ggplot2_basics

Dev Paudel

June 8, 2016

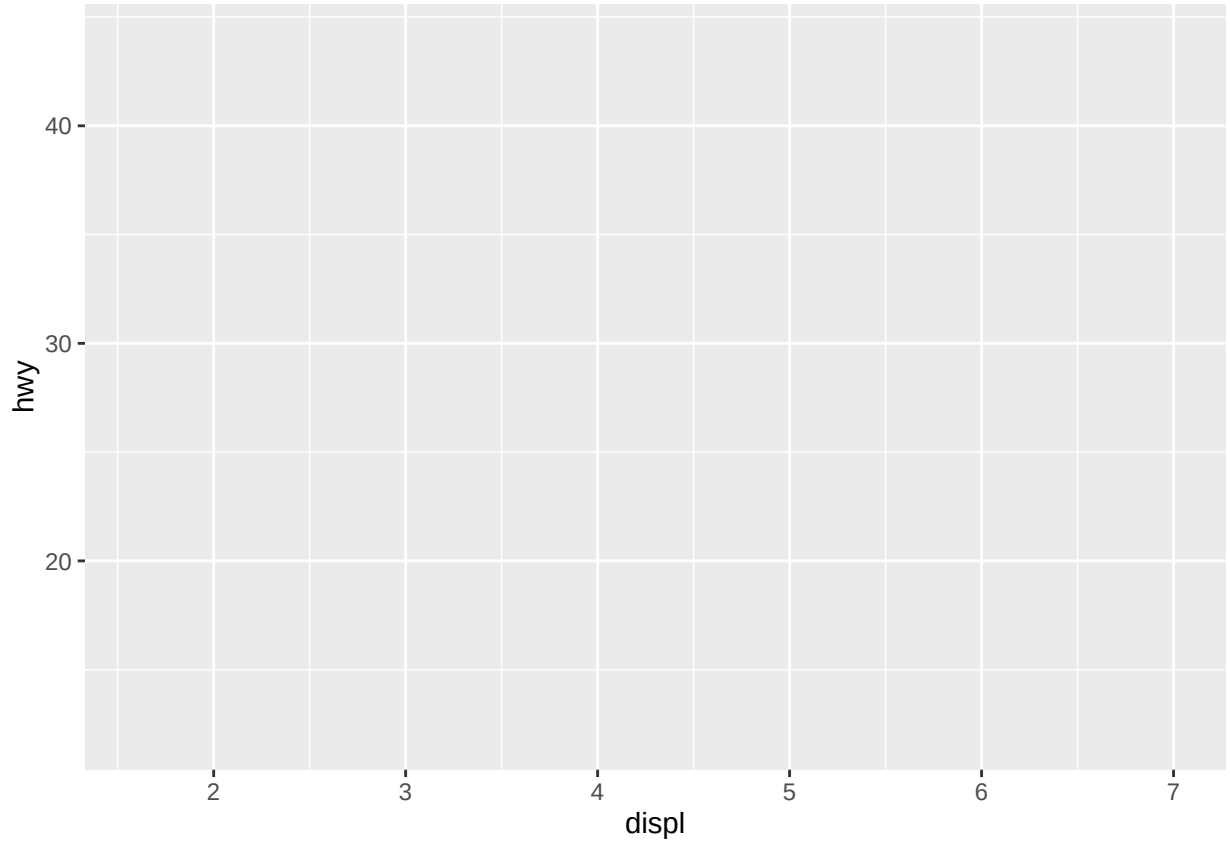
Learning ggplot2 basics: ggplot2 works on the concept of layers so you can add one layer on top of the other.

Loading library

```
library(ggplot2)
```

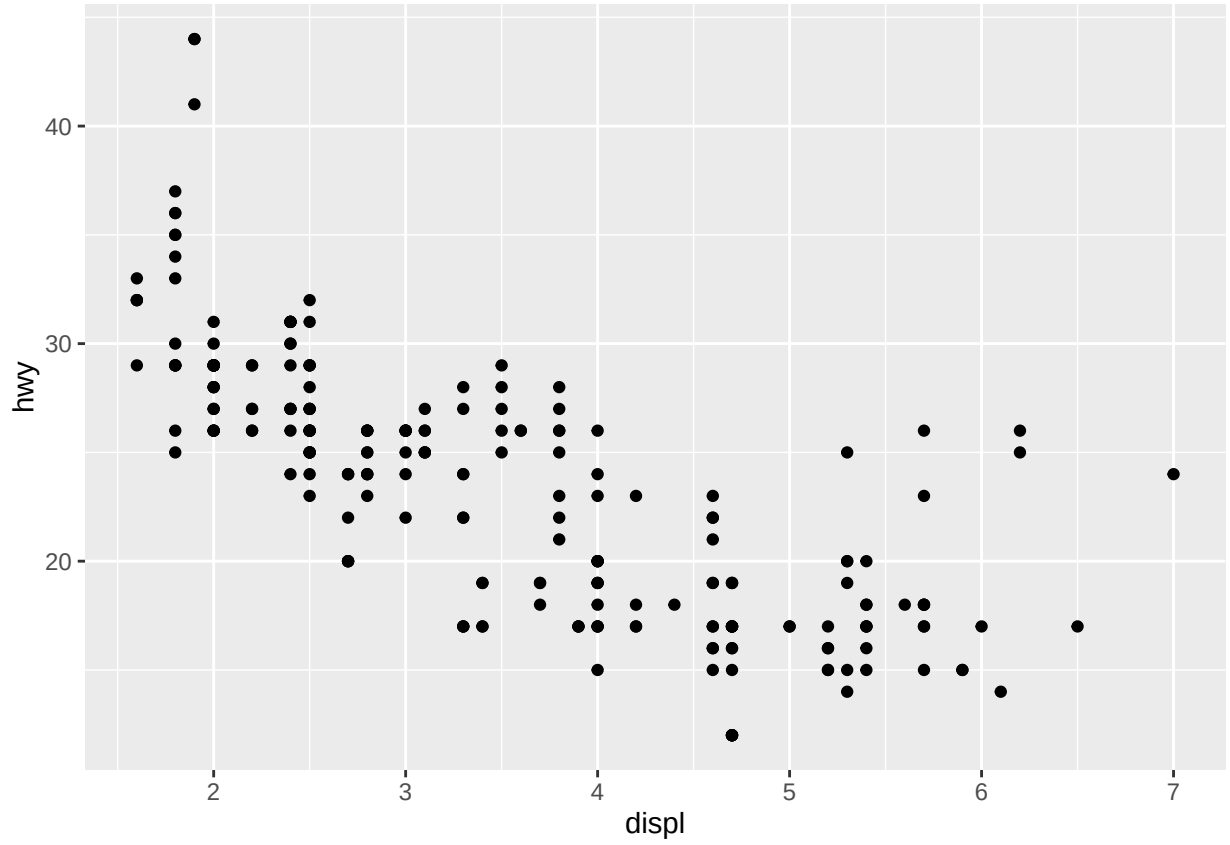
Basic plot: This just creates space where plots can be printed.

```
#library(ggplot2)
ggplot(data=mpg, aes(x=displ, y=hwy))
```



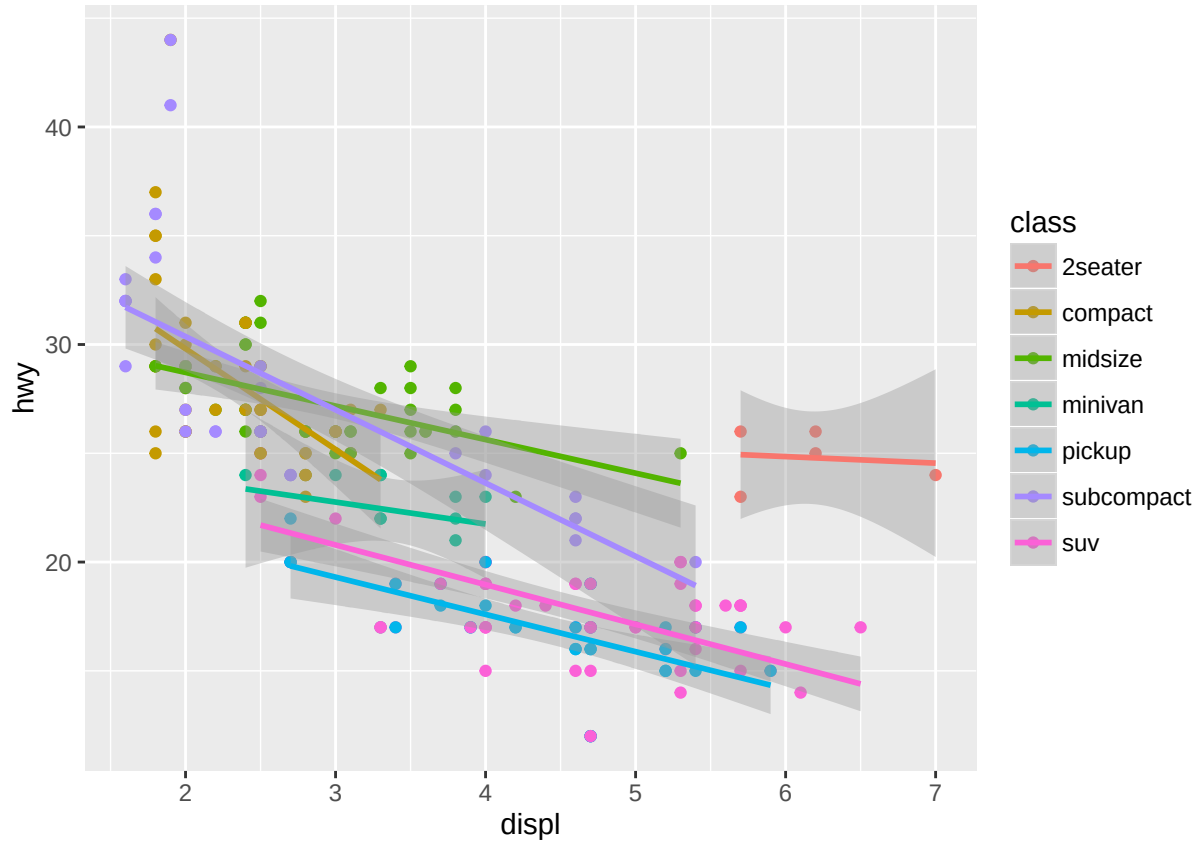
Now, we can add points on the template

```
ggplot(data=mpg, aes(x=displ, y=hwy))+
  geom_point()
```



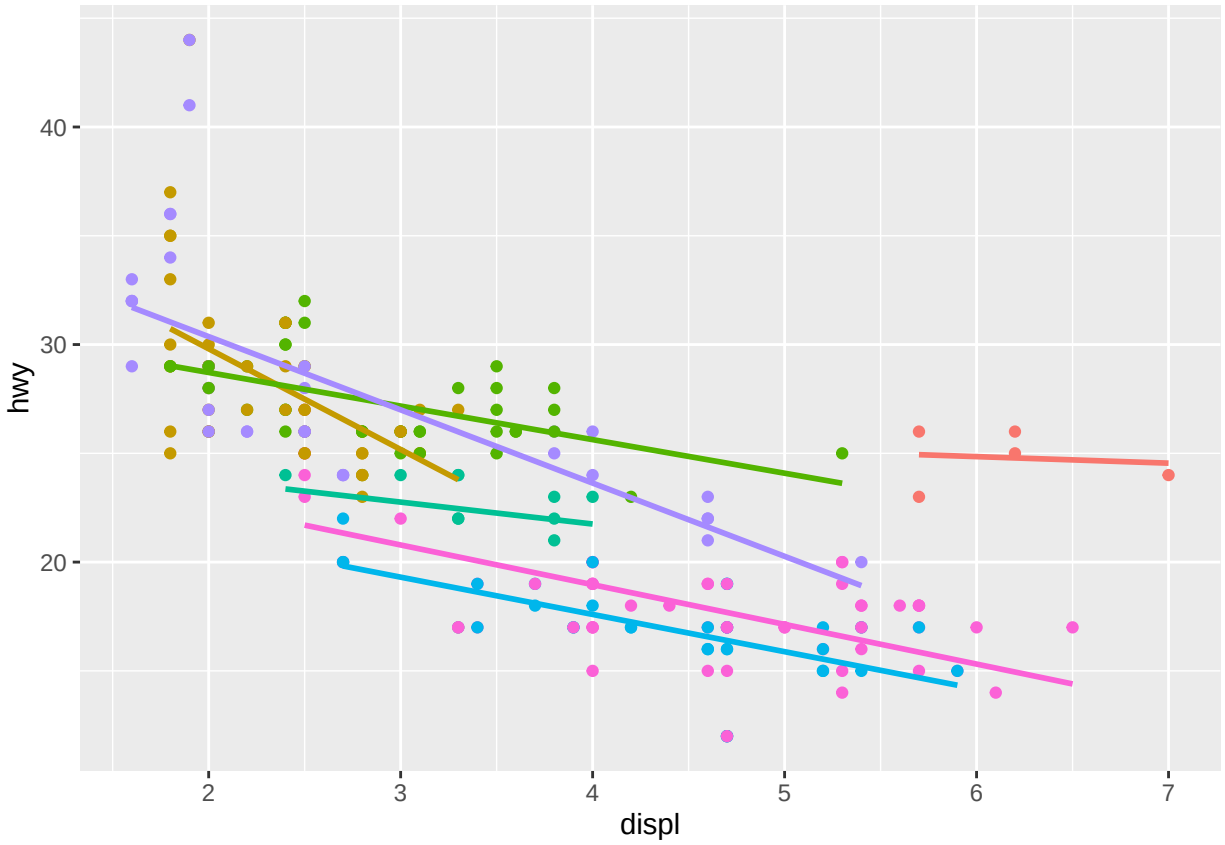
Add linear fit line to the plot

```
ggplot(data=mpg, aes(x=displ, y=hwy, colour=class))+
  geom_point() +
  geom_smooth(method="lm")
```



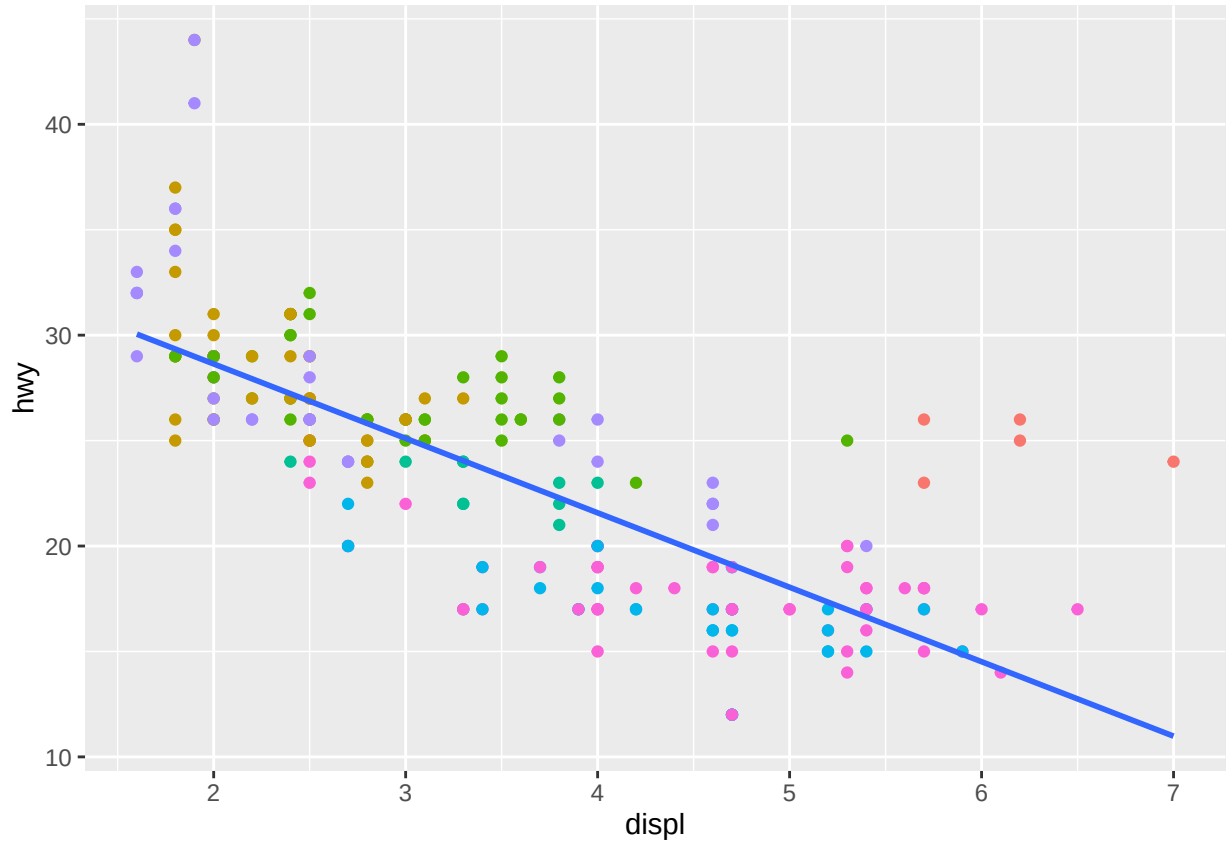
Add aesthetic values and remove legend

```
ggplot(data=mpg, aes(x=displ, y=hwy, colour=class))+
  geom_point() +
  geom_smooth(method="lm", se=FALSE)+
  theme(legend.position="none")
```



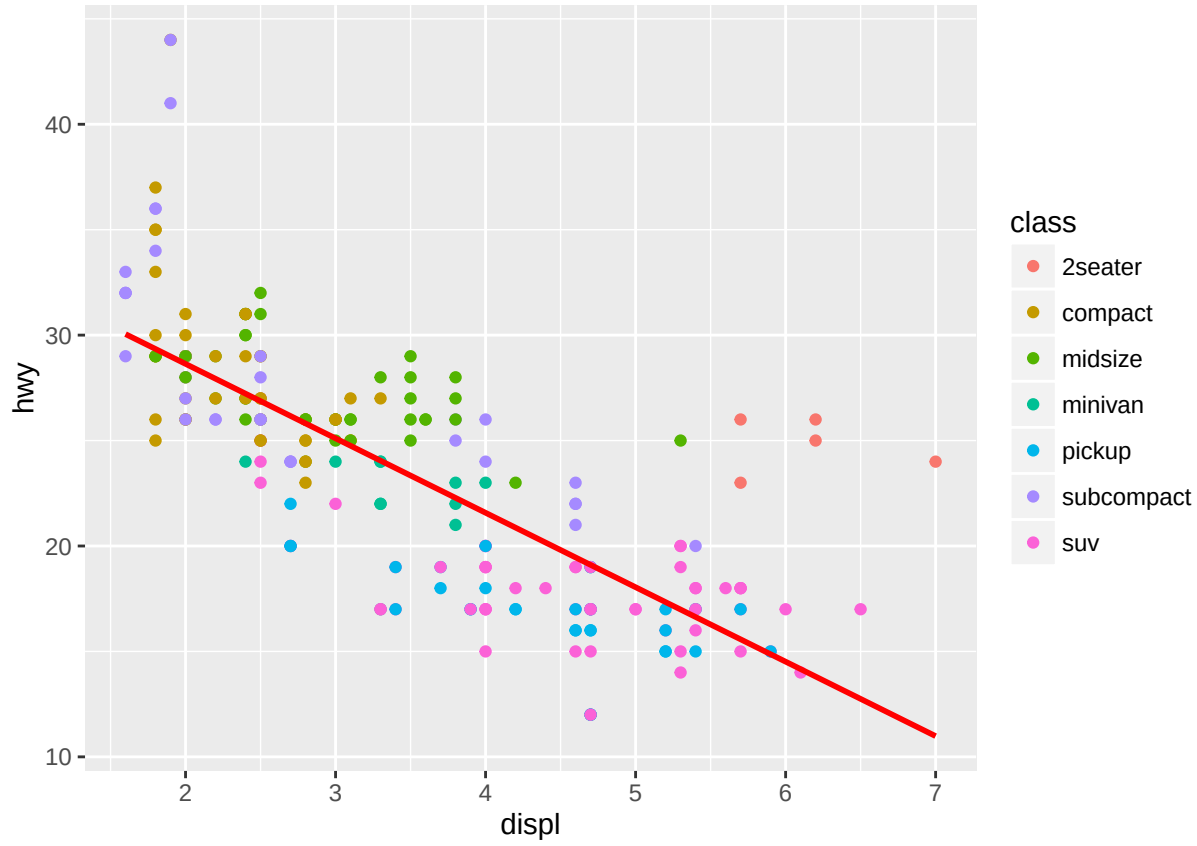
Put only single line

```
ggplot(data=mpg, aes(x=displ, y=hwy))+
  geom_point(aes(colour=class)) +
  geom_smooth(method="lm", se=FALSE)+
  theme(legend.position="none")
```



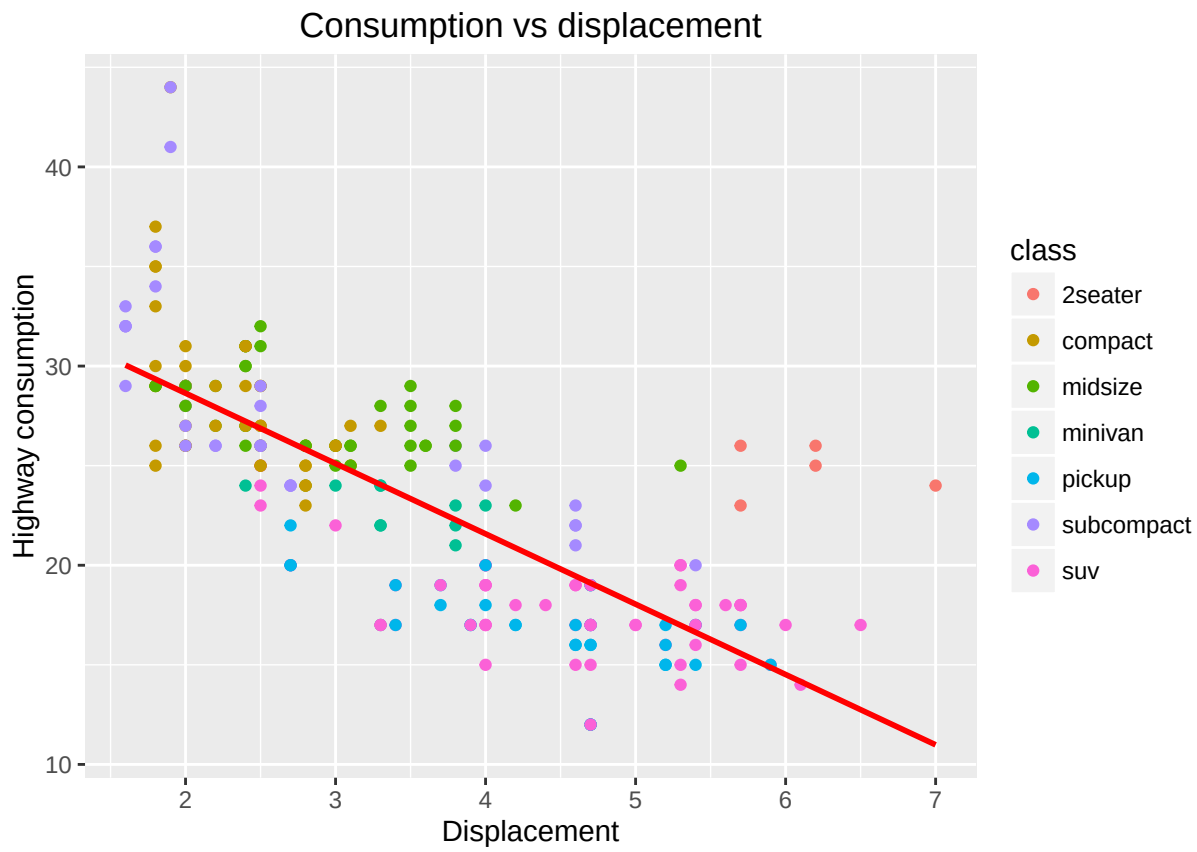
Change colors

```
ggplot(data=mpg, aes(x=displ, y=hwy))+
  geom_point(aes(colour=class)) +
  geom_smooth(method="lm", se=FALSE, colour="red")
```

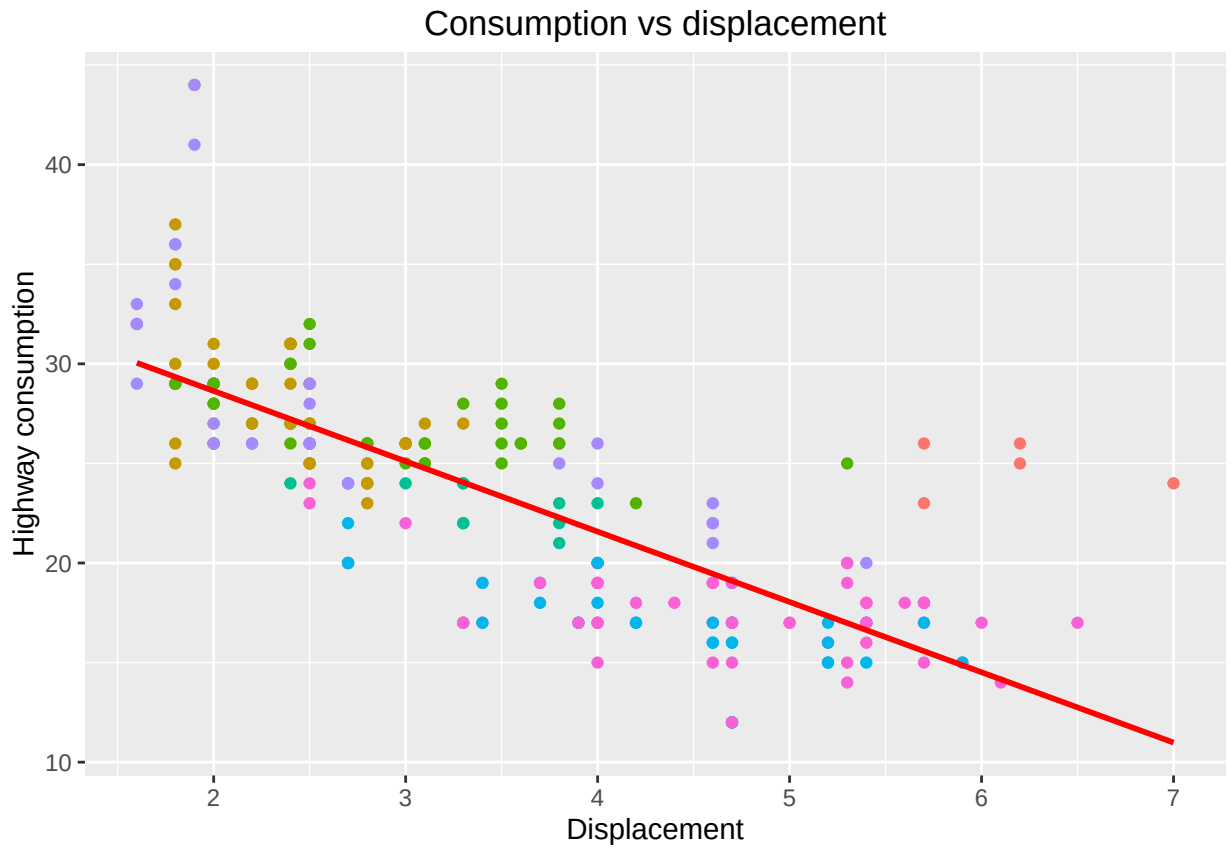


Some more examples

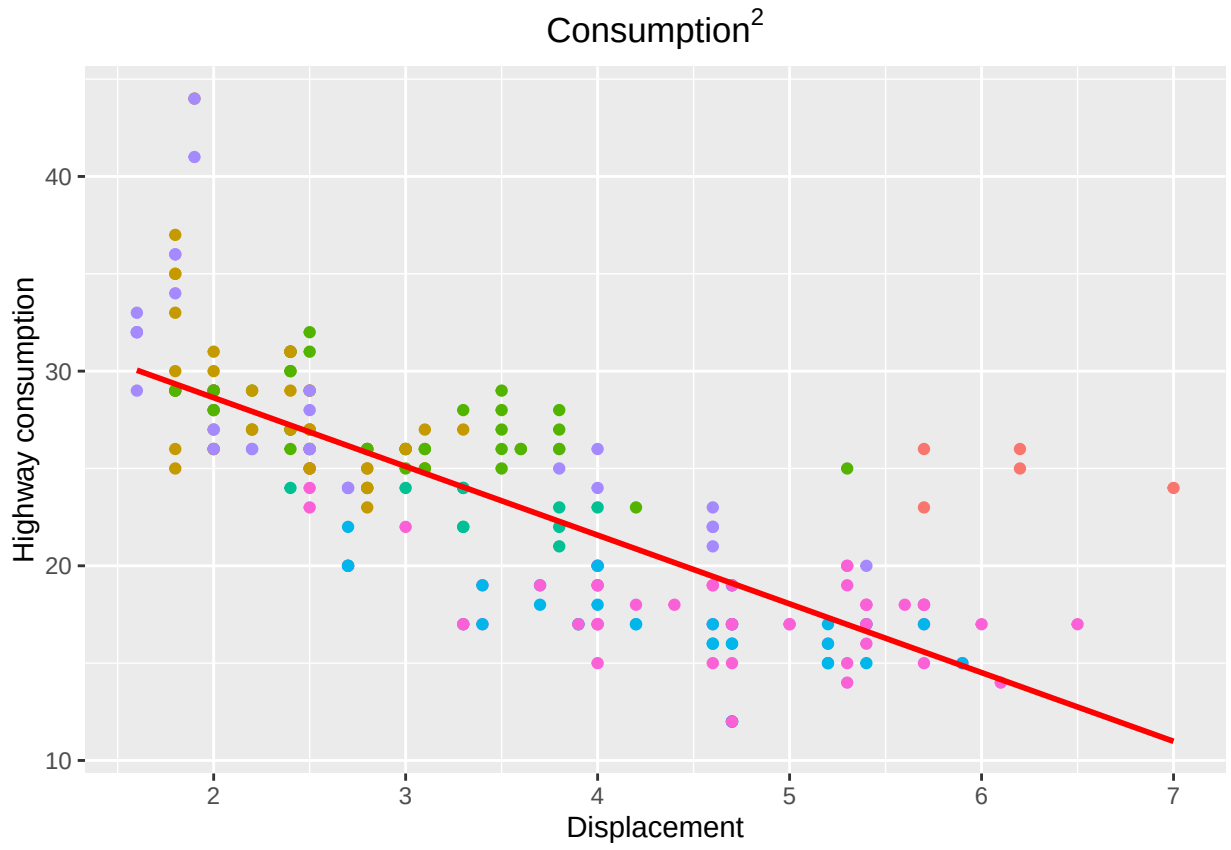
```
ggplot(data=mpg, aes(x=displ, y=hwy))+
  geom_point(aes(colour=class)) +
  geom_smooth(method="lm", se=FALSE, colour="red")+
  xlab("Displacement")+
  ylab("Highway consumption")+
  ggtitle("Consumption vs displacement")
```



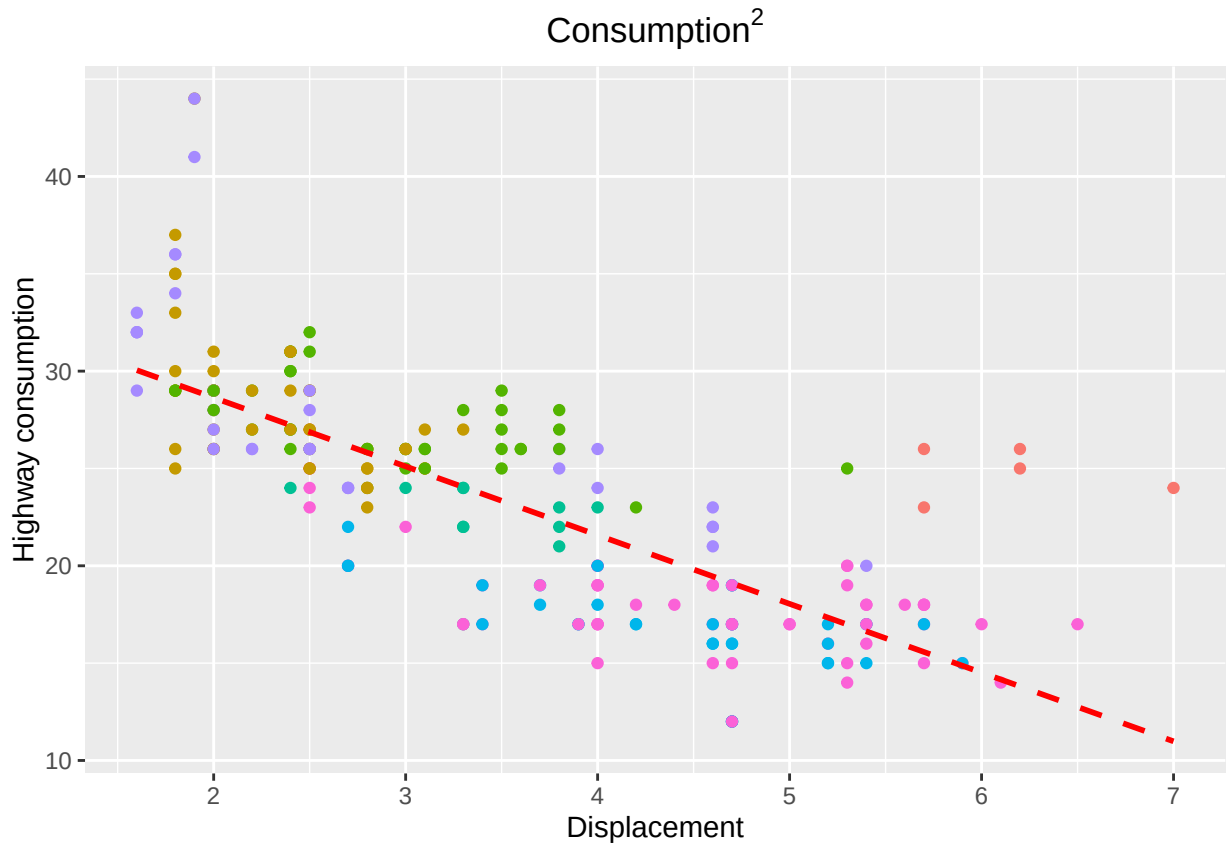
```
ggplot(data=mpg, aes(x=displ, y=hwy))+
  geom_point(aes(colour=class)) +
  geom_smooth(method="lm", se=FALSE, colour="red")+
  theme(legend.position="none")+
  xlab("Displacement")+
  ylab("Highway consumption")+
  ggtitle("Consumption vs displacement")
```



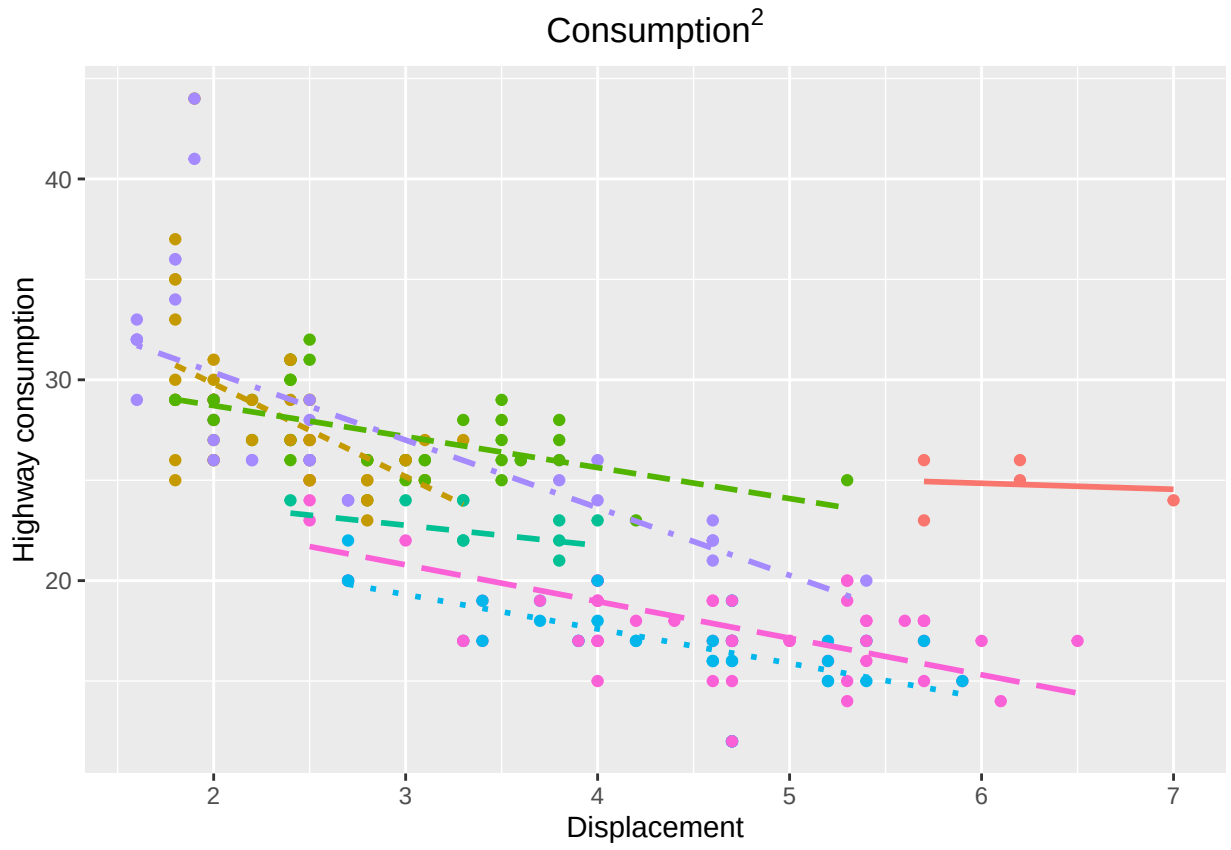
```
ggplot(data=mpg, aes(x=displ, y=hwy))+
  geom_point(aes(colour=class)) +
  geom_smooth(method="lm", se=FALSE, colour="red")+
  theme(legend.position="none")+
  xlab("Displacement")+
  ylab("Highway consumption")+
  ggtitle(quote(Consumption^2))
```



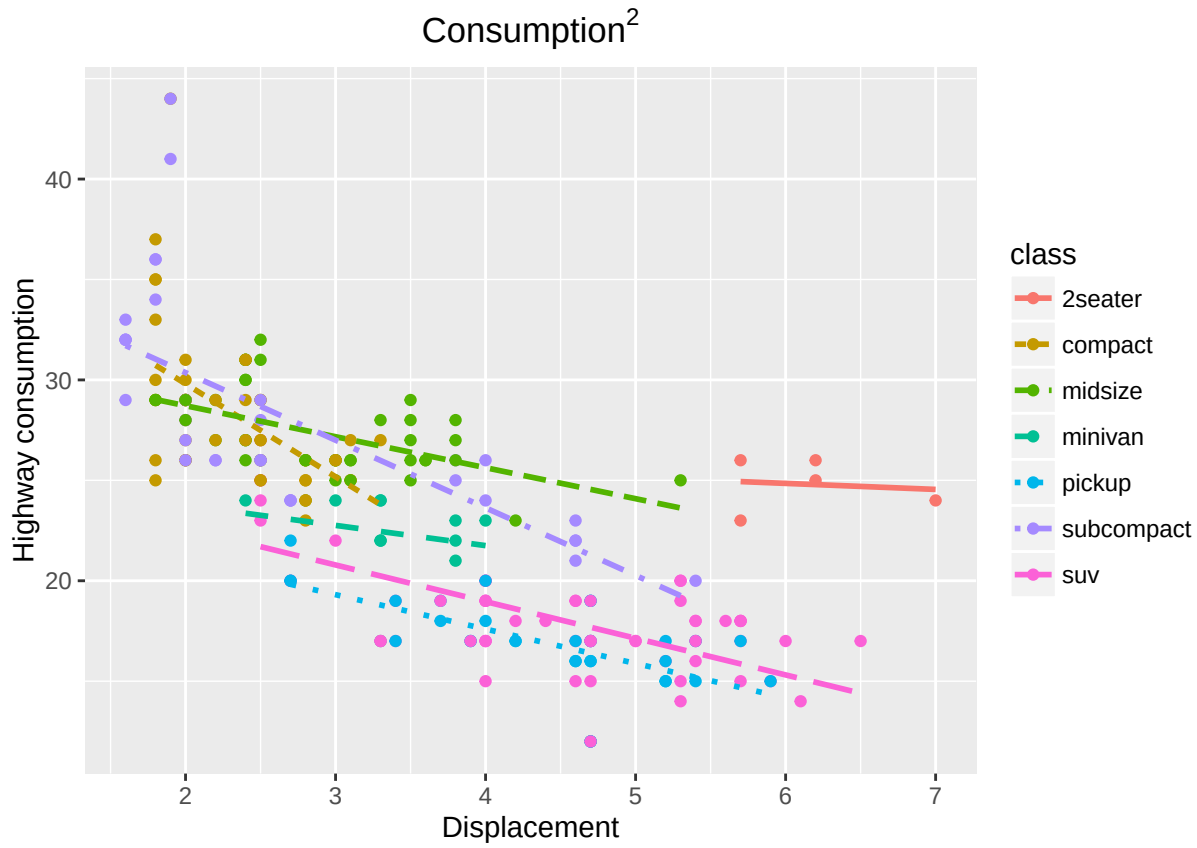
```
ggplot(data=mpg, aes(x=displ, y=hwy))+
  geom_point(aes(colour=class)) +
  geom_smooth(method="lm", se=FALSE, colour="red", linetype=2)+
  theme(legend.position="none")+
  xlab("Displacement")+
  ylab("Highway consumption")+
  ggtitle(quote(Consumption^2))
```



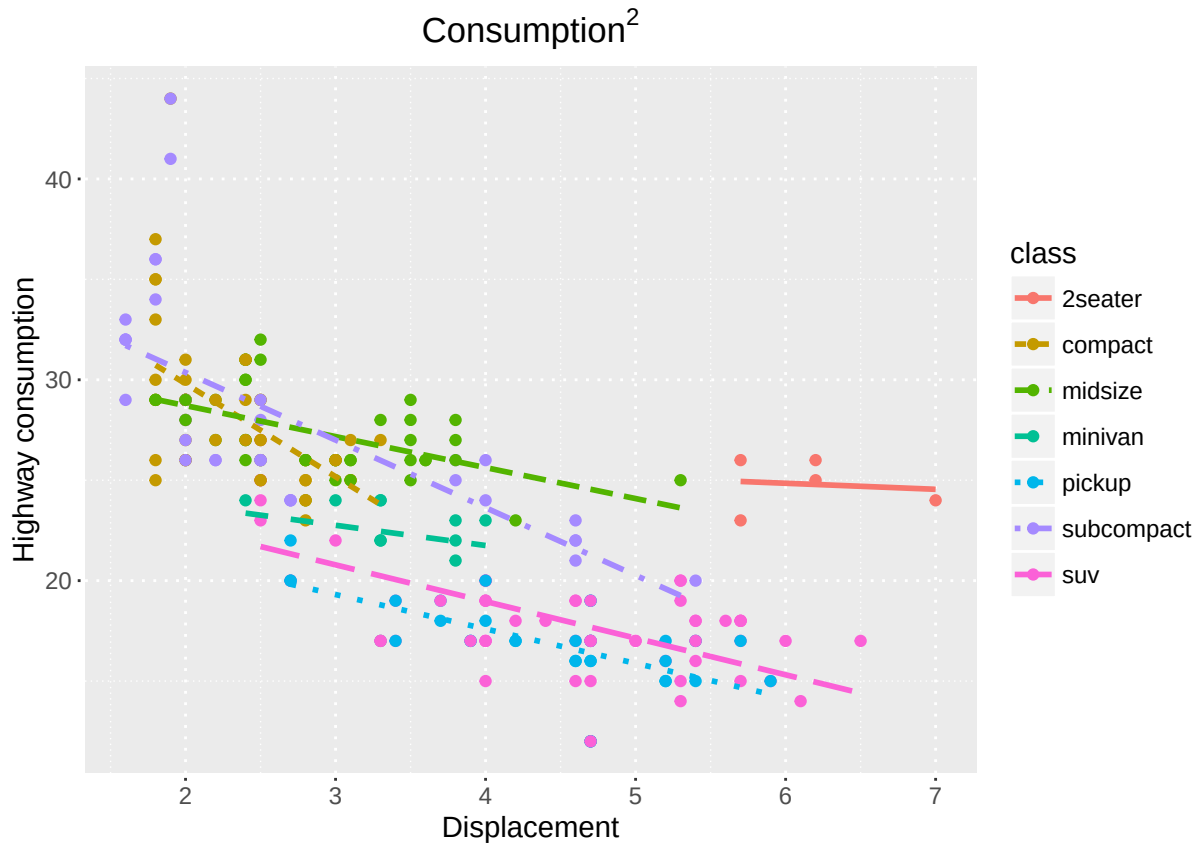
```
ggplot(data=mpg, aes(x=displ, y=hwy, colour=class))+
  geom_point() +
  geom_smooth(method="lm", se=FALSE, aes(linetype=class))+
  theme(legend.position="none")+
  xlab("Displacement")+
  ylab("Highway consumption")+
  ggtitle(quote(Consumption^2))
```



```
ggplot(data=mpg, aes(x=displ, y=hwy, colour=class))+
  geom_point() +
  geom_smooth(method="lm", se=FALSE, aes(linetype=class))+
  xlab("Displacement")+
  ylab("Highway consumption")+
  ggtitle(quote(Consumption^2))
```



```
ggplot(data=mpg, aes(x=displ, y=hwy, colour=class))+
  geom_point() +
  geom_smooth(method="lm", se=FALSE, aes(linetype=class))+
  xlab("Displacement")+
  ylab("Highway consumption")+
  ggtitle(quote(Consumption^2))+
  theme(line=element_line(linetype=3))
```



```r
ggplot(data=mpg, aes(x=displ, y=hwy, colour=class))+
  geom_point() +
  geom_smooth(method="lm", se=FALSE, aes(linetype=class))+
  xlab("Displacement")+
  ylab("Highway consumption")+
  ggtitle(quote(Consumption^2))+
  scale_linetype_manual(values=rep(1,7))
```