**Project 2 Report**

**Notable Obstacles**

1. An issue I encountered while designing my program was relevant to “the output must be shown as a non-negative number with at least one digit to the left and exactly two digits to the right of the decimal point” from the [Project 2 Spec](https://web.cs.ucla.edu/classes/fall21/cs31/Projects/2/spec.html).

This was primarily because I was unsure how to restrict a double to two decimal places. I had to recall and refer to lecture 1 of week 2 where professor Smallberg mentions using

**cout.setf(ios::fixed);**

**cout.precision(2);**

to define the precision of a double to (in this instance) two decimal places.

1. Another obstacle I had to overcome was when I tried to read in an integer for rentalDays, and then use getline to take in a string for customerName. I recognized this is because the getline program takes in the newline as input, so I had to resolve this by using

**cin.ignore(10000, '\n');**

I fixed this by referring to the [Some Things About Strings](https://web.cs.ucla.edu/classes/fall21/cs31/strings.html) write-up on the main CS31 website.

B.

| **Test Case** | **Reason** |
| --- | --- |
| odometerStart: -200  (-200) | To verify that odometer reading is non-negative |
| odometerStart: 20, odometerEnd: 10  (20, 10) | To ensure that odometerStart <= odometerEnd |
| rentalDays: -1  (10, 20, -1) | To ensure the input of a positive number of rental days |
| customerName:  (530, 1835, 6, ) | To ensure that the customerName is not an empty string |
| luxuryCar: z  (2400, 8900, 13, Michael Schumacher, z) | To check for disallowance of any value other than y (yes) and n (no) |
| month: 16  (912, 990, 1, Niki Lauda, y, 16) | To verify the acceptance of only integral values in the range 1 through 12 |
| luxury: y, rentalDays: 5  (1919, 2021, 5, Sebastian Vettel, y, 2) | To test whether the total base fare is accurately computed |
| luxury: n, rentalDays: 12  (2021, 2321, 12, Ayrton Senna, n, 2) |
| distance: 95  (800, 895, 2, Alain Prost, y, 5) | To test whether the distance case <= 100 is satisfactorily solved |
| distance: 145, month: 11  (2, 147, 2, Nelson Piquet, n, 11) | To test different combinations of distance ranges (< 100, 100 - 500, > 500) with different season rates (winter, other) and verify double decimal precision |
| distance 190, month: 6  (201, 391, 2, Mika Hakkinen, n, 6) |
| distance: 595, month: 1  (10, 605, 8, Jenson Button, y, 1) |
| distance: 820, month: 8  (402, 1022, 3, Nico Rosberg, n, 8) |
| distance: 100  (6700, 6800, 4, Juan Fangio, y, 7) | To check for fallacies in comparison operators at the borderline cases |
| distance: 500  (4242, 4742, 6, Jim Clark, n, 7) |