615-sep13-vv-pdf

xiaofei_wu

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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?

Mean City and Highway MPG by Car Class

Class	City	Highway
2seater	15.4	24.8
compact	20.13	28.3
midsize	18.76	27.29
minivan	15.82	22.36
pickup	13	16.88

Tables

The next table is a bit tricky.

Class	City	Highway
subcompact	20.37	28.14
suv	13.5	18.13

Top 3 MPG Performing Cars: 1999, 2008

City 1999		Highway 1999		City 2008		Highway 2008	
Model	**Milage**	**Model**	**Milage**	**Model**	**Milage**	**Model**	**Milage**
corolla	27.0	new beetle	26.0	corolla	36.0	new beetle	35.0
civic	24.0	civic	24.8	civic	33.8	corolla	32.7
gti	21.5	corolla	24.7	camry	30.0	civic	31.6

Plot

- City MPG by Class of Car: 1999, 2008

```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```
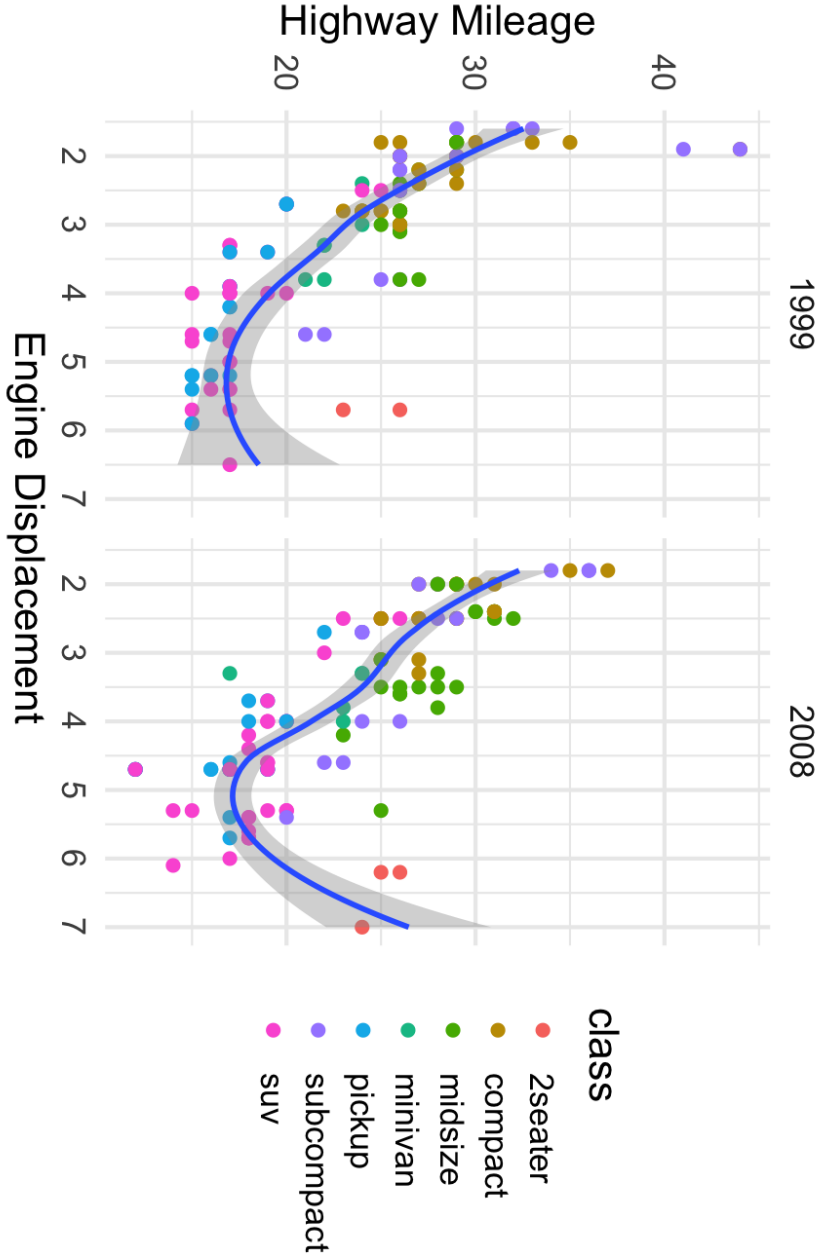
City MPG by Class of Car: 1999, 2008
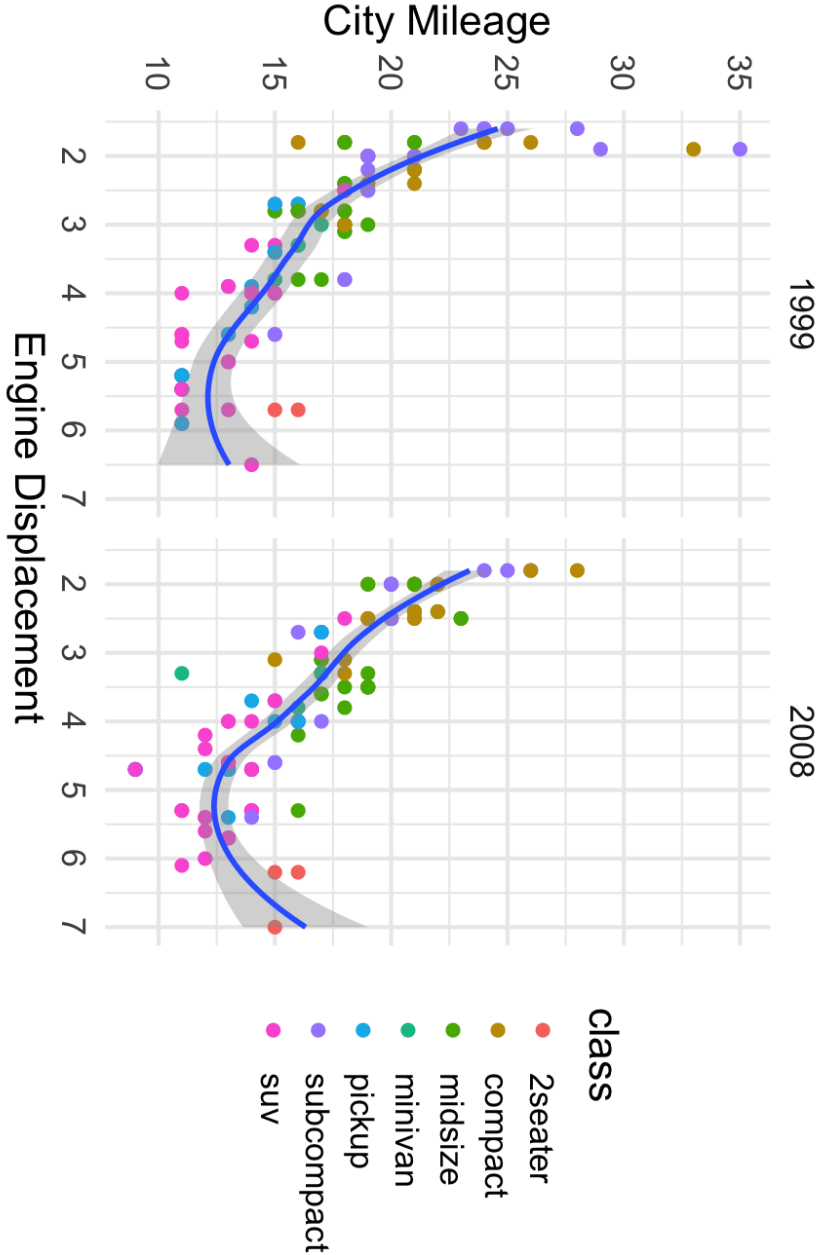
Plot

- Highway MPG by Class of Car: 1999, 2008

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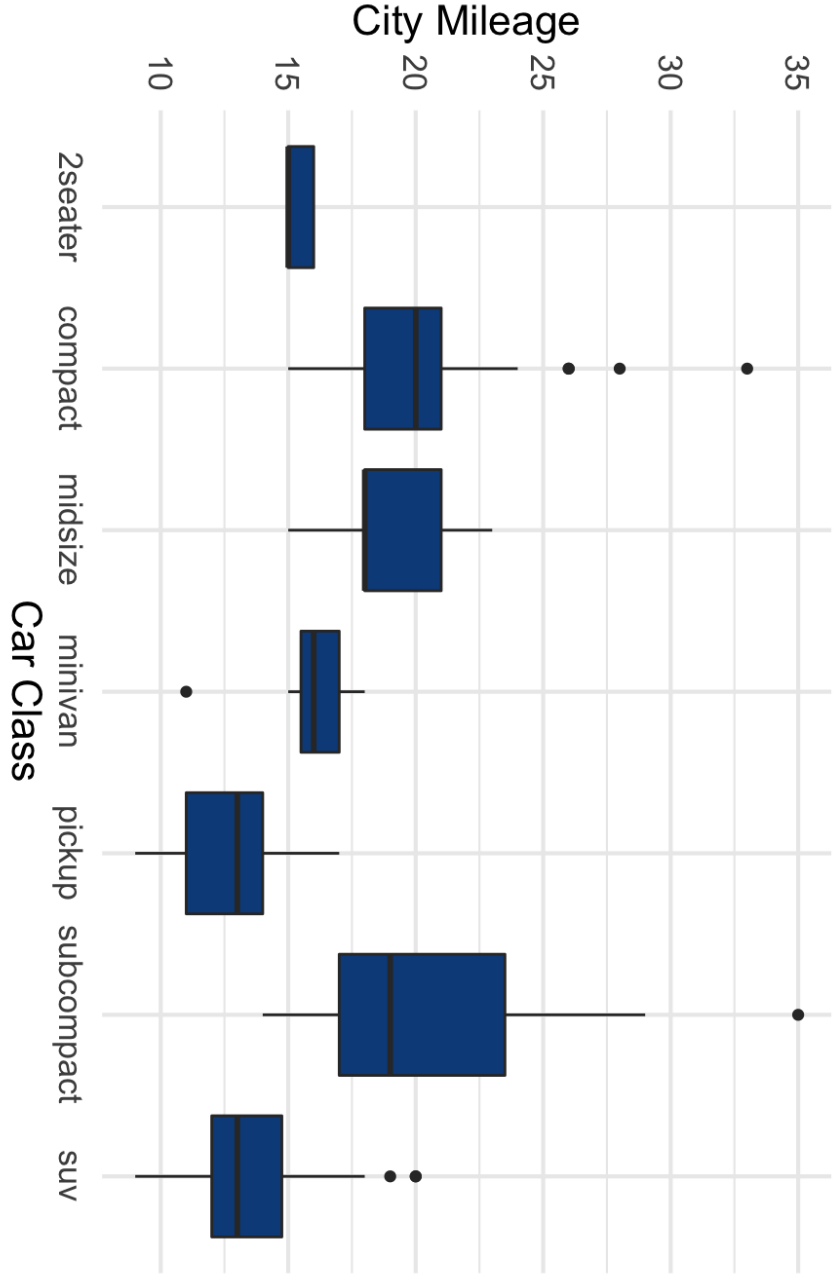
Boxplots

- City MPG by Class of Car: 1999, 2008

Highway MPG by Class of Car: 1999, 2008

Boxplots

- City MPG by Class of Car: 1999, 2008

City MPG by Class of Car: 1999, 2008

Highway MPG by Class of Car: 1999, 2008