

Michael Eaton

### Lab 03: Unit testing

1. The source code for the project is in the Expedia project. The source code for the tests is in the Expedia Test project.
2. The classes are: AssemblyInfo.cs; Booking.cs; Car.cs; Flight.cs; Hotel.cs; User.cs;
3. The flight class constructs a flight from a start date, end date, and given amount of miles. It makes sure that the end date is after the start date, the flight goes a distance greater than zero miles, and contains methods to determine whether or not a flight is equal to another.
4. The test classes are: BookingTest.cs; CarTest.cs; FlightTest.cs; HotelTest.cs; UserTest.cs
5. The tests set up the tests with a user named Bob Dole, and then:
  - a. Checks that the user initializes with a name
  - b. Checks that the user initializes with no frequent flier miles
  - c. Checks that the user can book a flight, hotel, and car, then tests how many bookings the user has made
  - d. Checks that the user booking a flight changes the number of frequent flier miles
  - e. Checks that the user can book a flight
  - f. Checks that the user can book a hotel and car
  - g. Checks that the user actually has the right number of frequent flier miles after booking a flight

Following these tests, the user Bob Dole is removed.

- 6 & 7. Assert.Less : Asserts that a given value is less than another

Assert.AreSame: Asserts that a given object is the same object as another

Assert.AreEqual: Asserts that two given objects or primitives are equal

8. Assert.Equal tests that two objects are equal in value while Assert.AreSame tests that two objects are in fact the same object.
9. It verifies that the constructor for Hotel actually constructs an object.

10. The base price is calculated by multiplying the numberOfNightsToRent by 45.
11. One day, two day, and ten day stays are tested.
12. The first test will already test whether or not the object will be constructed null. Past that, attempting to invoke a method of null will throw all sorts of errors that will be caught by the test.
13. One cannot reserve a room at a hotel for zero nights, and the class reflects that. Testing for the exception it throws needs to be created.
14. [`ExpectedException(typeof(OutOfMemoryException))`]