**Notable Obstacles:**

While working on project 2, a notable obstacle was clearing the input after using cin for int input before reading in string input with getline. I forgot to do this at first and the customer name would always be assigned an empty string which would cause the program to prematurely terminate. I had to revisit the notes from lecture to implement cin.ignore and solve this issue.

**Test Cases:**

Case 1 – negative starting mileage

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Odometer Start | Odometer End | Rental Days | Customer Name | Luxury Car | Month |
| Input | -100 | 100 | 5 | John | y | 5 |

This test checks whether or not the program will correctly output “The starting odometer reading must be nonnegative.”.

Case 2 – ending mileage is less than starting mileage

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Odometer Start | Odometer End | Rental Days | Customer Name | Luxury Car | Month |
| Input | 100 | 90 | 5 | John | y | 5 |

This test checks whether or not the program will correctly output “The final odometer reading must be at least as large as the starting reading.”.

Case 3 – number of rental days is not positive

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Odometer Start | Odometer End | Rental Days | Customer Name | Luxury Car | Month |
| Input | 100 | 200 | 0, -1 | John | y | 5 |

This test checks whether or not the program will correctly output “The number of rental days must be positive.”. 0 is included in the test to make sure that the program is disallowing nonpositive numbers not just negative numbers.

Case 4 – no customer name is provided

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Odometer Start | Odometer End | Rental Days | Customer Name | Luxury Car | Month |
| Input | 100 | 200 | 5 |  | y | 5 |

This test checks whether or not the program will correctly output “You must enter a customer name.”.

Case 5 – luxury status is not “y” or “n”

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Odometer Start | Odometer End | Rental Days | Customer Name | Luxury Car | Month |
| Input | 100 | 200 | 5 | John | x, Y, N | 5 |

This test checks whether or not the program will correctly output “You must enter y or n.”. Capital Y and N are included in the test simply to be extra careful not to allow the capital versions of these letters.

Case 6 – month is not an integer between 1 – 12

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Odometer Start | Odometer End | Rental Days | Customer Name | Luxury Car | Month |
| Input | 100 | 200 | 5 | John | y | 0, 13 |

This test checks whether or not the program will correctly output “The month number must be in the range 1 through 12.”.