**Reasoning for Test Case Selection**

*(see attached tables for test case details)*

A1

I chose the values for A1 because I wanted to simulate a scenario where the user enters in an invalid numeric value. My Convert method was written so that the actual conversion only occurs when the numeric value is valid. I wanted to see if it threw the expected exception, and if my program loop for the console application was set up correctly.

A2

I chose the values for A2 because I wanted to simulate a scenario where the user provides valid entries for the numeric input and the unit that it will be converted from, but an invalid entry. In a fully implemented program, this case would normally fail; but because I’m testing using stubs, the program will complete a calculation. I wanted to see if the returned message string is constructed as expected.

A3

I chose the values for A3 because I wanted to simulate a scenario where the user provides valid entries for the numeric input, an invalid input for the unit to convert from and a valid input for the unit it should be converted to. This program executes and returns a message string which is constructed just as I expected.

A4

I chose the values for A4 because I wanted to simulate a scenario where the user provides valid entries for all of the values. Very much like the other tests, this one returns a string message which is constructed just as I expected.

B1

I chose the values for B1 because I wanted to simulate a scenario where the user provides invalid entries for the numeric value and unit to convert to, but a valid entry for the unit to convert from. I wanted to see if it threw the expected exception, where the user is informed that the numeric entry is invalid.

B2

I chose the values for B2 because I wanted to simulate a scenario where the user provides valid entries for the numeric value and unit to convert to but an invalid entry for the unit to convert from. I wanted to see if the user is informed that a time unit entry is invalid.

B3

I chose the values for B3 because I wanted to simulate a scenario where the user provides valid entries for the numeric value and unit to convert from, but invalid entry for the unit to convert to. I wanted to see if the correct exception was thrown.

B4

I chose the values for B4 because I wanted to simulate a scenario where the user inputs all valid entries when prompted by the console application. I wanted to see if the unit conversion strings were handled correctly by the ModifyInput method.

C1

I chose the values for C1 because I wanted to test if the GetMultiplier returns the correct multiplier.

C2

I chose the values for C2 because I wanted to test if the GetMultiplier returns the correct multiplier.

C3

I chose the values for C3 because I wanted to test if the GetMultiplier returns the correct multiplier.

C4

I chose the values for C4 because I wanted to test if the GetMultiplier returns the correct multiplier.