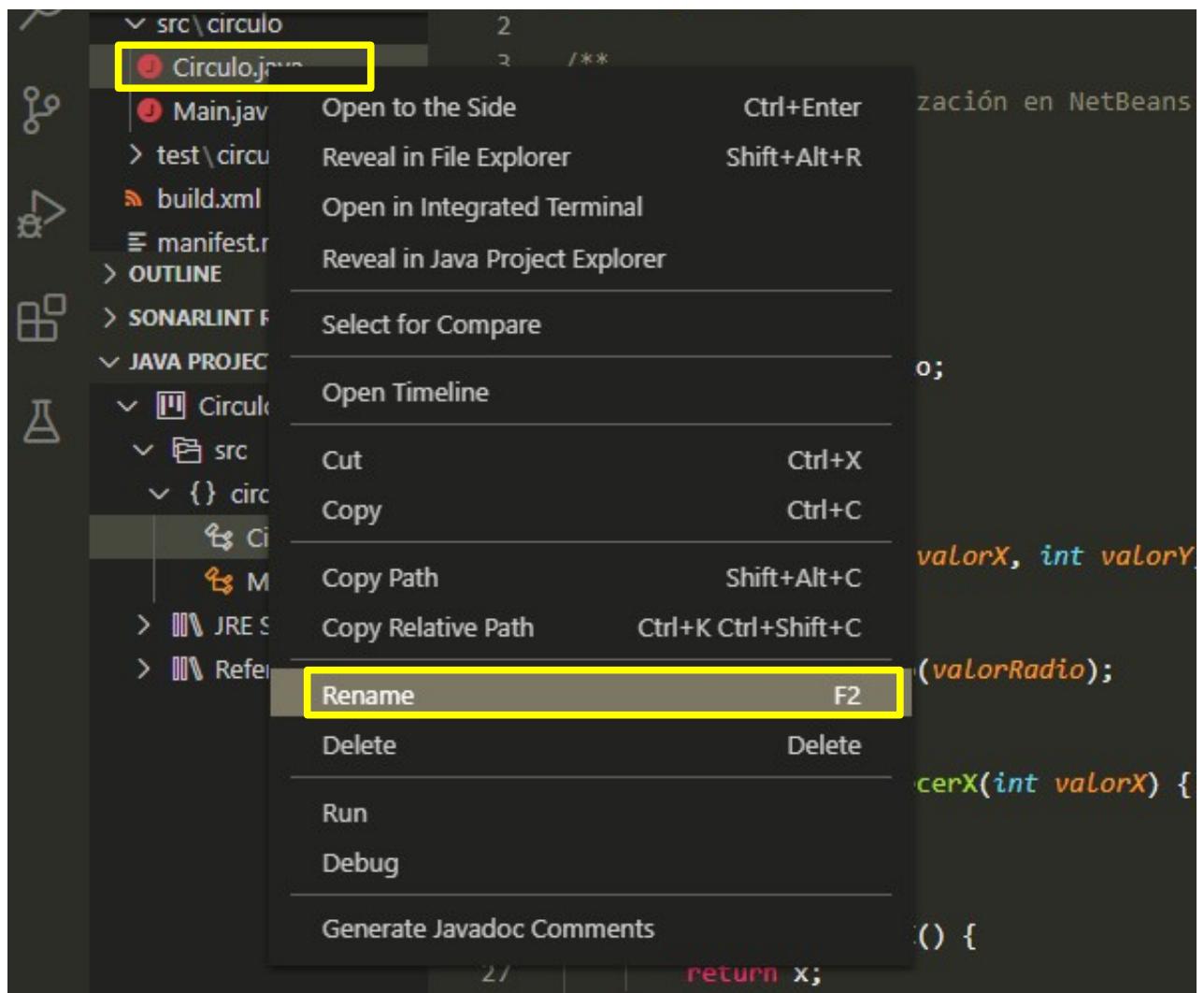
Exercicio 1. Refactorización.

Realizar as seguintes reestruturacións sobre o proxecto Circulo que dispón dunha clase de probas unitarias JUnit.

Despois de realizar a reestruturación de cada exercicio, debese comprobar coas probas unitarias que a clase segue pasando as probas.

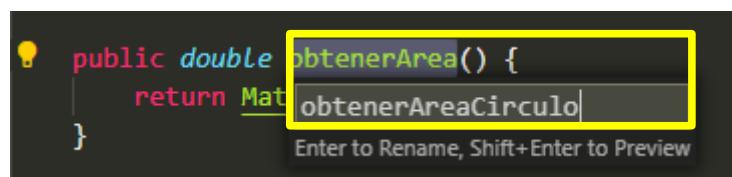
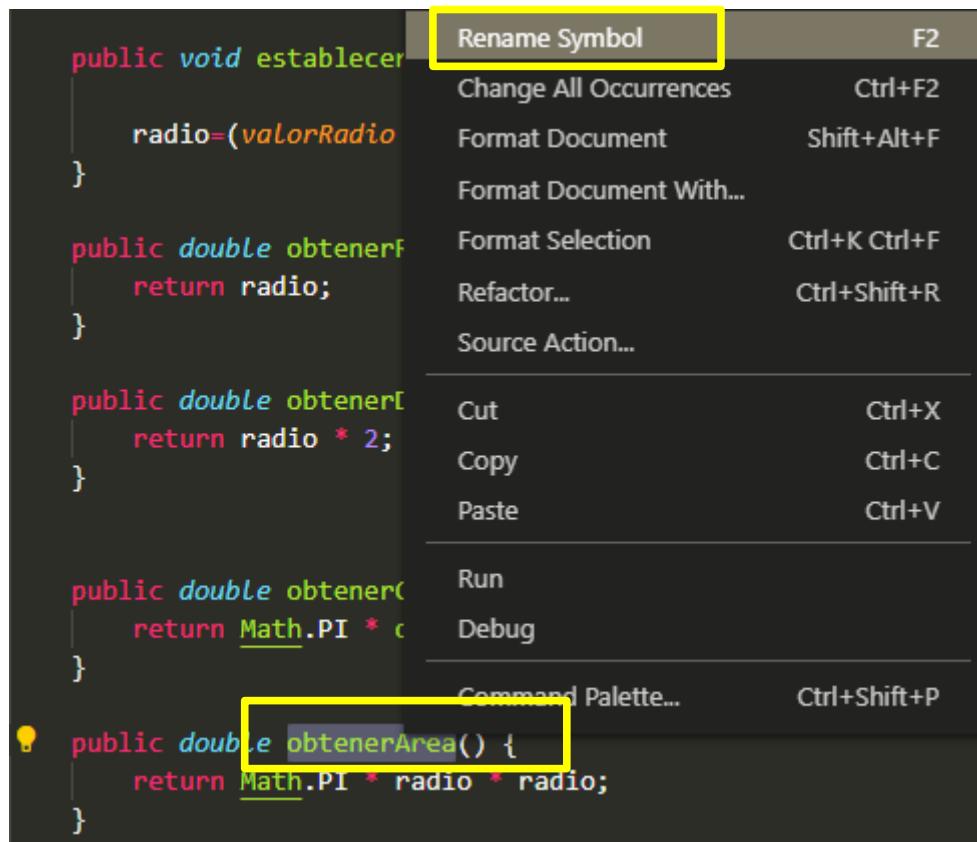
Renamear a clase Círculo por Circulito.

Renomeamos o ficheiro java e cambiase xa no interior da clase, en *Main* e *CirculoTest* temos que cambiar o nome do obxecto *Círculo circulo* por *Circulito circulo*.



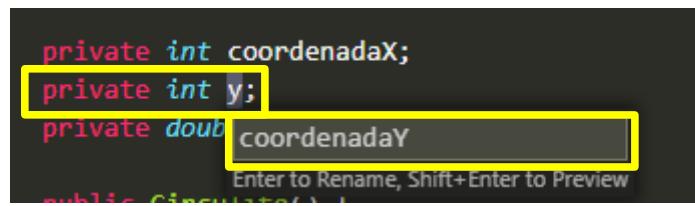
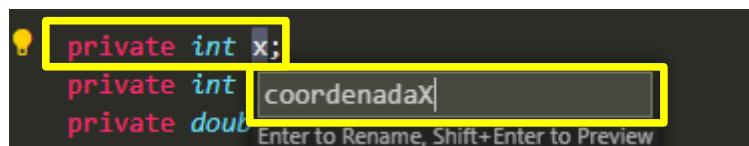
Renomear o método ObtenerArea por ObtenerAreaCírculo.

Renomeamos o método en *Circulito* e despois a chamada a ese método en *Main*.



Renomear os campo x e y por coordenadaX e coordenadaY.

Renomeamos co F2 as variables en *Circulito*.



Introducir constante LIMITERADIO de tipo double co valor 0.0

No valor 0.0 refactorizamos e extraemos a constante, crease a variable e lle cambiamos o nome, despois no método renomeamos o outro 0.0 que nos queda a LIMITERADIO.

The screenshot shows three code editor windows illustrating the refactoring process:

- Top Window:** Shows a method definition with a parameter `valorRadio`. A context menu is open at the bottom right, with the "Refactor..." option highlighted by a yellow box. Other options include "Source Action...", "Cut", "Copy", "Paste", "Run", "Debug", "Command Palette...", and "Ctrl+Shift+P".
- Middle Window:** Shows the same code after refactoring. The value `0.0` has been replaced by a placeholder `0.0 .. valorRadio`. A context menu is open at the bottom right, with the "Extract to constant" option highlighted by a yellow box. Other options include "Extract to field" and "Extract to method".
- Bottom Window:** Shows the final state where the value `0.0` has been renamed to `LIMITERADIO`. The code now reads `radio = (valorRadio < 0.0 ? 0.0 : valorRadio);`. A tooltip "Enter to Rename, Shift+Enter to Preview" is visible near the renamed variable.

Eliminar de forma segura os métodos obtenerX, obtenerY, establecerX, establecerY facendo os cambios necesarios no código para que sexan substituídos polos correspondentes métodos tipo get e set creados.

Selecc

mos co click dereito *Source Actions* e xerar getter e setters e marcamos as dúas cordeadas X e Y, ao final do documento crease os métodos automaticamente, so temos que borrar os anteriores e despois en *Main* e en *CirculoTest* renomear os métodos.

The screenshot shows the "Generate Getters and Setters..." dialog box from the context menu:

- The "Generate Getters and Setters..." button is highlighted by a yellow box.
- A message at the top says "Select the fields to generate getters and setters." with a checkbox and a "0 Selected" button.
- Below is a list of fields:
 - `coordenadaX` getter, setter
 - `coordenadaY` getter, setter
 - `radio` getter, setter
 - `LIMITERADIO` static getter
- At the bottom right are "OK" and "Cancel" buttons.

```
public int getCoordenadaX() {
    return coordenadaX;
}

public void setCoordenadaX(int coordenadaX) {
    this.coordenadaX = coordenadaX;
}

public int getCoordenadaY() {
    return coordenadaY;
}

public void setCoordenadaY(int coordenadaY) {
    this.coordenadaY = coordenadaY;
}
```

```
Circulito circulo = new Circulito(37,43,2.5);
String salida =
    "La coordenada X es "+circulo.get()
    "\nLa coordenada Y es "+circulo.getCoordenadaX(): int
    "\nEl radio es "+circulo.obtenerRadio(): int
circulo.establecerX(35);
circulo.establecerY(20);
```

```
"La coordenada X es "+circulo.getCoordenadaX()+
"\nLa coordenada Y es "+circulo.getCoordenadaY()+
"\nEl radio es "+circulo.obtenerRadio();
circulo.setCoordenadaX(35);
circulo.setCoordenadaY(20);
circulo.establecerRadio(4.2);
```

pruebaCirculito.CirculoTest				
Test	Status	Duration	File	Details
> testObtenerArea	Passed	0s	pruebaCirculito.CirculoTest.java	
> testTrasladarCentro	Passed	0s	pruebaCirculito.CirculoTest.java	
> testObtenerDiametro	Passed	0s	pruebaCirculito.CirculoTest.java	
> testEstablecerX	Passed	0s	pruebaCirculito.CirculoTest.java	
> testEstablecerY	Passed	0s	pruebaCirculito.CirculoTest.java	
> testObtenerCircunferencia	Passed	0s	pruebaCirculito.CirculoTest.java	
> testObtenerRadio	Passed	0s	pruebaCirculito.CirculoTest.java	
> testEstablecerRadio	Passed	0s	pruebaCirculito.CirculoTest.java	
> testObtenerX	Passed	0s	pruebaCirculito.CirculoTest.java	
> testObtenerY	Passed	0s	pruebaCirculito.CirculoTest.java	

Ao final de todos os cambios os test séguense pasando.

Optativo. Encapsular os tres campos do método (coordenadaX coordenadaY, radio).

Investigar a funcionalidade de encapsular.

Os tres campos xa están encapsulados ao engadirlle o modificador de acceso private (para que non se poda acceder a eles directamente dende ningunha outra clase) e posteriormente creando os métodos getter e setter de cada atributo para no caso de necesitálos poder acceder.

Exercicio 2. JavaDoc. Documenta o proxecto Círculo. Usa todas as etiquetas que consideres necesario. Xera a páxina web asociada ao Javadoc. (No caso de que che de erro adxunta unha imaxe do erro)

The screenshot shows the Visual Studio Code interface with three tabs open:

- Main.java**: Contains the main application logic. It includes a constructor for `Circulito`, a method `establecerRadio`, and a `main` method that prints out properties of a `Circulito` object.
- CirculoTest.java**: A JUnit test class with methods for testing the `Circulito` class, such as `testEstablecerX` and `testEstablecerY`.
- Circulo.java**: The definition of the `Circulito` class, which has private fields `coordenadaX`, `coordenadaY`, and `radio`, and corresponding getter and setter methods.

Ao intentar xerar a páxina web dame este erro.

```
PS D:\Documentos\DM\ED\ED_TRIM02\ED_04\Tarea\pruebaCirculito> "C:\Program Files\Java\jdk-11.0.8\bin\javadoc" -public -d "d:\Documentos\DM\ED\ED_TRIM02\ED_04\Tarea\pruebaCirculito\javadoc" -sourcepath "d:\Documentos\DM\ED\ED_T
RIM02\ED_04\Tarea\pruebaCirculito\src" -subpackages main test
En línea: 1 Carácter: 48
+ "C:\Program Files\Java\jdk-11.0.8\bin\javadoc" -public -d "d:\Document ...
+
Token '-public' inesperado en la expresión o la instrucción.
En línea: 1 Carácter: 56
+ "C:\Program Files\Java\jdk-11.0.8\bin\javadoc" -public -d "d:\Document ...
+
Token 'd' inesperado en la expresión o la instrucción.
+ CategoryInfo : ParserError: (:) [], ParentContainsErrorRecordException
+ FullyQualifiedErrorId : UnexpectedToken

PS D:\Documentos\DM\ED\ED_TRIM02\ED_04\Tarea\pruebaCirculito>
```

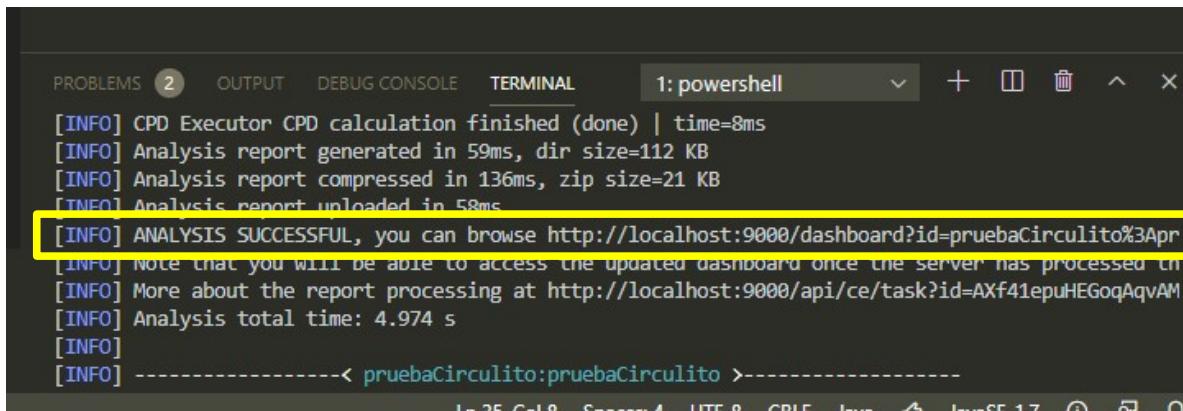
Command 'Javadoc Generator: Built In Generator' resulted in an error (Running the contributed command: 'extension.generateStandAloneDoc' failed.)

Generating Javadoc

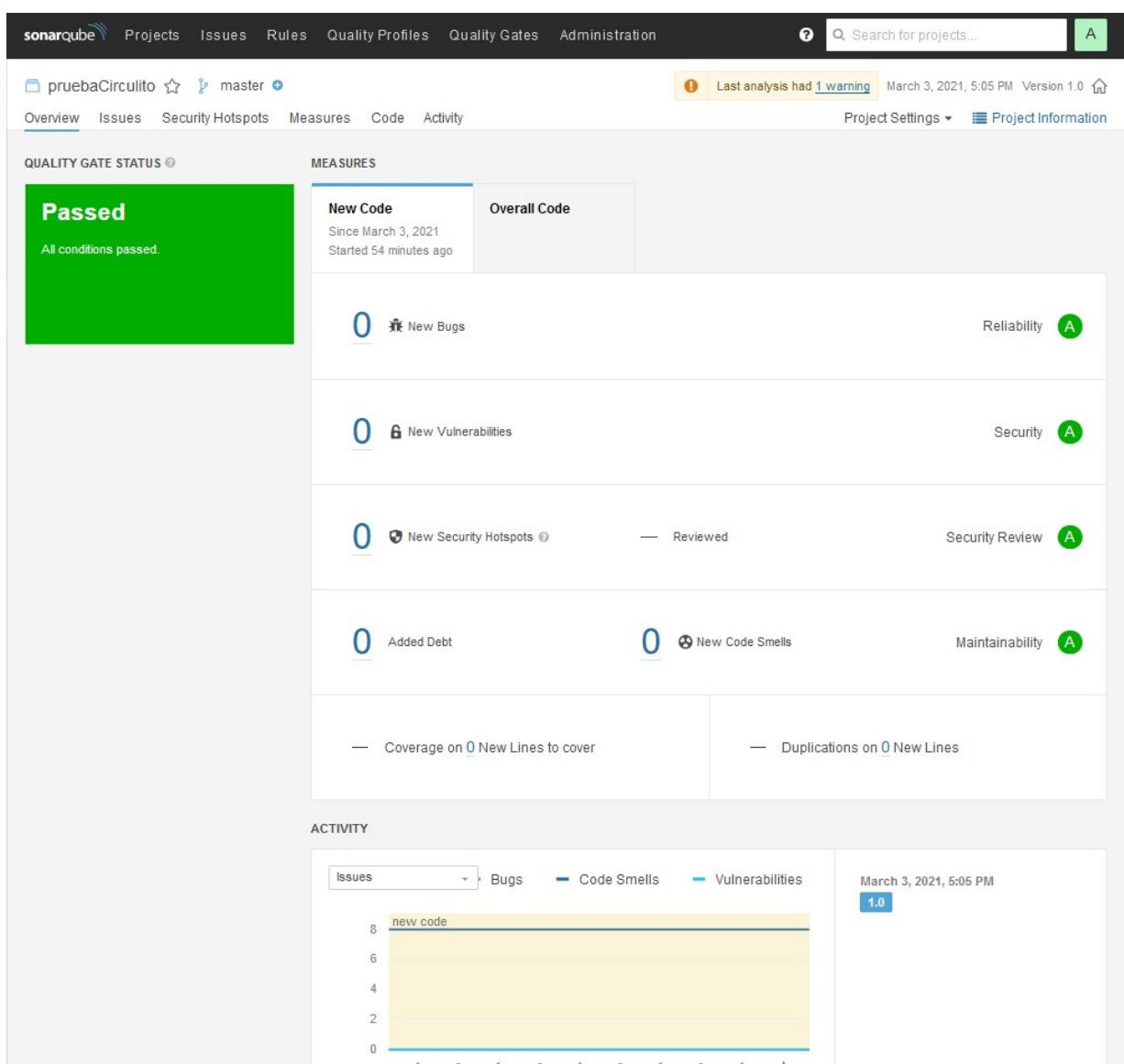
Ln 16, Col 36 Spaces: 4 UTF-8 CRLF Java ⌂ JavaSE-1.7

Exercicio 3. SonarQube. Instala o software SonarQube e analiza a calidade do proxecto Circulo.

Para a entrega deste exercicio é necesario que saquedes capturas de pantalla onde se veva o código analizado e unha breve explicación da información que nos ofrece SonarQube.



```
[INFO] CPD Executor CPD calculation finished (done) | time=8ms
[INFO] Analysis report generated in 59ms, dir size=112 KB
[INFO] Analysis report compressed in 136ms, zip size=21 KB
[INFO] Analysis report uploaded in 58ms
[INFO] ANALYSIS SUCCESSFUL, you can browse http://localhost:9000/dashboard?id=pruebaCirculito%3Apr
[INFO] Note that you will be able to access the updated dashboard once the server has processed the analysis report.
[INFO] More about the report processing at http://localhost:9000/api/ce/task?id=AXf41epuHEGoqAqvAM
[INFO] Analysis total time: 4.974 s
[INFO]
[INFO] -----< pruebaCirculito:pruebaCirculito >-----
```



En xeral parece que o proxecto está ben.

pruebaCircuito master

Last analysis had 1 warning March 3, 2021, 5:05 PM Version 1.0

Overview Issues Security Hotspots Measures Code Activity Project Settings Project Information

Filters

Type

- Bug 0
- Vulnerability 0
- Code Smell 8

Severity

- Blocker 3 Minor 2
- Critical 0 Info 0
- Major 3

Scope

Resolution

Status

Security Category

Creation Date

Language

Rule

Tag

Directory

File

Assignee

Author

Bulk Change

↑ ↓ to select issues ← → to navigate 1 / 8 issues 1h 10min effort

pom.xml

Take the required action to fix the issue indicated by this "FIXME" comment. 54 minutes ago L12 %

Why is this an issue? Code Smell Major Open Not assigned Comment cwe

src/main/java/pruebaCircuito/Circuito.java

Rename this package name to match the regular expression '^[a-z_]+([a-z_][a-z_]*\$)'. 54 minutes ago L1 %

Why is this an issue? Code Smell Minor Open Not assigned 10min effort Comment convention

src/main/java/pruebaCircuito/Main.java

Rename this package name to match the regular expression '^[a-z_]+([a-z_][a-z_]*\$)'. 54 minutes ago L1 %

Why is this an issue? Code Smell Minor Open Not assigned 10min effort Comment convention

src/test/java/pruebaCircuito/CirculoTest.java

Replace this use of System.out or System.err by a logger. 54 minutes ago L23 %

Why is this an issue? Code Smell Major Open Not assigned 10min effort Comment bad-practice, cert, owasp-a3

Replace this use of System.out or System.err by a logger. 54 minutes ago L25 %

Why is this an issue? Code Smell Major Open Not assigned 10min effort Comment bad-practice, cert, owasp-a3

Add at least one assertion to this test case. 54 minutes ago L15 %

Why is this an issue? Code Smell Blocker Open Not assigned 10min effort Comment junit, tests

Add at least one assertion to this test case. 54 minutes ago L26 %

Why is this an issue? Code Smell Blocker Open Not assigned 10min effort Comment junit, tests

Add at least one assertion to this test case. 54 minutes ago L37 %

Why is this an issue? Code Smell Blocker Open Not assigned 10min effort Comment junit, tests

8 of 8 shown

No código márcanos diferentes problemas, 2 menores, 3 maiores e 3 blockers.

- Os dous menores fan referencia ao nome do paquete, que debería seguir un patrón e non o segue.
- Os tres maiores: un fai referencia ao arquivo pom.xml e nos indica que temos que cambiar a url pola do proxecto; e as outras nos indican que deberíamos cambiar a expresión System.out por un logger (isto intenteino cambiar pero non o conseguín, con logger continuaba dando erro).
- E os tres blockers din que tres test deberían ter un assert polo menos.

Exercicio 4. O noso proxecto Documenta con javadoc o código do proxecto que realizaste na tarefa anterior (Selenium) e fai analiza a calidad do mesmo en sonarQube.

```
<dependencies>
    <dependency>
        <groupId>junit</groupId>
        <artifactId>junit</artifactId>
        <version>4.11</version>
        <scope>test</scope>
    </dependency>
    <dependency>
        <groupId>org.seleniumhq.selenium</groupId>
        <artifactId>selenium-chrome-driver</artifactId>
        <version>3.X</version>
    </dependency>
</dependencies>
```

Primeiro tiven que engadir ao pom.xml as dependencias de Selenium para que compilase correctamente. Os erros que se mostran son 2 menores , un facendo referencia ao paquete e o correcto patrón que debería seguir e outro marca un ; que está duplicado.

```
driver.findElement(By.id("enviaComboboxes")).click();//hacemos click sobre el botón enviar
```

Remove this empty statement. Why is this an issue? 32 minutes ago ▾ L70 ⚙

⌚ Code Smell ▾ ⚡ Minor ▾ ⚡ Open ▾ ⚡ Not assigned ▾ 2min effort Comment 🔍 cert, unused ▾

Os 25 restantes son maiores, tres deles como no caso anterior fan referencia á dirección url e a cambiar os System.out. por logger os restantes fan referencia aos Thread.sleep para que os borre.

```
String errorEsperado="Este campo es obligatorio." //Texto que debemos obtener  
driver.get("https://www.pccomponentes.com"); //Abrimos La página  
Thread.sleep(1000);
```