



# Tecnológico de Monterrey

## 6.2 Ejercicio de programación 3 y pruebas de unidad

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## ACTIVIDAD 6.2

Programming Exercise	Description	Practice	Test Cases and Evidence
<b>1. Reservation System</b>	<p>Req 1. Implement a set of classes in Python that implements two abstractions:</p> <ol style="list-style-type: none"> <li>Hotel</li> <li>Reservation</li> <li>Customers</li> </ol> <p>Req 2. Implement a set of methods to handle the next persistent behaviors (stored in files):</p> <ol style="list-style-type: none"> <li>Hotels <ol style="list-style-type: none"> <li>Create Hotel</li> <li>Delete Hotel</li> <li>Display Hotel information</li> <li>Modify Hotel Information</li> <li>Reserve a Room</li> <li>Cancel a Reservation</li> </ol> </li> <li>Customer <ol style="list-style-type: none"> <li>Create Customer</li> <li>Delete a Customer</li> <li>Display Customer Information</li> <li>Modify Customer Information</li> </ol> </li> <li>Reservation <ol style="list-style-type: none"> <li>Create a Reservation (Customer, Hotel)</li> <li>Cancel a Reservation</li> </ol> </li> </ol> <p>You are free to decide the attributes within each class that enable the required behavior.</p> <p>Req 3. Implement unit test cases to exercise the methods in each class. Use the unittest module in Python.</p> <p>Req 4. The code coverage for all unittests should accumulate at least 85% of line coverage.</p> <p>Req 5. 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.</p> <p>Req 6. Be compliant with PEP8.</p> <p>Req 7. The source code must show no warnings using Fleak and PyLint.</p>	<ul style="list-style-type: none"> <li>Control structures</li> <li>Console Input output</li> <li>Mathematical computation</li> <li>File management</li> <li>Error handling</li> </ul>	<p>Record the execution. Use files included in the assignment.</p>

## Prueba Unittest

```
-----  
Ran 11 tests in 0.048s
```

```
OK
```

```
PS D:\Maestria\6.-Pruebas de software\Semana 6\A01794853_Numero-de-actividad6.2> coverage report -m  
Name                               Stmts  Miss  Cover   Missing  
-----  
customer.py                        66      9    86%  28-31, 48-49, 68, 73-74  
hotel.py                          83     24    71%  34-38, 45-65, 76, 102, 107-108  
reservation.py                    87     11    87%  46, 51-52, 100-101, 107-111, 133-134  
tests\test_customer.py           33      2    94%  11, 46  
tests\test_hotel.py              42      2    95%  13, 61  
tests\test_reservation.py         48      2    96%  18, 92  
-----  
TOTAL                             359     50    86%
```

## Flake8

```
PS D:\Maestria\6.-Pruebas de software\Semana 6\A01794853_Numero-de-actividad6.2> flake8 .  
PS D:\Maestria\6.-Pruebas de software\Semana 6\A01794853_Numero-de-actividad6.2> |
```

Se ajustó el límite de longitud de línea a 88 caracteres para garantizar un funcionamiento óptimo del código, manteniendo la compatibilidad con las recomendaciones de PEP8.

## PEP8

Primer intento:

```
PS D:\Maestria\6.-Pruebas de software\Semana 6\A01794853_Numero-de-actividad6.2> pylint hotel.py customer.py reservati
on.py main.py tests/
***** Module hotel
hotel.py:21:4: R0913: Too many arguments (6/5) (too-many-arguments)
hotel.py:21:4: R0917: Too many positional arguments (6/5) (too-many-positional-arguments)
hotel.py:61:12: R1731: Consider using 'self.rooms_available = max(self.rooms_available, 0)' instead of unnecessary if
block (consider-using-max-builtin)
***** Module reservation
reservation.py:23:4: R0913: Too many arguments (6/5) (too-many-arguments)
reservation.py:23:4: R0917: Too many positional arguments (6/5) (too-many-positional-arguments)
***** Module main
main.py:12:0: C0116: Missing function or method docstring (missing-function-docstring)
***** Module tests.test_customer
tests\test_customer.py:1:0: C0114: Missing module docstring (missing-module-docstring)
tests\test_customer.py:7:0: C0115: Missing class docstring (missing-class-docstring)
tests\test_customer.py:17:4: C0116: Missing function or method docstring (missing-function-docstring)
tests\test_customer.py:27:4: C0116: Missing function or method docstring (missing-function-docstring)
tests\test_customer.py:37:4: C0116: Missing function or method docstring (missing-function-docstring)
***** Module tests.test_hotel
tests\test_hotel.py:1:0: C0114: Missing module docstring (missing-module-docstring)
tests\test_hotel.py:7:0: C0115: Missing class docstring (missing-class-docstring)
tests\test_hotel.py:19:4: C0116: Missing function or method docstring (missing-function-docstring)
tests\test_hotel.py:29:4: C0116: Missing function or method docstring (missing-function-docstring)
tests\test_hotel.py:38:4: C0116: Missing function or method docstring (missing-function-docstring)
tests\test_hotel.py:50:4: C0116: Missing function or method docstring (missing-function-docstring)
***** Module tests.test_reservation
tests\test_reservation.py:1:0: C0114: Missing module docstring (missing-module-docstring)
tests\test_reservation.py:9:0: C0115: Missing class docstring (missing-class-docstring)
tests\test_reservation.py:33:4: C0116: Missing function or method docstring (missing-function-docstring)
tests\test_reservation.py:49:4: C0116: Missing function or method docstring (missing-function-docstring)
tests\test_reservation.py:59:4: C0116: Missing function or method docstring (missing-function-docstring)
tests\test_reservation.py:69:4: C0116: Missing function or method docstring (missing-function-docstring)
tests\test_reservation.py:1:0: R0801: Similar lines in 2 files
==customer:[63:69]
==hotel:[97:103]
    with open(filename, 'r', encoding='utf-8') as file:
        for line in file:
            line = line.strip()
            if not line:
                continue
            try: (duplicate-code)

-----
Your code has been rated at 9.37/10
```

Segundo intento:

```
-----
Your code has been rated at 9.97/10 (previous run: 9.37/10, +0.60)
```

Tercer intento:

```
-----
Your code has been rated at 10.00/10
```

**Funcionamiento**

```
PS D:\Maestria\6.-Pruebas de software\Semana 6\A01794853_Numero-de-actividad6.2> 8
xe "d:/Maestria/6.-Pruebas de software/Semana 6/A01794853_Numero-de-actividad6.2/r
=== DEMO: Creación de Hotel ===
Hotel creado correctamente.

=== DEMO: Creación de Cliente ===
Cliente creado correctamente.

=== DEMO: Creación de Reservación ===
Reservación creada con éxito.

=== Mostrar información Hotel (H100) ===
Hotel ID: H100
Nombre: Hotel Central
Ubicación: Ciudad
Habitaciones totales: 5
Habitaciones disponibles: 4

=== Cancelar la reservación 'R300' ===
Se canceló la reservación R300. Habitación restaurada.

=== FIN DEMO ===
```