Reproducible Circulation Report Toy Example

PI: Dr. Jane Doe
Analyst: Lauren Gunn-Sandell
Date of report: 20DEC2023

Note this (circulation) report will only contain what is pertinent to the manuscript.

We are interested in comparing weight of vehicles with their gas mileage. We hypothesize that vehicles that weigh more will have worse gas mileage than the vehicles that are lighter.

The REG Procedure
Model: MODEL1
Dependent Variable: MPG_City MPG (City)

Number of Observations Read	428
Number of Observations Used	428

Analysis of Variance

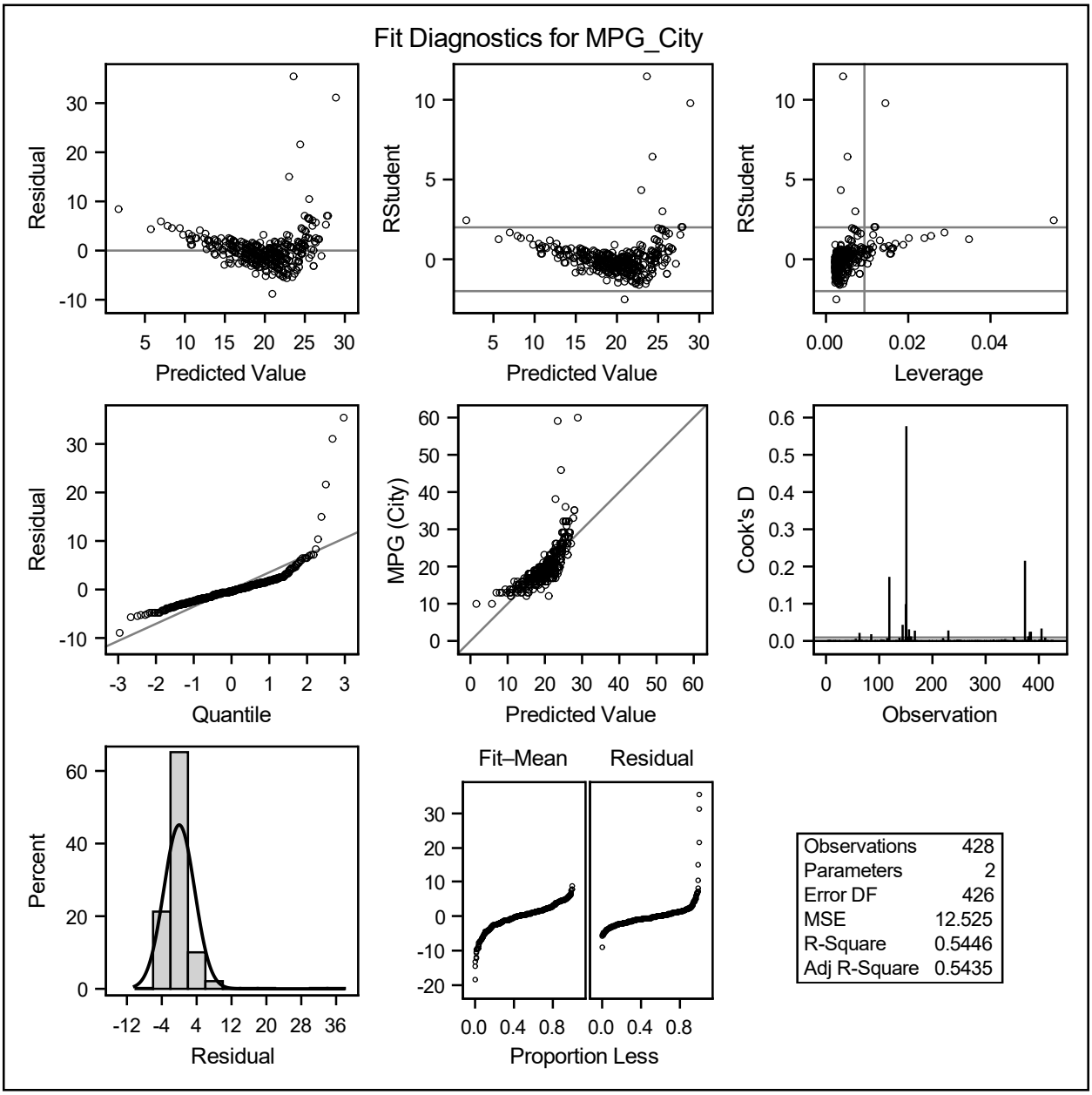
Source	*DF*	*Sum of Squares*	*Mean Square*	*F Value*	*Pr > F*
Model	1	6380.69016	6380.69016	509.43	<.0001
Error	426	5335.73040	12.52519		
Corrected Total	427	11716			

Root MSE	3.53909	*R-Square*	0.5446
Dependent Mean	20.06075	*Adj R-Sq*	0.5435
Coeff Var	17.64189		

Parameter Estimates

Variable	*Label*	*DF*	*Parameter Estimate*	*Standard Error*	*t Value*	*Pr > |t|*
Intercept	Intercept	1	38.28385	0.82531	46.39	<.0001
Weight	Weight	1	-0.00509	0.00022566	-22.57	<.0001

The REG Procedure
Model: MODEL1
Dependent Variable: MPG_City MPG (City)



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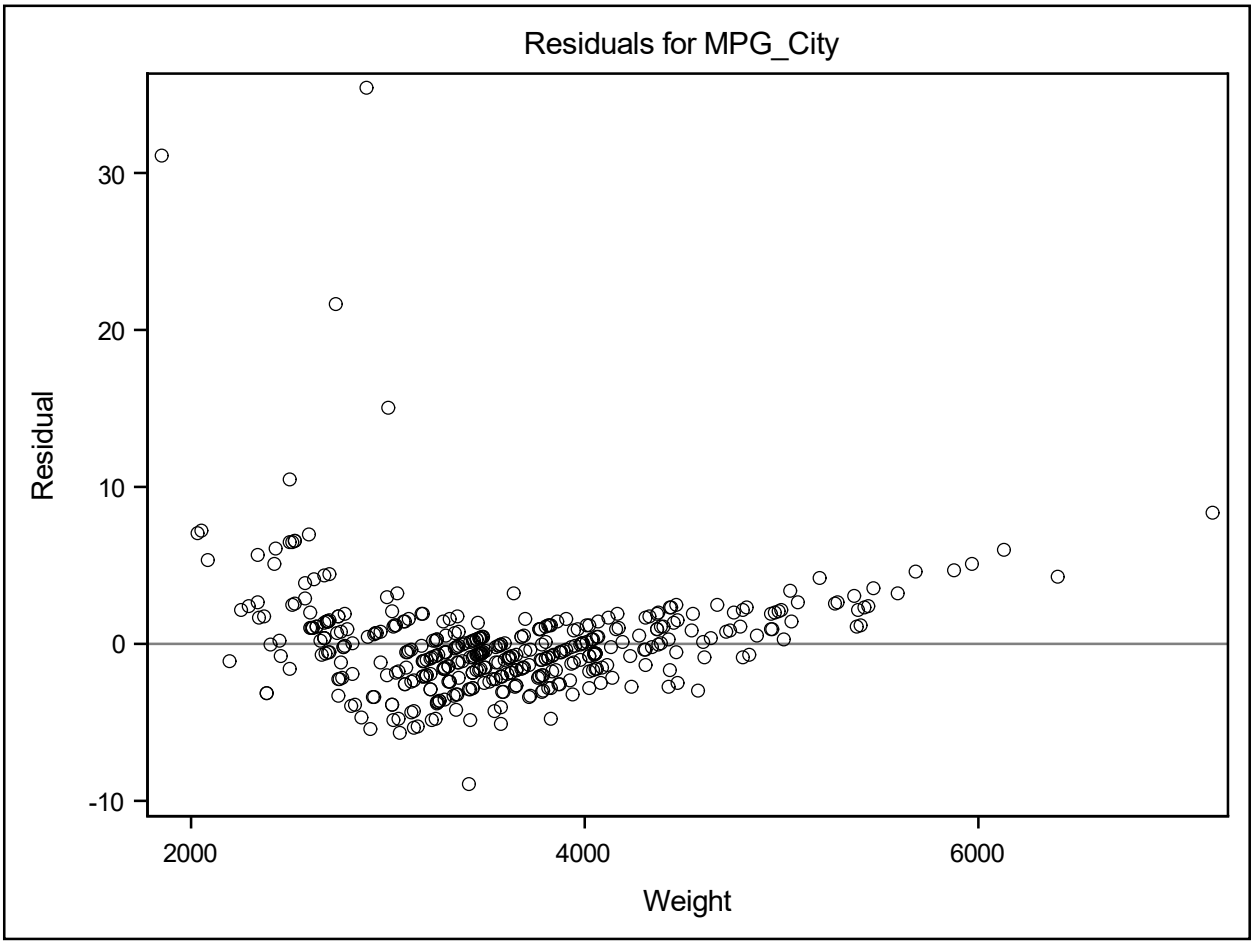
Model: MODEL1
Dependent Variable: MPG_City MPG (City)



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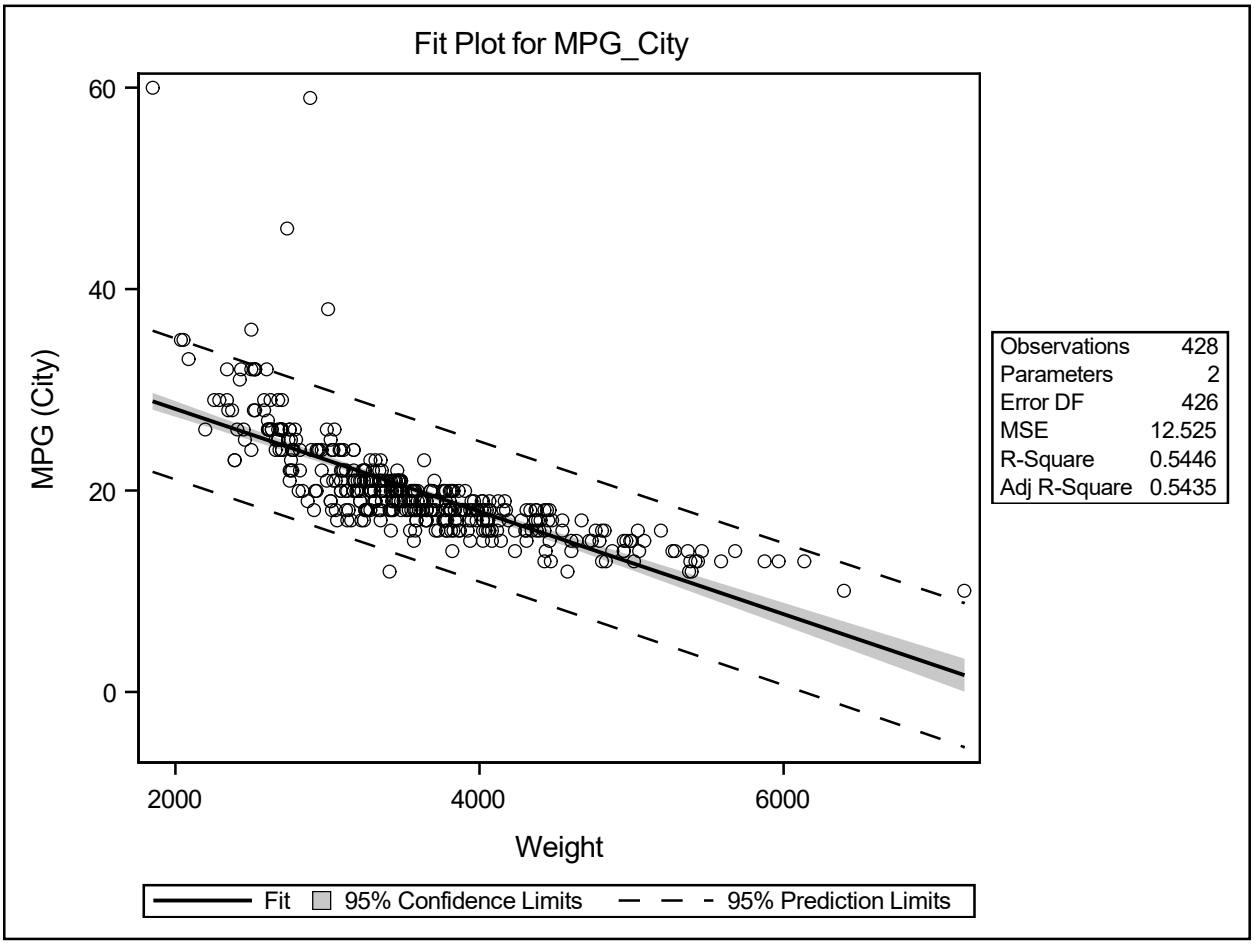

Interpretation:

The linear regression assessing mean city gas mileage shows a significant relationship with car weight. For every one-thousand pound increase in weight, the expected MPG (city) changes by -5.09 ($p<.001$).

Session Information
Date: 20DEC2023
Operating System: WIN, X64_10PRO
SAS Version: 9.4

End of report.