



**Instituto Tecnológico y de Estudios Superiores de Monterrey**  
**Maestría en Inteligencia Artificial Aplicada (MNA)**

## **5.2 Ejercicio de Programación 2 y Análisis Estático**

**Pruebas de Software y Aseguramiento de la Calidad**

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# Ejecuciones

- TC1

```
(pruebas_software) oscar@LAPTOP-RRFLBEHP:/mnt/c/Users/oscar/pruebas_software$ python computeSales.py TC1/TC1.ProductList.json TC1/TC1.Sales.json
--- Calculando Ventas ---

-----
                        VENTAS
-----
Total de Unidades Vendidas: 133

PRODUCTO | CANTIDAD | PRECIO INDIVIDUAL | PRECIO TOTAL |
-----|-----|-----|-----|
Rustic breakfast | 3 | $ 21.32 | $ 21.32 |
Sandwich with salad | 5 | $ 22.48 | $ 66.28 |
Raw legums | 21 | $ 17.11 | $ 83.39 |
Fresh stawberry | 5 | $ 28.59 | $ 111.98 |
Pears juice | 3 | $ 19.49 | $ 150.96 |
Green smoothie | 22 | $ 17.68 | $ 204.00 |
Cuban sandwiche | 11 | $ 18.50 | $ 241.00 |
Hazelnut in black ceramic bowl | 7 | $ 27.35 | $ 295.70 |
Tomatoes | 2 | $ 26.03 | $ 321.73 |
Plums | 4 | $ 19.18 | $ 340.91 |
Fresh blueberries | 7 | $ 21.01 | $ 382.93 |
Corn | 19 | $ 13.55 | $ 458.94 |
French fries | 3 | $ 18.32 | $ 477.26 |
Ground beef meat burger | 4 | $ 11.73 | $ 488.99 |
Cherry | 4 | $ 14.35 | $ 572.39 |
Homemade bread | 6 | $ 17.48 | $ 589.87 |
Smoothie with chia seeds | 3 | $ 25.26 | $ 615.13 |
Peaches on branch | 2 | $ 25.62 | $ 679.92 |
Pesto with basil | 2 | $ 18.19 | $ 716.30 |
-----
Total de Venta: $2481.86
Tiempo Transcurrido: 0.004795 segundos
-----

Resultados guardados en SalesResults.txt
```

```

SalesResults.txt
1  -----
2  | | | | | | | | | | VENTAS
3  -----
4  Total de Unidades Vendidas: 133
5  -----
6  PRODUCTO | CANTIDAD | PRECIO INDIVIDUAL | PRECIO TOTAL |
7  -----|-----|-----|-----|
8  Rustic breakfast | 3 | $ 21.32 | $ 21.32 |
9  Sandwich with salad | 5 | $ 22.48 | $ 66.28 |
10 Raw legums | 21 | $ 17.11 | $ 83.39 |
11 Fresh stawberry | 5 | $ 28.59 | $ 111.98 |
12 Pears juice | 3 | $ 19.49 | $ 150.96 |
13 Green smoothie | 22 | $ 17.68 | $ 204.00 |
14 Cuban sandwiche | 11 | $ 18.50 | $ 241.00 |
15 Hazelnut in black ceramic bowl | 7 | $ 27.35 | $ 295.70 |
16 Tomatoes | 2 | $ 26.03 | $ 321.73 |
17 Plums | 4 | $ 19.18 | $ 340.91 |
18 Fresh blueberries | 7 | $ 21.01 | $ 382.93 |
19 Corn | 19 | $ 13.55 | $ 458.94 |
20 French fries | 3 | $ 18.32 | $ 477.26 |
21 Ground beef meat burger | 4 | $ 11.73 | $ 488.99 |
22 Cherry | 4 | $ 14.35 | $ 572.39 |
23 Homemade bread | 6 | $ 17.48 | $ 589.87 |
24 Smoothie with chia seeds | 3 | $ 25.26 | $ 615.13 |
25 Peaches on branch | 2 | $ 25.62 | $ 679.92 |
26 Pesto with basil | 2 | $ 18.19 | $ 716.30 |
27 -----
28 Total de Venta: $2481.86
29 -----
30 Tiempo Transcurrido: 0.004795 segundos
31 -----
```

- TC2

```
(pruebas_software) oscar@LAPTOP-RRFLBEHP:/mnt/c/Users/oscar/pruebas_software$ python computeSales.py TC1/TC1.ProductList.json TC2/TC2.Sales.json
--- Calculando Ventas ---

-----
VENTAS
-----
Total de Unidades Vendidas: 8683
-----
PRODUCTO | CANTIDAD | PRECIO INDIVIDUAL | PRECIO TOTAL |
-----
Rustic breakfast | 200 | $ 21.32 | $ 4264.00 |
Sandwich with salad | 23 | $ 22.48 | $ 4781.04 |
Raw legums | 13 | $ 17.11 | $ 4969.25 |
Fresh stawberry | 221 | $ 28.59 | $ 11287.64 |
Green smoothie | 580 | $ 17.68 | $ 18393.86 |
Cuban sandwiche | 2 | $ 18.50 | $ 18430.86 |
Hazelnut in black ceramic bowl | 7 | $ 27.35 | $ 18485.56 |
Tomatoes | 1 | $ 26.03 | $ 18511.59 |
Plums | 1231 | $ 19.18 | $ 23306.59 |
Fresh blueberries | 3790 | $ 21.01 | $ 30323.93 |
Corn | 1664 | $ 13.55 | $ 36549.33 |
French fries | 57 | $ 18.32 | $ 37153.89 |
Ground beef meat burger | 146 | $ 11.73 | $ 38068.83 |
Sweet fresh stawberry | 221 | $ 29.45 | $ 40685.68 |
Homemade bread | 466 | $ 17.48 | $ 40703.16 |
Smoothie with chia seeds | 61 | $ 25.26 | $ 41865.12 |
-----
Total de Venta: $166568.23
-----
Tiempo Transcurrido: 0.003988 segundos
-----
Resultados guardados en SalesResults.txt
```

```

SalesResults.txt
1  -----
2  | | | | | | | | | | VENTAS
3  -----
4  Total de Unidades Vendidas: 8683
5  -----
6  PRODUCTO | CANTIDAD | PRECIO INDIVIDUAL | PRECIO TOTAL |
7  -----
8  Rustic breakfast | 200 | $ 21.32 | $ 4264.00 |
9  Sandwich with salad | 23 | $ 22.48 | $ 4781.04 |
10 Raw legums | 13 | $ 17.11 | $ 4969.25 |
11 Fresh stawberry | 221 | $ 28.59 | $ 11287.64 |
12 Green smoothie | 580 | $ 17.68 | $ 18393.86 |
13 Cuban sandwiche | 2 | $ 18.50 | $ 18430.86 |
14 Hazelnut in black ceramic bowl | 7 | $ 27.35 | $ 18485.56 |
15 Tomatoes | 1 | $ 26.03 | $ 18511.59 |
16 Plums | 1231 | $ 19.18 | $ 23306.59 |
17 Fresh blueberries | 3790 | $ 21.01 | $ 30323.93 |
18 Corn | 1664 | $ 13.55 | $ 36549.33 |
19 French fries | 57 | $ 18.32 | $ 37153.89 |
20 Ground beef meat burger | 146 | $ 11.73 | $ 38068.83 |
21 Sweet fresh stawberry | 221 | $ 29.45 | $ 40685.68 |
22 Homemade bread | 466 | $ 17.48 | $ 40703.16 |
23 Smoothie with chia seeds | 61 | $ 25.26 | $ 41865.12 |
24 -----
25 Total de Venta: $166568.23
26 -----
27 Tiempo Transcurrido: 0.003988 segundos
28 -----

```

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```
(pruebas_software) oscar@LAPTOP-RRFLBEHP:/mnt/c/Users/oscar/pruebas_software$ python computeSales.py TC1/TC1.ProductList.json TC3/TC3.Sales.json
```

```

--- Calculando Ventas ---
Línea 22: Producto 'Elotes' no existe.
Línea 36: Producto 'Frijoles' no existe.

```

VENTAS

Total de Unidades Vendidas: 8617

PRODUCTO	CANTIDAD	PRECIO INDIVIDUAL	PRECIO TOTAL
Rustic breakfast	200	\$ 21.32	\$ 4264.00
Sandwich with salad	23	\$ 22.48	\$ 4781.00
Raw legums	13	\$ 17.11	\$ 4969.25
Fresh strawberry	221	\$ 28.59	\$ 11287.64
Green smoothie	580	\$ 17.68	\$ 18393.86
Cuban sandwiche	2	\$ 18.50	\$ 18430.86
Hazelnut in black ceramic bowl	7	\$ 27.35	\$ 18485.56
Tomatoes	1	\$ 26.03	\$ 18511.59
Plums	1231	\$ 19.18	\$ 23306.59
Fresh blueberries	3744	\$ 21.01	\$ 30323.93
Corn	1664	\$ 13.55	\$ 36549.33
French fries	37	\$ 18.32	\$ 37153.89
Ground beef meat burger	146	\$ 11.73	\$ 38068.83
Sweet fresh strawberry	221	\$ 29.45	\$ 40685.68
Homemade bread	466	\$ 17.48	\$ 40793.16
Smoothie with chia seeds	61	\$ 25.26	\$ 41865.17

**Total de Venta: \$165235.37**

Tiempo Transcurrido: 0.005111 segundos

Resultados guardados en SalesResults.txt

SalesResults.txt

[illegible]

## Flake8

- Antes

```
(pruebas_software) oscar@LAPTOP-RRFLBEHP:/mnt/c/Users/oscar/pruebas_software$ flake8 computeSales.py
computeSales.py:5:1: E302 expected 2 blank lines, found 1
computeSales.py:16:1: W293 blank line contains whitespace
computeSales.py:17:1: E302 expected 2 blank lines, found 1
computeSales.py:19:1: W293 blank line contains whitespace
computeSales.py:27:1: W293 blank line contains whitespace
computeSales.py:30:1: E302 expected 2 blank lines, found 1
computeSales.py:31:1: W293 blank line contains whitespace
computeSales.py:41:1: W293 blank line contains whitespace
computeSales.py:46:1: W293 blank line contains whitespace
computeSales.py:55:1: W293 blank line contains whitespace
computeSales.py:60:1: W293 blank line contains whitespace
computeSales.py:66:1: W293 blank line contains whitespace
computeSales.py:67:80: E501 line too long (107 > 79 characters)
computeSales.py:69:1: W293 blank line contains whitespace
computeSales.py:72:1: E305 expected 2 blank lines after class or function definition, found 1
computeSales.py:76:80: E501 line too long (105 > 79 characters)
computeSales.py:78:1: W293 blank line contains whitespace
computeSales.py:90:44: E221 multiple spaces before operator
computeSales.py:90:80: E501 line too long (86 > 79 characters)
computeSales.py:101:80: E501 line too long (109 > 79 characters)
```

- Después

```
(pruebas_software) oscar@LAPTOP-RRFLBEHP:/mnt/c/Users/oscar/pruebas_software$ flake8 computeSales.py
(pruebas_software) oscar@LAPTOP-RRFLBEHP:/mnt/c/Users/oscar/pruebas_software$ |
```

## Pylint

- Antes

```
(pruebas_software) oscar@LAPTOP-RRFLBEHP:/mnt/c/Users/oscar/pruebas_software$ pylint computeSales.py
***** Module computeSales
computeSales.py:16:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:19:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:27:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:31:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:41:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:46:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:55:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:60:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:66:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:67:0: C0301: Line too long (107/100) (line-too-long)
computeSales.py:69:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:76:0: C0301: Line too long (105/100) (line-too-long)
computeSales.py:78:0: C0303: Trailing whitespace (trailing-whitespace)
computeSales.py:101:0: C0301: Line too long (109/100) (line-too-long)
computeSales.py:1:0: C0114: Missing module docstring (missing-module-docstring)
computeSales.py:1:0: C0103: Module name "computeSales" doesn't conform to snake_case naming style (invalid-name)
computeSales.py:5:0: C0116: Missing function or method docstring (missing-function-docstring)
computeSales.py:17:0: C0116: Missing function or method docstring (missing-function-docstring)
computeSales.py:30:0: C0116: Missing function or method docstring (missing-function-docstring)
computeSales.py:30:19: W0621: Redefining name 'productos' from outer scope (line 88) (redefined-outer-name)
computeSales.py:30:30: W0621: Redefining name 'ventas_datos' from outer scope (line 83) (redefined-outer-name)
computeSales.py:32:4: W0621: Redefining name 'costo_total' from outer scope (line 90) (redefined-outer-name)
computeSales.py:33:4: W0621: Redefining name 'cantidad_total' from outer scope (line 90) (redefined-outer-name)
computeSales.py:35:4: W0621: Redefining name 'datos_producto' from outer scope (line 90) (redefined-outer-name)
computeSales.py:61:4: C0206: Consider iterating with .items() (consider-using-dict-items)
computeSales.py:110:0: C0103: Constant name "salida_datos" doesn't conform to UPPER_CASE naming style (invalid-name)

-----
Your code has been rated at 7.05/10
```

- Después (de correcciones de Flake8)

```
(pruebas_software) oscarg@LAPTOP-RRFLBEHP:/mnt/c/Users/oscar/pruebas_software$ pylint computeSales.py
***** Module computeSales
computeSales.py:1:0: C0114: Missing module docstring (missing-module-docstring)
computeSales.py:1:0: C0103: Module name "computeSales" doesn't conform to snake_case naming style (invalid-name)
computeSales.py:6:0: C0116: Missing function or method docstring (missing-function-docstring)
computeSales.py:19:0: C0116: Missing function or method docstring (missing-function-docstring)
computeSales.py:33:0: C0116: Missing function or method docstring (missing-function-docstring)
computeSales.py:33:19: W0621: Redefining name 'productos' from outer scope (line 94) (redefined-outer-name)
computeSales.py:33:30: W0621: Redefining name 'ventas_datos' from outer scope (line 89) (redefined-outer-name)
computeSales.py:35:4: W0621: Redefining name 'costo_total' from outer scope (line 96) (redefined-outer-name)
computeSales.py:36:4: W0621: Redefining name 'cantidad_total' from outer scope (line 96) (redefined-outer-name)
computeSales.py:38:4: W0621: Redefining name 'datos_producto' from outer scope (line 96) (redefined-outer-name)
computeSales.py:64:4: C0206: Consider iterating with .items() (consider-using-dict-items)
computeSales.py:118:0: C0103: Constant name "salida_datos" doesn't conform to UPPER_CASE naming style (invalid-name)

-----
Your code has been rated at 8.64/10 (previous run: 7.05/10, +1.59)
```

- Después

```
(pruebas_software) oscarg@LAPTOP-RRFLBEHP:/mnt/c/Users/oscar/pruebas_software$ pylint computeSales.py

-----
Your code has been rated at 10.00/10 (previous run: 9.43/10, +0.57)
```