Materia:

Pruebas de Software y Aseguramiento de la Calidad

Actividad:

Ejercicio de programación 2 y análisis estático

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Fecha de entrega:

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Problemas

1. Compute sales

Source

```
""" Compute Sales Module

CLA-T-1201 - A01796592 - Assignment 5.2 - Problem 1

This module contains the compute_sales function which calculates the total

sales for a given list of transactions.

"""

import sys

import time

import json


class ComputeSales:

    """Class to compute total sales from a list of transactions."""

    def __init__(self, p_list, transactions):

        self.dict_product = p_list

        self.dict_transactions = transactions


    def total_sales(self):

        """Calculate the total sales from the transactions."""

        total_transaction = 0

        try:

            self.validate_transactions()

            for transaction in self.dict_transactions:

                product_name = transaction["Product"]

                quantity = transaction["Quantity"]

                price = next(

                    (p["price"] for p in self.dict_product

                        if p["title"] == product_name), None)

                if price is None:

                    raise ValueError(

                        f"Product not found: {product_name}")

                total_transaction += quantity * price

        except ValueError as exc:

            raise ValueError(f'Invalid transaction data: {exc}') from exc

        return total_transaction
```

```
    def validate_transactions(self):
        """Validate that all transactions are numbers."""
        if not self.dict_transactions:
            raise ValueError("The list of transactions is empty.")
        valid_products = {
            p["title"] for p in self.dict_product
        }
        filtered_transactions = []
        for transaction in self.dict_transactions:
            if transaction["Product"] in valid_products:
                filtered_transactions.append(transaction)
        self.dict_transactions = filtered_transactions


if __name__ == "__main__":
    start_time = time.time()
    products_file = sys.argv[1]
    sales_file = sys.argv[2:]
    with open(products_file, 'r', encoding='utf-8') as f1:
        product_list = json.load(f1)
    with open('sales_result.txt', 'w', encoding='utf-8') as report:
        report.write('Sales File\t\tTotal Sales\n')
        print("Sales file\t\tTotal Sales")
        for sales in sales_file:
            try:
                with open(sales, 'r', encoding='utf-8') as f2:
                    sales_list = json.load(f2)
                compute_sales = ComputeSales(product_list, sales_list)
                total = compute_sales.total_sales()
                report.write(f'{sales}\t{total}\n')
                print(f'{sales}\t{total}')
            except (ValueError, FileNotFoundError) as exc:
                print(f'Error processing file: {exc}')
    end_time = time.time()
    print('Sales report generated: sales_result.txt')
    print(f'Time taken: {end_time - start_time:.2f} seconds')
```

Test

PEP 8

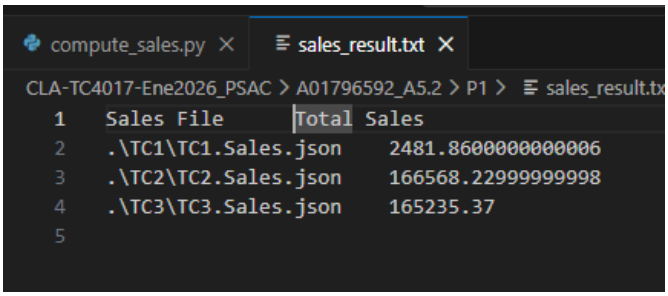
```
PS C:\Users\anton\Documents\TecMonterrey\Pruebas de Software y Aseguramiento de la Calidad\CLA-TC4017-Ene2026_PSAC\A01796592_A5.2\P1> python -m pylint .\compute_sales.py

--------------------------------------------------------------------
Your code has been rated at 10.00/10 (previous run: 10.00/10, +0.00)
```

Flake

```
PS C:\Users\anton\Documents\TecMonterrey\Pruebas de Software y Aseguramiento de la Calidad\CLA-TC4017-Ene2026_PSAC\A01796592_A5.2\P1> python -m flake8 .\compute_sales.py
PS C:\Users\anton\Documents\TecMonterrey\Pruebas de Software y Aseguramiento de la Calidad\CLA-TC4017-Ene2026_PSAC\A01796592_A5.2\P1>
```

Result




```
PS C:\Users\anton\Documents\TecMonterrey\Pruebas de Software y Aseguramiento de la Calidad\CLA-TC4017-Ene2026_PSAC\A01796592_A5.2\P1> python .\compute_sales.py .\TC1\TC1.ProductList.json .\TC1\TC1.Sales.json
.\TC2\TC2.Sales.json .\TC3\TC3.Sales.json
Sales file              Total Sales
.\TC1\TC1.Sales.json    2481.8600000000006
.\TC2\TC2.Sales.json    166568.22999999998
.\TC3\TC3.Sales.json    165235.37
Sales report generated: sales_result.txt
Time taken: 0.00 seconds
PS C:\Users\anton\Documents\TecMonterrey\Pruebas de Software y Aseguramiento de la Calidad\CLA-TC4017-Ene2026_PSAC\A01796592_A5.2\P1>
```