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### Lab 3 - Answers

- 1) The source code is within the Expedia project and the test code is in ExpediaTest project.
- 2) The classes included within the source code are as follows:
  - User
  - Hotel
  - Flight
  - Car
- 3) Flight does the following:
  - sets a base price for a flight
  - sets the departure date and the return date and the miles
  - >looks like some boolean tests determining if the Flight object is a Flight object,
  - and testing to see if the departure, return, and miles are all the same.
- 4) The test classes included within the test code are as follows:
  - UserTest
  - HotelTest
  - FlightTest
  - CarTest
  - BookingTest
- 5) The test methods in UserTest class are as follows:
  - if the user initializes
  - if the user has zero frequent flier miles on initialization
  - if the user can book everything
  - if the user has frequent flier miles after booking
  - if the user can book a flight
  - if the user has correct number of frequent flier miles after one flight
- 6, 7) Assert contains many different methods. One of the first ones we identified is AreEqual (comparing if two things are equal). AreNotEqual (determining if two items are not equal), Less (determines if one is less than the other).
- 8) AreEqual determines if the objects are exactly the same object in memory or not. AreSame determines if the objects contain the same values.
- 9) The unit test is verifying that the constructor creates an instance of Hotel.
- 10) To calculate getBasePrice() it uses an arbitrary nightly price unit of 45 and multiplies this by the number of nights to rent.

11) The new test methods test to see if the hotel has correct base price for the following conditions:

- 1 night
- 2 nights
- 10 nights

12) The first test has passed ensuring that Hotel is initialized for the following tests. Further testing would be extremely redundant.

13) If the number of nights is negative, the Hotel class throws an `ArgumentOutOfRangeException` stating "Nights to rent must be greater than zero!"

14) `[ExpectedException(typeof(OutOfMemoryException))]`