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CM 1711
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CSSE 376
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Lab 3

1) [Question 1 (1 pt)] In what project is the source code found? In what project is the test code found?

The source code can be found in the "Expedia" project whereas the test code is found in the "ExpediaTest" project.

2) [Question 2 (2 pts)] What classes exist in the project?

AssemblyInfo.cs
Booking.cs
Car.cs
Flight.cs
Hotel.cs
User.cs

3) [Question 3 (4 pts)] Explain, in your own words, the functionality that is supported by the Flight class.

The functionally of Flight class is to lookup flights based on departure and return dates. Users can lookup flights based on departure dates, miles and arrival dates. There is also error checking to make sure that End dates occur after start dates and mileages are always positive.

4) [Question 4 (2 pts)] What are the test classes in the project?

BookingTest.cs
CarTest.cs
FlightTest.cs
HotelTest.cs
UserTest.cs

5) [Question 5 (4 pts)] Identify the various test methods in the UserTest class.

TestThatUserInitializes
TestThatUserHasZeroFrequentFlierMilesOnInit
TestThatUserCanBookEverything
TestThatUserHasFrequentFlierMilesAfterBooking
TestThatUserCanBookAFlight
TestThatUserCanBookAHotelAndACar
TestThatUserHasCorrectNumberOfFrequentFlyerMilesAfterOneFlight

6) [Question 6 (4 pts)] Identify at least three different functions that are supported by the Assert class. (Hint: type in "Assert" followed by a period in one of the test classes in the "ExpediaTest" project and use the documentation.)

AreEqual
AreNotEqual
AreNotSame

7) [Question 7 (4 pts)] Please explain the functions that you identified briefly.

AreEqual: Verifies that two objects are equal to each other.
AreNotEqual: Verifies that two objects are not equal to each other.
AreNotSame: Asserts that two objects do not refer to the same object.

8) [Question 8 (4 pts)] You may have noticed that there are two methods on the assert class named AreEqual and AreSame. These methods may seem identical, but there is a critical difference between them. Please explain the difference.

The difference is in what the methods each check. AreEqual looks to see if two objects are equal to each other. AreSame asserts that two objects refer to the same object.

[Question 9 (4 pts)] What is the unit test TestThatHotelInitializes verifying?
It verifies that the constructor initialized and works correctly.

[Question 10 (4 pts)] What is the generic algorithm for calculating getBasePrice? (You may look at Hotel.cs.)

The generic algorithm is 45 * numberOfNightsToRent.

[Question 11 (4 pts)] What cases are tested with these new tests?

The new test cases test the cases of a 1 day, 2 day, and 10 day stays in a hotel to see if they return the correct value.

[Question 12 (4 pts)] Why don't we have to include Assert.IsNotNull(target) in each of these tests?

We are not testing constructors in these cases which need to make sure they are not null. We are making sure that a hotel stay of 1 day, 2 day, and 10 day generate the correct value so we would compare the results of getBasePrice to that of correct output using Assert.AreEqual.

[Question 13 (4 pts)] Why does this test expect an exception? (Please look at Hotel.cs.)

Hotel.cs checks to make sure that only values greater than zero can be selected for nights to stay in a hotel. When a value of -5 days is entered, an exception is thrown that nights to rent must be greater than zero!

[Question 14 (4 pts)] Please provide the attribute declaration to accompany a test case that expects an OutOfMemoryException.

The exception would be triggered when the entire site runs out of money or when it exceeds the memory constraints set in the program.