Tecnológico de Monterrey

Maestría en Inteligencia Artificial Aplicada

Pruebas de Software y aseguramiento de la calidad

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Introducción

El presente trabajo de la asignatura de pruebas de software y aseguramiento de la calidad de la maestría en Inteligencia Artificial Aplicada del Tecnológico de Monterrey tiene como finalidad aplicar análisis estático.

1. Implementar los programas en Python

Se implementó el programa 'compute_sales.py'.

```python
"""Program that read two json file inputs. The first
input contains the price and the second the quantity,
the program calculate the sales
"""
import json
import time
import sys


def load_json_file(file_path):
    """Function that read a json. The two json files
    accepted for this program are: one of prices and
    second of quantities
    """
    with open(file_path, 'r', encoding='utf-8') as file:
        data = json.load(file)
    return data


def calculate_total_cost(catalogue, sales):
    """Function that does the product between two json
    files to get the sales
    """
    total_cost = 0
```

2. Estándar de codificación PEP-8

Se siguió el estándar de codificación PEP-8, considerando *docstrings, indentation*, etc.

```python
def main():
    """Function that contains the logic of the program.
    Use the two arguments in the function
    calculate_total_cost and print the result on the screen"""
    if len(sys.argv) != 3:
        print("Usage: python computeSales.py priceCatalogue.json \
                salesRecord.json")
        sys.exit(1)

    catalogue_file = sys.argv[1]
    sales_file = sys.argv[2]

    # Load catalogue and sales data
    catalogue = load_json_file(catalogue_file)
    sales = load_json_file(sales_file)

    # Calculate total cost
    start_time = time.time()
    total_cost = calculate_total_cost(catalogue, sales)
    end_time = time.time()

    # Print results to screen
```

3. Verificación de la ejecución de cada programa

Se verificó la ejecución para 'compute_sales.py'.

TC1:

```
C:\Users\1045069\Documents\tec\pruebas_software\5>python compute_sales.py TC1.ProductList.json TC1.Sales.json
Total Cost: $2481.86
Time Elapsed: 0.0000 seconds
```

TC2:

```
C:\Users\1045069\Documents\tec\pruebas_software\5>python compute_sales.py TC1.ProductList.json TC2.Sales.json
Total Cost: $166568.23
Time Elapsed: 0.0000 seconds
```

TC3:

```
C:\Users\1045069\Documents\tec\pruebas_software\5>python compute_sales.py TC1.ProductList.json TC3.Sales.json
Total Cost: $165235.37
Time Elapsed: 0.0000 seconds
```

4. Instalación de flake8

```
C:\Users\1045069>python -m pip install flake8
Collecting flake8
  Obtaining dependency information for flake8 from https://files.pythonhosted.org/packages/e3/01/cc8cdec7b61db0315c2ab62d80677a138ef06832ec17f04d87e6ef858f7f/flake8-7.0.0-py2.py3-none-any.whl.metadata
  Downloading flake8-7.0.0-py2.py3-none-any.whl.metadata (3.8 kB)
Requirement already satisfied: mccabe<0.8.0,>=0.7.0 in c:\users\1045069\appdata\local\programs\python\python312\lib\site-packages (from flake8) (0.7.0)
Collecting pycodestyle<2.12.0,>=2.11.0 (from flake8)
  Obtaining dependency information for pycodestyle<2.12.0,>=2.11.0 from https://files.pythonhosted.org/packages/b1/90/a998c550d0dddd07e38605bb5c455d00fcc177a800ff9cc3dafdcb3dd7b56/pycodestyle-2.11.1-py2.py3-none-any.whl.metadata
  Downloading pycodestyle-2.11.1-py2.py3-none-any.whl.metadata (4.5 kB)
Collecting pyflakes<3.3.0,>=3.2.0 (from flake8)
  Obtaining dependency information for pyflakes<3.3.0,>=3.2.0 from https://files.pythonhosted.org/packages/d4/d7/f1b7db88d8e4417c5d47adad627a93547f44bdc9028372dbd2313f34a855/pyflakes-3.2.0-py2.py3-none-any.whl.metadata
  Downloading pyflakes-3.2.0-py2.py3-none-any.whl.metadata (3.5 kB)
Downloading flake8-7.0.0-py2.py3-none-any.whl (57 kB)
   ---------------------------------------- 57.6/57.6 kB 296.1 kB/s eta 0:00:00
Downloading pycodestyle-2.11.1-py2.py3-none-any.whl (31 kB)
Downloading pyflakes-3.2.0-py2.py3-none-any.whl (62 kB)
   ---------------------------------------- 62.7/62.7 kB 831.1 kB/s eta 0:00:00
Installing collected packages: pyflakes, pycodestyle, flake8
Successfully installed flake8-7.0.0 pycodestyle-2.11.1 pyflakes-3.2.0

[notice] A new release of pip is available: 23.2.1 -> 24.0
[notice] To update, run: python.exe -m pip install --upgrade pip
```

5. Verificación de los programas con pylint

Verificación de 'compute_sales.py' con **pylint**.

```
C:\Users\1045069\Documents\tec\pruebas_software\5>python -m pylint compute_sales.py
--------------------------------------------------------------------
Your code has been rated at 10.00/10 (previous run: 10.00/10, +0.00)
```

6. Verificación de los programas con flake8

Verificación de 'compute_sales.py' con **flake8**.

```
C:\Users\1045069\Documents\tec\pruebas_software\5>python -m flake8 compute_sales.py --statistics
compute_sales.py:9:1: E302 expected 2 blank lines, found 1
compute_sales.py:14:39: E251 unexpected spaces around keyword / parameter equals
compute_sales.py:14:41: E251 unexpected spaces around keyword / parameter equals
compute_sales.py:18:1: E302 expected 2 blank lines, found 1
compute_sales.py:19:55: W291 trailing whitespace
compute_sales.py:28:80: E501 line too long (91 > 79 characters)
compute_sales.py:35:1: E302 expected 2 blank lines, found 1
compute_sales.py:40:80: E501 line too long (83 > 79 characters)
compute_sales.py:60:48: E251 unexpected spaces around keyword / parameter equals
compute_sales.py:60:50: E251 unexpected spaces around keyword / parameter equals
compute_sales.py:62:80: E501 line too long (82 > 79 characters)
compute_sales.py:64:1: E306 expected 2 blank lines after class or function definition, found 1
4     E251 unexpected spaces around keyword / parameter equals
3     E302 expected 2 blank lines, found 1
1     E306 expected 2 blank lines after class or function definition, found 1
1     E501 line too long (91 > 79 characters)
1     W291 trailing whitespace
```

Se corrigieron los detalles:

```
C:\Users\1045069\Documents\tec\pruebas_software\5>python -m flake8 compute_sales.py --statistics

C:\Users\1045069\Documents\tec\pruebas_software\5>
```

7. Liga del repositorio

https://github.com/janmenc/A01794067_A5.2