Class Assignment: MPG tables and charts

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September 9, 2019

Class assignment:

Using the MPG dataset, which is available with the ggplot2 library, produce a document that includes the following elements: headers, text, tables, and plots.

Tables should include a comparison of city and highway mileage by the class of car and the best three car models for city and highway mileage for all the years in which data is available.

Plot the data displaying as much of the data as you can. Put continuous variables on the axes and include a locally smoothed regression line to show the relationship with mileage. Also make a box plot comparing city and highway MPG by class of car.

Tables

This example is flawed even though the code works. Explain. And now that you know how to produce the table can you improve the code by using an **apply** functional?

	class	cty_mean	hwy_mean
2seater	compact	15.4	24.8
compact	midsize	20.13	28.3
midsize	suv	18.76	27.29
minivan	2seater	15.82	22.36
pickup	minivan	13	16.88
subcompact	pickup	20.37	28.14
suv	subcompact	13.5	18.13

The next table is a bit tricky

Model	Milage	Model	Milage	Model	Milage	Model	Milage
new beetle	26	new beetle	35	corolla	27	corolla	36
civic	24.8	corolla	32.67	civic	24	civic	33.75
corolla	24.67	civic	31.6	gti	21.5	camry	30

Plot 1

```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```

Table 1: Mean City and Highway MPG by Car Class

	Class	City	Highway
2seater	compact	15.4	24.8
compact	midsize	20.13	28.3
midsize	suv	18.76	27.29
minivan	2seater	15.82	22.36
pickup	minivan	13	16.88
subcompact	pickup	20.37	28.14
suv	subcompact	13.5	18.13

Table 2: Top 3 MPG Performing Cars: 1999, 2008

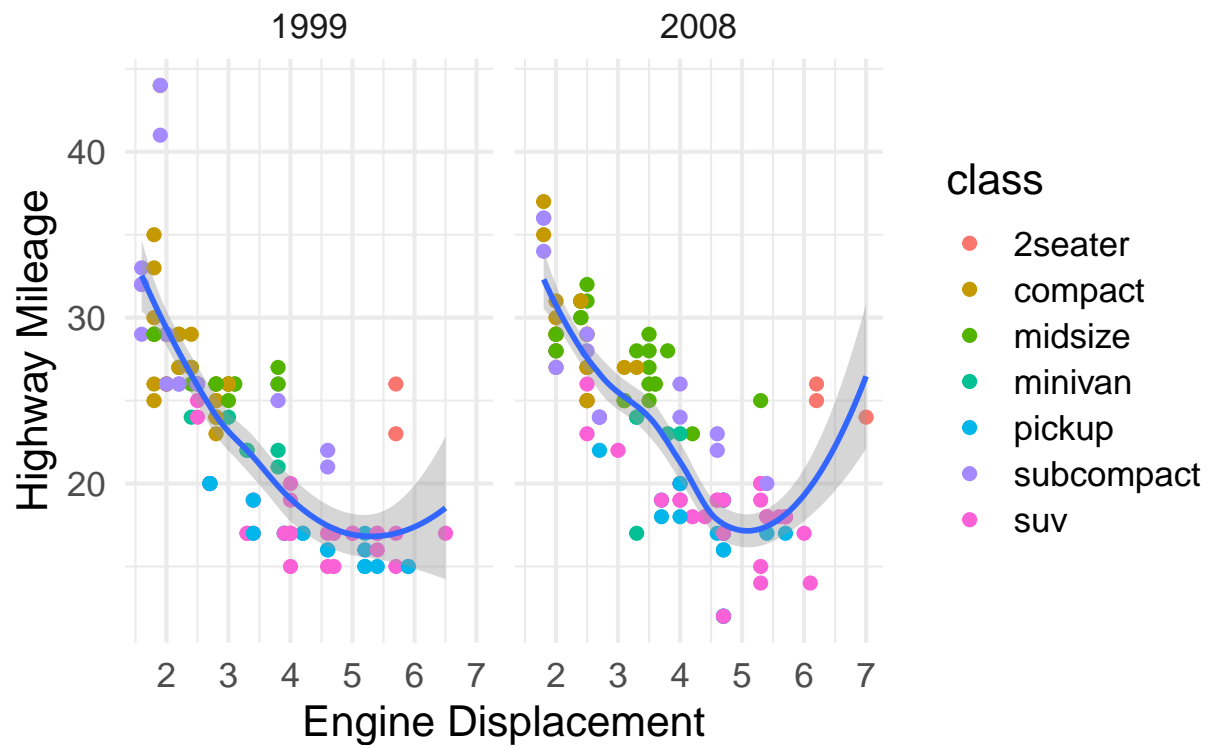| City 1999		Highway 1999		City 2008		Highway 2008	
Model	Milage	Model	Milage	Model	Milage	Model	Milage
new beetle	26	new beetle	35	corolla	27	corolla	36
civic	24.8	corolla	32.67	civic	24	civic	33.75
corolla	24.67	civic	31.6	gti	21.5	camry	30

City MPG by Class of Car: 1999, 2008
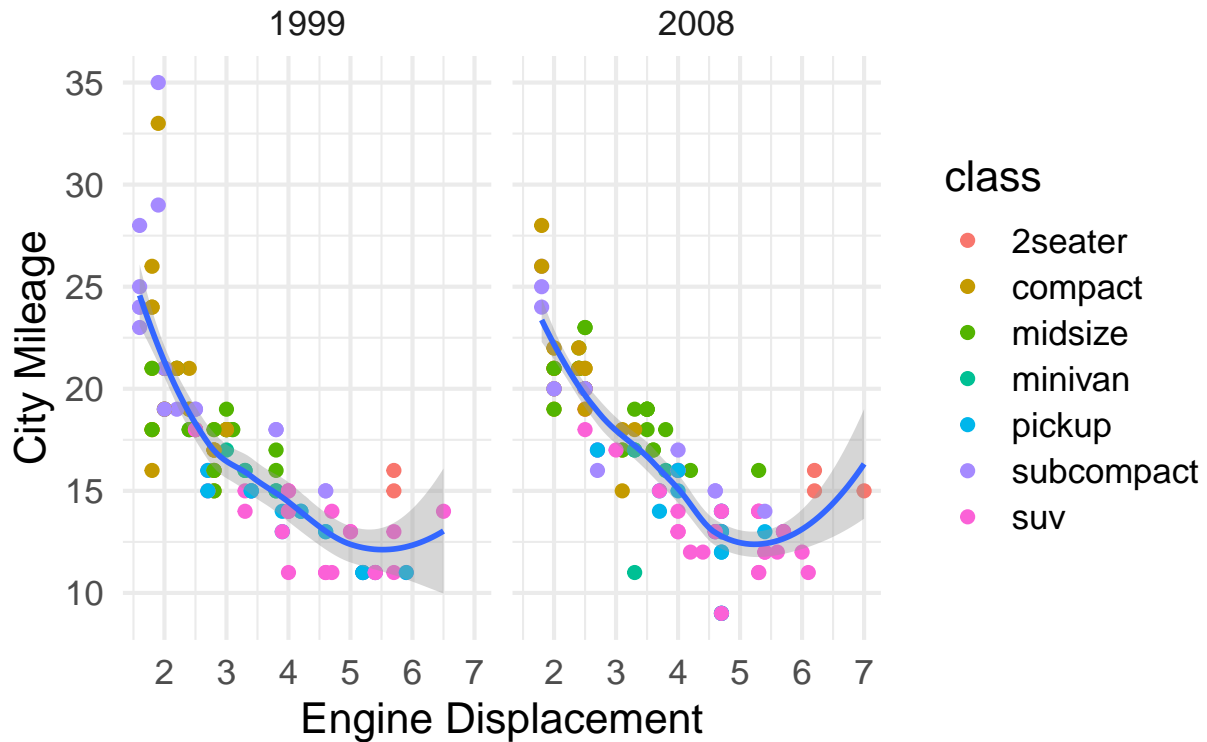
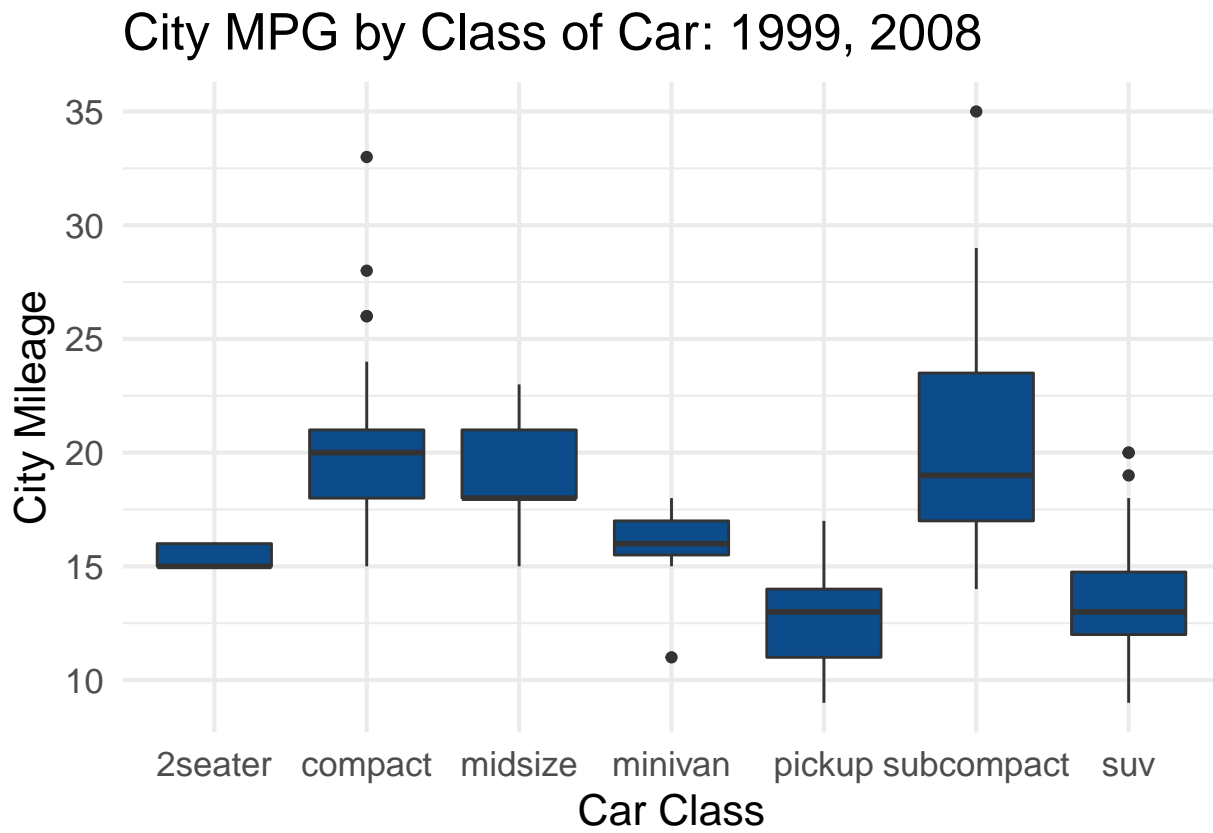**Plot 2**

```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```

Highway MPG by Class of Car: 1999, 2008

City MPG by Class of Car: 1999, 2008

Highway MPG by Class of Car: 1999, 2008