

Instituto Tecnológico de Monterrey

5.2 Ejercicio de programación 2 y análisis estático

Maestría en inteligencia Artificial Aplicada (MNA)

Pruebas de software y aseguramiento de la calidad
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Repositorio en GitHub:

https://github.com/dcarloa/A01017779_A5.2

Instalación

Se instaló la librería flake8 en nuestro editor de código. (En mi caso estoy usando Visual Studio)

```

Developer PowerShell
+ Developer PowerShell v17.12.4
** Visual Studio 2022 Developer PowerShell v17.12.4
** Copyright (c) 2022 Microsoft Corporation
*****
PS C:\Users\d_car\source\repos>
PS C:\Users\d_car\source\repos> ^C
PS C:\Users\d_car\source\repos> python -m pip install flake8
Collecting flake8
  Downloading flake8-7.1.1-py2.py3-none-any.whl.metadata (3.8 kB)
Requirement already satisfied: mccabe<0.8.0,>=0.7.0 in c:\users\d_car\appdata\local\packages\pythonsoftwarefoundation.python.3.11_qbz5n2kfra8p0\localcache\local-packages\python311\site-packages (from flake8) (0.7.0)
Collecting pycodestyle<2.13.0,>=2.12.0 (from flake8)
  Downloading pycodestyle-2.12.1-py2.py3-none-any.whl.metadata (4.5 kB)
Collecting pyflakes<3.3.0,>=3.2.0 (from flake8)
  Downloading pyflakes-3.2.0-py2.py3-none-any.whl (62 kB)
Installing collected packages: pyflakes, pycodestyle, flake8
WARNING: The script pyflakes.exe is installed in 'C:\Users\d_car\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.11_qbz5n2kfra8p0\LocalCache\local-packages\Python311\Scripts' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
WARNING: The script pycodestyle.exe is installed in 'C:\Users\d_car\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.11_qbz5n2kfra8p0\LocalCache\local-packages\Python311\Scripts' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
WARNING: The script flake8.exe is installed in 'C:\Users\d_car\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.11_qbz5n2kfra8p0\LocalCache\local-packages\Python311\Scripts' which is not on PATH.
Successfully installed flake8-7.1.1 pycodestyle-2.12.1 pyflakes-3.2.0
PS C:\Users\d_car\source\repos>
  
```

• Problema 1: Compute sales

Instrucciones:

Req1. The program shall be invoked from a command line. The program shall receive two files as parameters. The first file will contain information in a JSON format about a catalogue of prices of products. The second file will contain a record for all sales in a company.

Req 2. The program shall compute the total cost for all sales included in the second JSON archive.

The results shall be print on a screen and on a file named SalesResults.txt. The total cost should include all items in the sale considering the cost for every item in the first file.

The output must be human readable, so make it easy to read for the user.

Req 3. The program shall include the mechanism to handle invalid data in the file. Errors should be displayed in the console and the execution must continue.

Req 4. The name of the program shall be computeSales.py

Req 5. The minimum format to invoke the program shall be as follows:

`python computeSales.py priceCatalogue.json salesRecord.json`

Req 6. The program shall manage files having from hundreds of items to thousands of items.

Req 7. The program should include at the end of the execution the time elapsed for the execution and calculus of the data. This number shall be included in the results file and on the screen.

Req 8. Be compliant with PEP8

Al ejecutarse el código, se logran apreciar los resultados:

```
PS C:\Users\d_car\source\repos\A01017779_A5.2\A01017779_A5.2> python A01017779_A5.2.py TC1.ProductList.json .\TC1.Sales.json
=== Resultados de Ventas ===
Total de ventas: $2481.86
Ventas procesadas correctamente: 46
Ventas con errores: 0
Tiempo de ejecucion: 0.001024 segundos
```

Una vez finalizado el código, se corrió la instrucción flake8 en el archivo. Se obtuvieron los siguientes resultados:

```
PS C:\Users\d_car\source\repos\A01017779_A5.2\A01017779_A5.2> python -m flake8 .\A01017779_A5.2.py
.\A01017779_A5.2.py:2:80: E501 line too long (88 > 79 characters)
.\A01017779_A5.2.py:21:80: E501 line too long (85 > 79 characters)
.\A01017779_A5.2.py:31:80: E501 line too long (86 > 79 characters)
.\A01017779_A5.2.py:36:80: E501 line too long (104 > 79 characters)
.\A01017779_A5.2.py:37:80: E501 line too long (96 > 79 characters)
.\A01017779_A5.2.py:46:80: E501 line too long (100 > 79 characters)
.\A01017779_A5.2.py:52:80: E501 line too long (81 > 79 characters)
.\A01017779_A5.2.py:55:80: E501 line too long (92 > 79 characters)
.\A01017779_A5.2.py:74:80: E501 line too long (81 > 79 characters)
.\A01017779_A5.2.py:85:80: E501 line too long (91 > 79 characters)
.\A01017779_A5.2.py:95:80: E501 line too long (83 > 79 characters)
PS C:\Users\d_car\source\repos\A01017779_A5.2\A01017779_A5.2>
```

Tras las correcciones, el resultado fue:

```
PS C:\Users\d_car\source\repos\A01017779_A5.2\A01017779_A5.2> python -m flake8 .\A01017779_A5.2.py
PS C:\Users\d_car\source\repos\A01017779_A5.2\A01017779_A5.2>
```

También se ejecutó la instrucción pylint en el código, obteniendo los siguientes resultados:

```
PS C:\Users\d_car\source\repos\A01017779_A5.2\A01017779_A5.2> python -m pylint A01017779_A5.2.py
***** Module A01017779_A5.2
A01017779_A5.2.py:1:0: C0103: Module name "2" doesn't conform to snake_case naming style (invalid-name)

-----
Your code has been rated at 9.83/10
```

Y tras cambiar el nombre del programa, se obtuvo una calificación de 10.00 / 10:

```
PS C:\Users\d_car\source\repos\A01017779_A5.2\A01017779_A5.2> python -m pylint .\ analisis_estatico.py
-----
Your code has been rated at 10.00/10
```

Obras Citadas

- Van Rossum, G., Warsaw, B. & Coghlan, Alyssa (2013). PEP 8 – Style Guide for Python Cod. Convención de codificación de Python - PEP8
<https://peps.python.org/pep-0008/>
- SmartBear Software. (2023). Best Practices for Code Review. <https://smartbear.com/learn/code-review/best-practices-for-peer-code-review/>