En cuanto a la ejecución de pruebas unitarias fue para mi muy complejo, sin embargo realice N archivos en Colab, allí me fallo demasiado porque donde se encontraban las clases, Colab le colocaba unas cabeceras que no leía correctamente el archivo.

Posteriormente decidí hacerlo todo en Visual estudio, tuve que ajustar el archivo donde estaba definidas las clases, así mismo arme dos archivos para pruebas unitarias del cuales adjunto, sin embargo si final pude sacar la ejecución correcta de las pruebas, sin embargo quede con algunos vacíos, ya que este tipo de desarrollo de pruebas unitarias no era algo que conociera.

Con el archivo de pruebas unitarias "testing_py.py" no lo pude sacar adelante y obtuve:

MacBook-de-Maritza:downloads Maritza\$ python3 -m unittest testing_py.py FFFFF.
FAIL: test_eliminar_cliente (testing_py.TestCliente.test_eliminar_cliente)
Traceback (most recent call last):
File "/Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/unittest/mock.py", line 1424, in patched return func(*newargs, **newkeywargs)
File "/Users/Maritza/Downloads/testing_py.py", line 104, in test_eliminar_cliente mock_print.assert_any_call("Cliente con ID 5 eliminado.")
File "/Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/unittest/mock.py", line 1048, in assert_any_call raise AssertionError('%s call not found' % expected_string
) from cause AssertionError: print('Cliente con ID 5 eliminado.') call not found
FAIL: test_modificar_cliente (testing_py.TestCliente.test_modificar_cliente)
Traceback (most recent call last):
File "/Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/unittest/mock.py", line 1424, in patched return func(*newargs, **newkeywargs)
File "/Users/Maritza/Downloads/testing_py.py", line 94, in test_modificar_cliente mock_print.assert_any_call("Cliente actualizado exitosamente.")
File "/Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/unittest/mock.py", line 1048, in assert_any_call raise AssertionError(
'%s call not found' % expected_string
) from cause AssertionError: print('Cliente actualizado exitosamente.') call not found

```
FAIL: test_mostrar_info_cliente (testing_py.TestCliente.test_mostrar_info_cliente)
Traceback (most recent call last):
File "/Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/unittest/mock.py", line 1424, in patched
 return func(*newargs, **newkeywargs)
 File "/Users/Maritza/Downloads/testing_py.py", line 113, in test_mostrar_info_cliente
 mock print.assert any call(json.dumps(cliente data, indent=4, ensure ascii=False))
                     ~~~~~~^^^^^^
 File "/Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/unittest/mock.py", line 1048, in assert_any_call
 raise AssertionError(
   '%s call not found' % expected string
 ) from cause
AssertionError: print('{\n "id cliente": 4,\n "nombre": "Carlos Méndez",\n "email": "carlos.mendez@example.com"\n}') call not found
_____
FAIL: test_mostrar_info_hotel (testing_py.TestHotel.test_mostrar_info_hotel)
Traceback (most recent call last):
File "/Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/unittest/mock.py", line 1424, in patched
 return func(*newargs, **newkeywargs)
 File "/Users/Maritza/Downloads/testing_py.py", line 64, in test_mostrar_info_hotel
 mock_print.assert_any_call(json.dumps(hotel_data, indent=4, ensure_ascii=False))
                    ~~~~~~~^^^^^
 File "/Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/unittest/mock.py", line 1048, in assert_any_call
 raise AssertionError(
   '%s call not found' % expected_string
 ) from cause
AssertionError: print('{\n "id_hotel": 2,\n "nombre": "Hotel Dos",\n "ubicacion": "Ciudad Dos",\n "capacidad": 70,\n "estrellas": 3\n}')
call not found
______
FAIL: test_cancelar_reserva (testing_py.TestReserva.test_cancelar_reserva)
Traceback (most recent call last):
File "/Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/unittest/mock.py", line 1424, in patched
 return func(*newargs, **newkeywargs)
 File "/Users/Maritza/Downloads/testing_py.py", line 144, in test_cancelar_reserva
 mock_print.assert_any_call("Reserva con ID 1 cancelada.")
                    ~~~~~~^^^^^
 File "/Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/unittest/mock.py", line 1048, in assert any call
 raise AssertionError(
    '%s call not found' % expected string
 ) from cause
AssertionError: print('Reserva con ID 1 cancelada.') call not found
Ran 8 tests in 0.043s
FAILED (failures=5)
MacBook-de-Maritza:downloads Maritza$
```

hoteles_reservas_py.py 163 64 61%
testing_py.py 81 1 99%
-----TOTAL 244 65 73%
MacBook-de-Maritza:downloads Maritza\$

Con el archivo de pruebas unitarias "testing_turispo.py" obtuve:

MacBook-de-Maritza:downloads Maritza\$ python3 -m unittest testing_turismo.py
FECliente agregado exitosamente.
EHotel agregado exitosamente.
EReserva agregada exitosamente.
EFEHotel con ID 1 eliminado.
FEEE
=======================================
${\sf ERROR: test_cancelar_reserva (testing_turismo. Test Sistema Reservas. test_cancelar_reserva)}$
Verifica cancelación de reserva
Traceback (most recent call last):
File "/Users/Maritza/Downloads/testing_turismo.py", line 52, in tearDown
if os.path.exists(file):
۸۸
NameError: name 'os' is not defined. Did you forget to import 'os'?
ERROR: test_crear_cliente (testing_turismo.TestSistemaReservas.test_crear_cliente)
Verifica creación de cliente
Traceback (most recent call last):
File "/Users/Maritza/Downloads/testing_turismo.py", line 52, in tearDown
if os.path.exists(file):
۸۸
NameError: name 'os' is not defined. Did you forget to import 'os'?
ERROR: test_crear_hotel (testing_turismo.TestSistemaReservas.test_crear_hotel)
Verifica creación de un hotel
Traceback (most recent call last):
File "/Users/Maritza/Downloads/testing_turismo.py", line 52, in tearDown
if os.path.exists(file):
۸۸
NameError: name 'os' is not defined. Did you forget to import 'os'?
ERROR: test_crear_reserva (testing_turismo.TestSistemaReservas.test_crear_reserva)
Verifica creación de reserva
Transhadi, Jurant vannt all last).
Traceback (most recent call last):
File "/Users/Maritza/Downloads/testing_turismo.py", line 52, in tearDown
if os.path.exists(file):

```
NameError: name 'os' is not defined. Did you forget to import 'os'?
_____
{\tt ERROR: test\_eliminar\_cliente (testing\_turismo.TestSistemaReservas.test\_eliminar\_cliente)}
Verifica eliminación de cliente
Traceback (most recent call last):
File "/Users/Maritza/Downloads/testing_turismo.py", line 52, in tearDown
 if os.path.exists(file):
NameError: name 'os' is not defined. Did you forget to import 'os'?
______
ERROR: test_eliminar_hotel (testing_turismo.TestSistemaReservas.test_eliminar_hotel)
Verifica eliminación de hotel
Traceback (most recent call last):
File "/Users/Maritza/Downloads/testing turismo.py", line 52, in tearDown
 if os.path.exists(file):
NameError: name 'os' is not defined. Did you forget to import 'os'?
-----
ERROR: test_escribir_archivo (testing_turismo.TestSistemaReservas.test_escribir_archivo)
Verifica escritura de archivo
Traceback (most recent call last):
File "/Users/Maritza/Downloads/testing_turismo.py", line 52, in tearDown
 if os.path.exists(file):
   ۸۸
NameError: name 'os' is not defined. Did you forget to import 'os'?
_____
ERROR: test_leer_archivo (testing_turismo.TestSistemaReservas.test_leer_archivo)
Verifica lectura de archivo
Traceback (most recent call last):
 File "/Users/Maritza/Downloads/testing_turismo.py", line 52, in tearDown
 if os.path.exists(file):
NameError: name 'os' is not defined. Did you forget to import 'os'?
______
FAIL: test_cancelar_reserva (testing_turismo.TestSistemaReservas.test_cancelar_reserva)
Verifica cancelación de reserva
Traceback (most recent call last):
File "/Users/Maritza/Downloads/testing_turismo.py", line 108, in test_cancelar_reserva
 self.assertEqual(len(data), 0)
                ~^^^^
AssertionError: 1 != 0
______
```

 $FAIL: test_eliminar_cliente \ (testing_turismo. TestSistemaReservas. test_eliminar_cliente)$

Verifica eliminación de cliente
Traceback (most recent call last): File "/Users/Maritza/Downloads/testing_turismo.py", line 95, in test_eliminar_cliente self.assertEqual(len(data), 0)
AssertionError: 1 != 0
FAIL: test_eliminar_hotel (testing_turismo.TestSistemaReservas.test_eliminar_hotel) Verifica eliminación de hotel
Traceback (most recent call last): File "/Users/Maritza/Downloads/testing_turismo.py", line 81, in test_eliminar_hotel self.assertEqual(len(data), 1)
AssertionError: 2 != 1
Ran 8 tests in 0.046s
FAILED (failures=3, errors=8) MacBook-de-Maritza:downloads Maritza\$ python3 -m unittest testing_turismo.py FCliente agregado exitosamente. Hotel agregado exitosamente.
.Reserva agregada exitosamenteFHotel con ID 1 eliminado.
F
FAIL: test_cancelar_reserva (testing_turismo.TestSistemaReservas.test_cancelar_reserva) Verifica cancelación de reserva
Traceback (most recent call last): File "/Users/Maritza/Downloads/testing_turismo.py", line 109, in test_cancelar_reserva self.assertEqual(len(data), 0)
AssertionError: 1 != 0
FAIL: test_eliminar_cliente (testing_turismo.TestSistemaReservas.test_eliminar_cliente) Verifica eliminación de cliente
Traceback (most recent call last): File "/Users/Maritza/Downloads/testing_turismo.py", line 96, in test_eliminar_cliente self.assertEqual(len(data), 0)
AssertionError: 1 != 0
FAIL: test_eliminar_hotel (testing_turismo.TestSistemaReservas.test_eliminar_hotel) Verifica eliminación de hotel
Traceback (most recent call last): File "/Users/Maritza/Downloads/testing_turismo.py", line 82, in test_eliminar_hotel

```
self.assertEqual(len(data), 1)
              ~~~~~^^^
AssertionError: 2 != 1
Ran 8 tests in 0.033s
FAILED (failures=3)
MacBook-de-Maritza:downloads Maritza$ python3 -m unittest testing_turismo.py
.Cliente agregado exitosamente.
.Hotel agregado exitosamente.
.Reserva agregada exitosamente.
.. Hotel con ID 11 eliminado.
Ran 8 tests in 0.037s
ОК
MacBook-de-Maritza:downloads Maritza$ coverage run -m unittest testing_turismo.py
bash: coverage: command not found
MacBook-de-Maritza:downloads Maritza$ pip install coverage
Collecting coverage
 Downloading coverage-7.6.12-cp313-cp313-macosx_10_13_x86_64.whl.metadata (8.5 kB)
Downloading coverage-7.6.12-cp313-cp313-macosx_10_13_x86_64.whl (208 kB)
Installing collected packages: coverage
Successfully installed coverage-7.6.12
[notice] A new release of pip is available: 25.0 -> 25.0.1
[notice] To update, run: pip install --upgrade pip
MacBook-de-Maritza:downloads Maritza$ pip3 install coverage
Requirement already satisfied: coverage in /Library/Frameworks/Python.framework/Versions/3.13/lib/python3.13/site-packages (7.6.12)
[notice] A new release of pip is available: 25.0 -> 25.0.1
[notice] To update, run: pip install --upgrade pip
MacBook-de-Maritza:downloads Maritza$ coverage run -m unittest testing_turismo.py
.Cliente agregado exitosamente.
.Hotel agregado exitosamente.
.Reserva agregada exitosamente.
..Hotel con ID 11 eliminado.
Ran 8 tests in 0.058s
ОК
MacBook-de-Maritza:downloads Maritza$ coverage report
Name Stmts Miss Cover
_____
hoteles_reservas_py.py 163 79 52%
testing_turismo.py 70 1 99%
TOTAL 233 80 66%
MacBook-de-Maritza:downloads Maritza$
```