

UNIVERSIDAD NACIONAL DE SAN AGUSTIN
FACULTAD DE PRODUCCION Y SERVICIOS
ESCUELA PROFESIONAL DE CIENCIA DE LA COMPUTACION



LABORATORIO 7: Refactoring y SonarLint

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Curso: Ingenieria de Software 2

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Grupo: A

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REPORTE SONARLINT ISSUES

ANTES

Visual Studio Code interface showing a Python file named `gilded_rose.py` with SonarLint issues.

The editor displays the following code snippet:

```
python > gilded_rose.py > GildedRose > update_quality
1 # -*- coding: utf-8 -*-
2
3 class GildedRose:
4     (method) update_quality(self: Self@GildedRose) -> None
5     def update_quality(self):
6         Refactor this function to reduce its Cognitive Complexity from 69 to the 15 allowed.
7         [+21 locations] sonarlint(python:S3776)
8         Exibir o Problema Correção Rápida... (Ctrl+.)
9         for item in self.items:
10             if item.name != "Aged Brie" and item.name != "Backstage passes to a TAFKAL80ETC concert":
11                 if item.quality > 0:
12                     if item.name != "Sulfuras, Hand of Ragnaros":
13                         item.quality = item.quality - 1
14                 else:
15                     if item.quality < 50:
16                         item.quality = item.quality + 1
17                     if item.name == "Backstage passes to a TAFKAL80ETC concert":
```

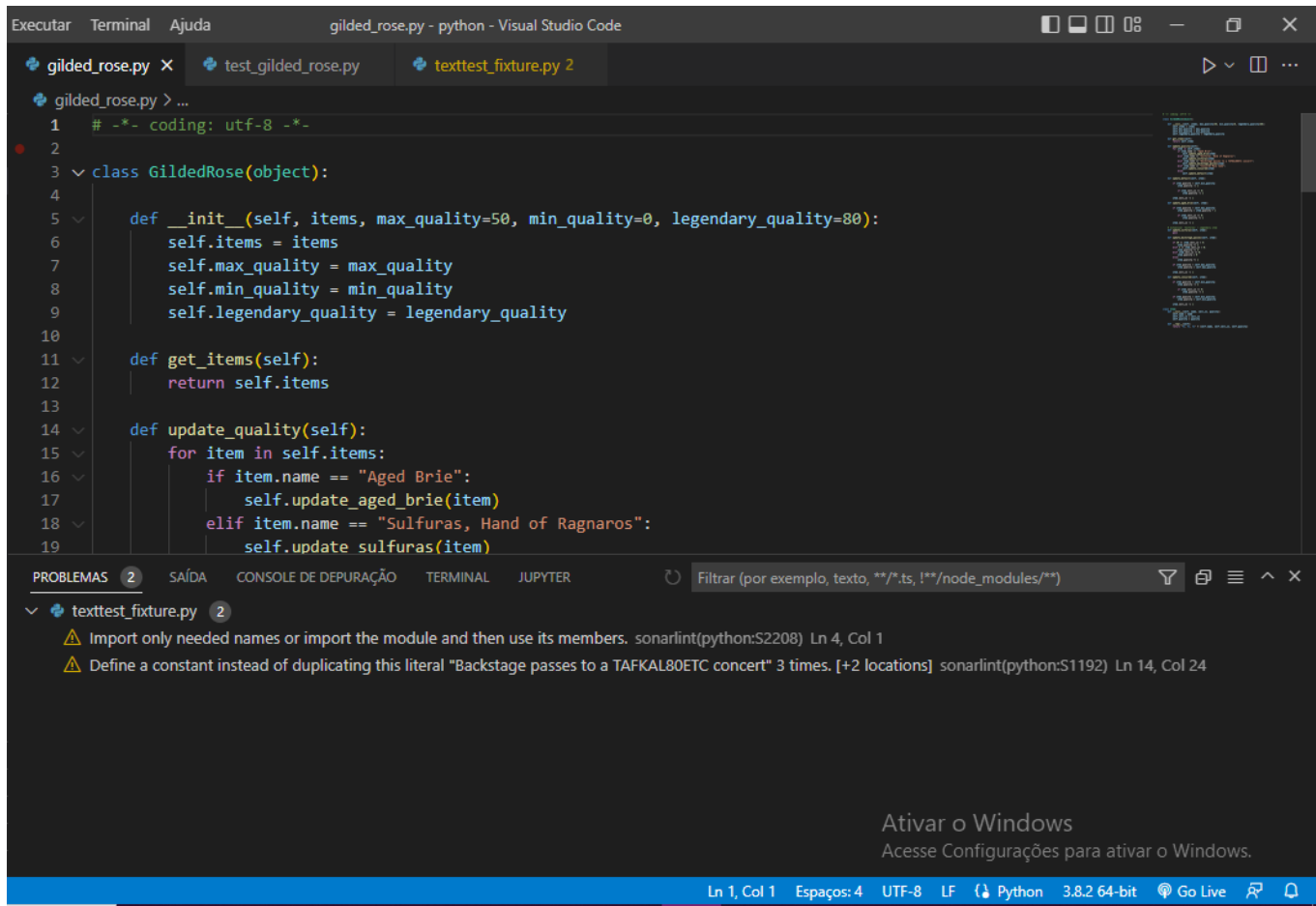
The bottom panel shows the list of problems (8 total):

- Refactor this function to reduce its Cognitive Complexity from 69 to the 15 allowed. [+21 locations] sonarlint(python:S3776) Ln 8, Col 9
- Define a constant instead of duplicating this literal "Backstage passes to a TAFKAL80ETC concert" 3 times. [+2 locations] sonarlint(python:S1192) Ln 10, Col 58
- Define a constant instead of duplicating this literal "Sulfuras, Hand of Ragnaros" 3 times. [+2 locations] sonarlint(python:S1192) Ln 12, Col 37
- Merge this if statement with the enclosing one. [+1 location] sonarlint(python:S1066) Ln 19, Col 29
- Merge this if statement with the enclosing one. [+1 location] sonarlint(python:S1066) Ln 22, Col 29
- Correct one of the identical sub-expressions on both sides of operator "-". [+1 location] sonarlint(python:S1764) Ln 33, Col 55
- Import only needed names or import the module and then use its members. sonarlint(python:S2208) Ln 4, Col 1
- Define a constant instead of duplicating this literal "Backstage passes to a TAFKAL80ETC concert" 3 times. [+2 locations] sonarlint(python:S1192) Ln 14, Col 24

The status bar at the bottom indicates: Ln 8, Col 14, Espaços: 4, UTF-8, LF, Python 3.8.2 64-bit, Go Live, 11:06, 15/12/2022.

REPORTE SONARLINT ISSUES

DESPUES



TÉCNICAS DE REFACTORING UTILIZADAS

Extract Method

Problema

- Tiene un fragmento de código que se puede agrupar.

Solución

- Mueva este código a un nuevo método (o función) separado y reemplace el código anterior con una llamada al método.

```
4
5     def __init__(self, items):
6         self.items = items
7
8     def update_quality(self):
9         for item in self.items:
10             if item.name != "Aged Brie" and item.name != "Backstage passes to a TAFKAL80ETC concert":
11                 if item.quality > 0:
12                     if item.name != "Sulfuras, Hand of Ragnaros":
13                         item.quality = item.quality - 1
14             else:
15                 if item.quality < 50:
16                     item.quality = item.quality + 1
17                     if item.name == "Backstage passes to a TAFKAL80ETC concert":
18                         if item.sell_in < 11:
19                             if item.quality < 50:
20                                 item.quality = item.quality + 1
21                         if item.sell_in < 6:
22                             if item.quality < 50:
23                                 item.quality = item.quality + 1
24             if item.name != "Sulfuras, Hand of Ragnaros":
25                 item.sell_in = item.sell_in - 1
26             if item.sell_in < 0:
27                 if item.name != "Aged Brie":
28                     if item.name != "Backstage passes to a TAFKAL80ETC concert":
29                         if item.quality > 0:
30                             if item.name != "Sulfuras, Hand of Ragnaros":
31                                 item.quality = item.quality - 1
32                 else:
33                     item.quality = item.quality - item.quality
34             else:
35                 if item.quality < 50:
```



```

4
5     def __init__(self, items, max_quality=50, min_quality=0, legendary_quality=80):
6         self.items = items
7         self.max_quality = max_quality
8         self.min_quality = min_quality
9         self.legendarly_quality = legendary_quality
10
11     def get_items(self):
12         return self.items
13
14     def update_quality(self):
15         for item in self.items:
16             if item.name == "Aged Brie":
17                 self.update_aged_brie(item)
18             elif item.name == "Sulfuras, Hand of Ragnaros":
19                 self.update_sulfuras(item)
20             elif item.name == "Backstage passes to a TAFKAL80ETC concert":
21                 self.update_backstage_passes(item)
22             elif item.name == "Conjured Mana Cake":
23                 self.update_conjured(item)
24             else:
25                 self.update_default(item)
26
27     def update_default(self, item):
28
29         if item.quality > self.min_quality:
30             item.quality -= 1
31
32         if item.sell_in <= 0:
33             item.quality -= 1

```

Ativar o Win
Acesse Configura

Substitute Algorithm

Problema

- Entonces, ¿quieres reemplazar un algoritmo existente por uno nuevo?

Solución

- Reemplace el cuerpo del método que implementa el algoritmo con un nuevo algoritmo.

```

8     def update_quality(self):
9         for item in self.items:
10             if item.name != "Aged Brie" and item.name != "Backstage passes to a TAFKAL80ETC concert":
11                 if item.quality > 0:
12                     if item.name != "Sulfuras, Hand of Ragnaros":
13                         item.quality = item.quality - 1
14                 else:
15                     if item.quality < 50:
16                         item.quality = item.quality + 1
17                     if item.name == "Backstage passes to a TAFKAL80ETC concert":
18                         if item.sell_in < 11:
19                             if item.quality < 50:
20                                 item.quality = item.quality + 1
21                         if item.sell_in < 6:
22                             if item.quality < 50:
23                                 item.quality = item.quality + 1
24             if item.name != "Sulfuras, Hand of Ragnaros":
25                 item.sell_in = item.sell_in - 1
26             if item.sell_in < 0:
27                 if item.name != "Aged Brie":
28                     if item.name != "Backstage passes to a TAFKAL80ETC concert":
29                         if item.quality > 0:
30                             if item.name != "Sulfuras, Hand of Ragnaros":
31                                 item.quality = item.quality - 1
32                     else:
33                         item.quality = item.quality - item.quality
34                 else:
35                     if item.quality < 50:
36                         item.quality = item.quality + 1
37

```

Ativar o Windows
Acesse Configurações p



```
14 def update_quality(self):
15     for item in self.items:
16         if item.name == "Aged Brie":
17             self.update_aged_brie(item)
18         elif item.name == "Sulfuras, Hand of Ragnaros":
19             self.update_sulfuras(item)
20         elif item.name == "Backstage passes to a TAFKAL80ETC concert":
21             self.update_backstage_passes(item)
22         elif item.name == "Conjured Mana Cake":
23             self.update_conjured(item)
24         else:
25             self.update_default(item)
26
27     def update_default(self, item):
28
29         if item.quality > self.min_quality:
30             item.quality -= 1
31
32         if item.sell_in <= 0:
33             item.quality -= 1
34
35         item.sell_in -= 1
36
37     def update_aged_brie(self, item):
38
39         if item.quality < self.max_quality:
40             item.quality = item.quality + 1
41
42         if item.sell_in <= 0:
43             item.quality += 1
44
45         item.sell_in -= 1
```

Activ
Aces

Decompose Conditional

Problema

- Tienes un condicional complejo (if-then/ else-switch).

Solución

- Descomponga las partes complicadas del condicional en métodos separados: la condición then y else.

```

8      def update_quality(self):
9          for item in self.items:
10             if item.name != "Aged Brie" and item.name != "Backstage passes to a TAFKAL80ETC concert":
11                 if item.quality > 0:
12                     if item.name != "Sulfuras, Hand of Ragnaros":
13                         item.quality = item.quality - 1
14                 else:
15                     if item.quality < 50:
16                         item.quality = item.quality + 1
17                     if item.name == "Backstage passes to a TAFKAL80ETC concert":
18                         if item.sell_in < 11:
19                             if item.quality < 50:
20                                 item.quality = item.quality + 1
21                         if item.sell_in < 6:
22                             if item.quality < 50:
23                                 item.quality = item.quality + 1
24                     if item.name != "Sulfuras, Hand of Ragnaros":
25                         item.sell_in = item.sell_in - 1
26                     if item.sell_in < 0:
27                         if item.name != "Aged Brie":
28                             if item.name != "Backstage passes to a TAFKAL80ETC concert":
29                                 if item.quality > 0:
30                                     if item.name != "Sulfuras, Hand of Ragnaros":
31                                         item.quality = item.quality - 1
32                             else:
33                                 item.quality = item.quality - item.quality
34                     else:
35                         if item.quality < 50:
36                             item.quality = item.quality + 1
37

```

Ativar o Windows
Acesse Configurações para ativa



```

14  def update_quality(self):
15      for item in self.items:
16          if item.name == "Aged Brie":
17              self.update_aged_brie(item)
18          elif item.name == "Sulfuras, Hand of Ragnaros":
19              self.update_sulfuras(item)
20          elif item.name == "Backstage passes to a TAFKAL80ETC concert":
21              self.update_backstage_passes(item)
22          elif item.name == "Conjured Mana Cake":
23              self.update_conjured(item)
24          else:
25              self.update_default(item)
26

```

Add Parameter

Problema

- Un método no tiene suficientes datos para realizar ciertas acciones.

Solución

- Cree un nuevo parámetro para pasar los datos necesarios.

```
5  ✓ def __init__(self, items):  
6      |     self.items = items  
7
```



```
5  ✓ def __init__(self, items, max_quality=50, min_quality=0, legendary_quality=80):  
6      |     self.items = items  
7      |     self.max_quality = max_quality  
8      |     self.min_quality = min_quality  
9      |     self.legendarry_quality = legendary_quality  
10
```