Graficación en R

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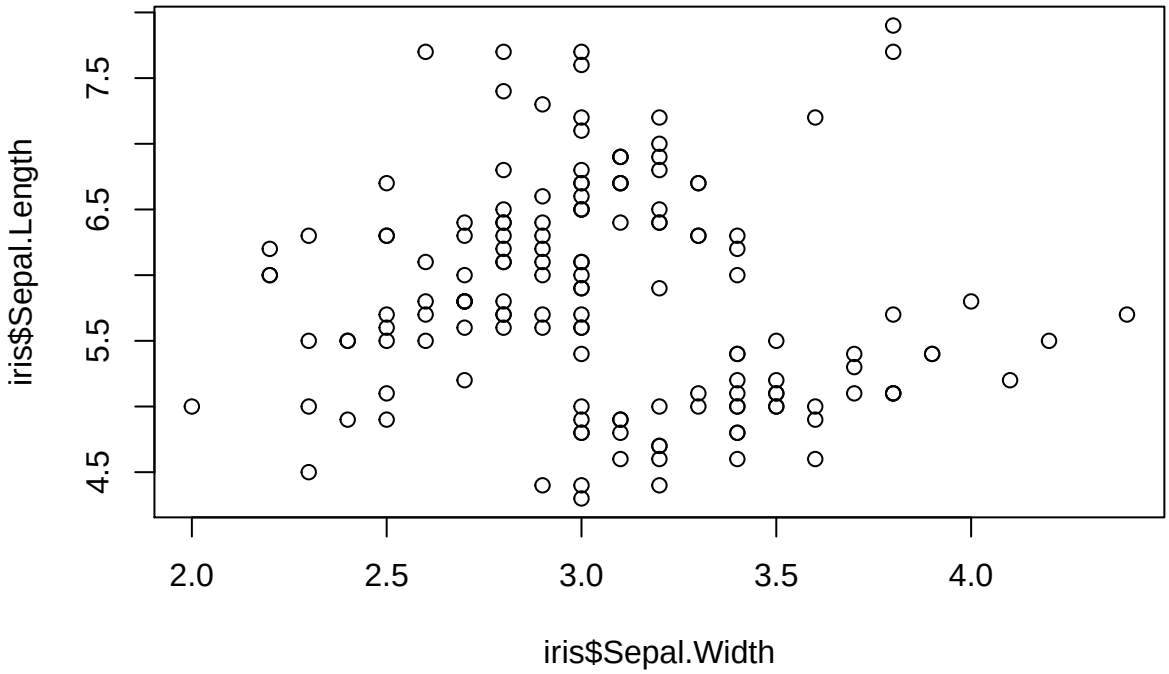
Graficación en R ()

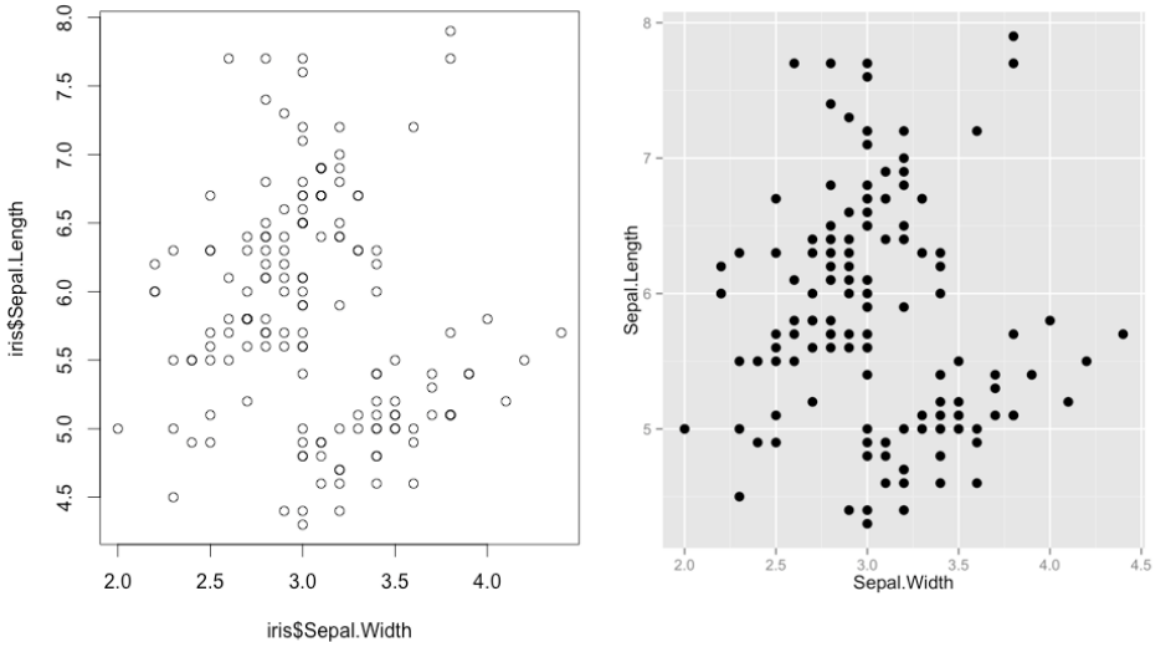
```
plot(iris$Sepal.Width ,iris$Sepal.Length)
```

```
library(ggplot2)
plot(iris$Sepal.Width,iris$Sepal.Length)
```



- Es el método más simple de R para graficación
- Realiza diferentes acciones dependiendo del contexto
- Es sumamente complicado personalizar

ggplot2

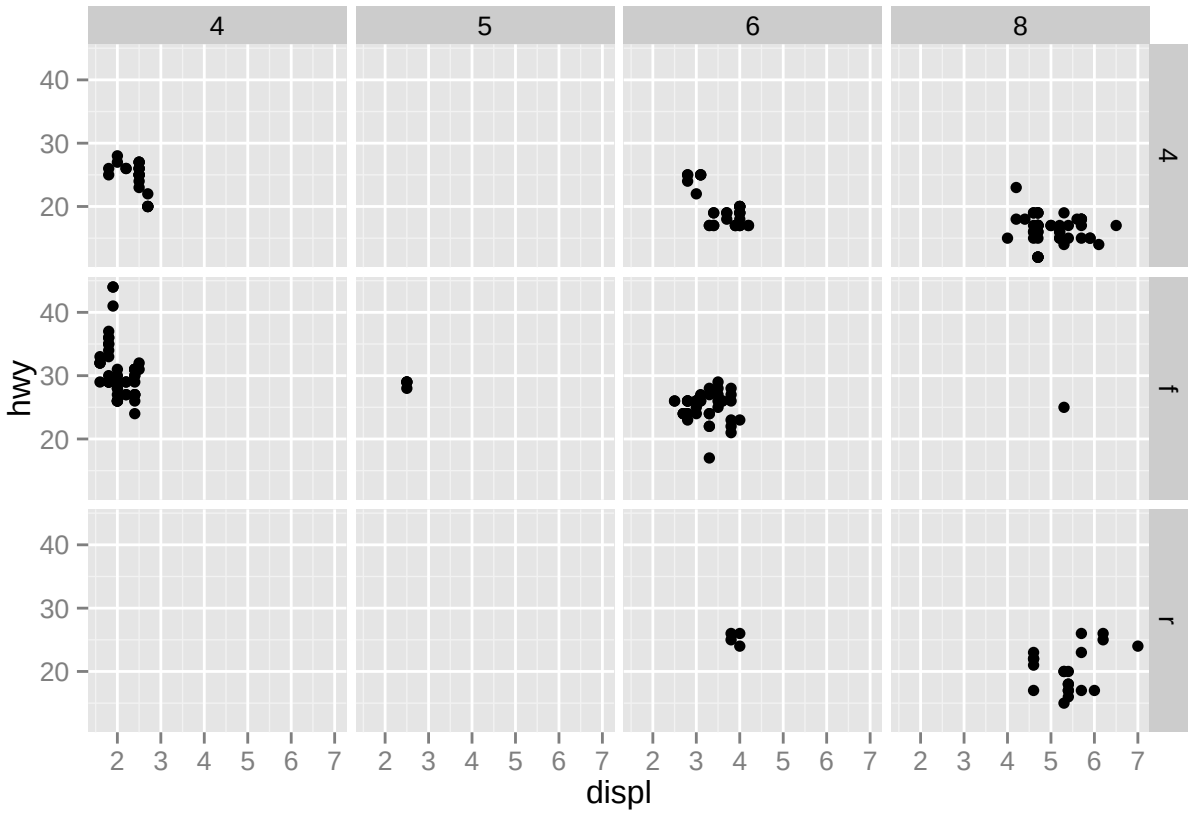


Visualizando Diferentes Conjuntos de Datos

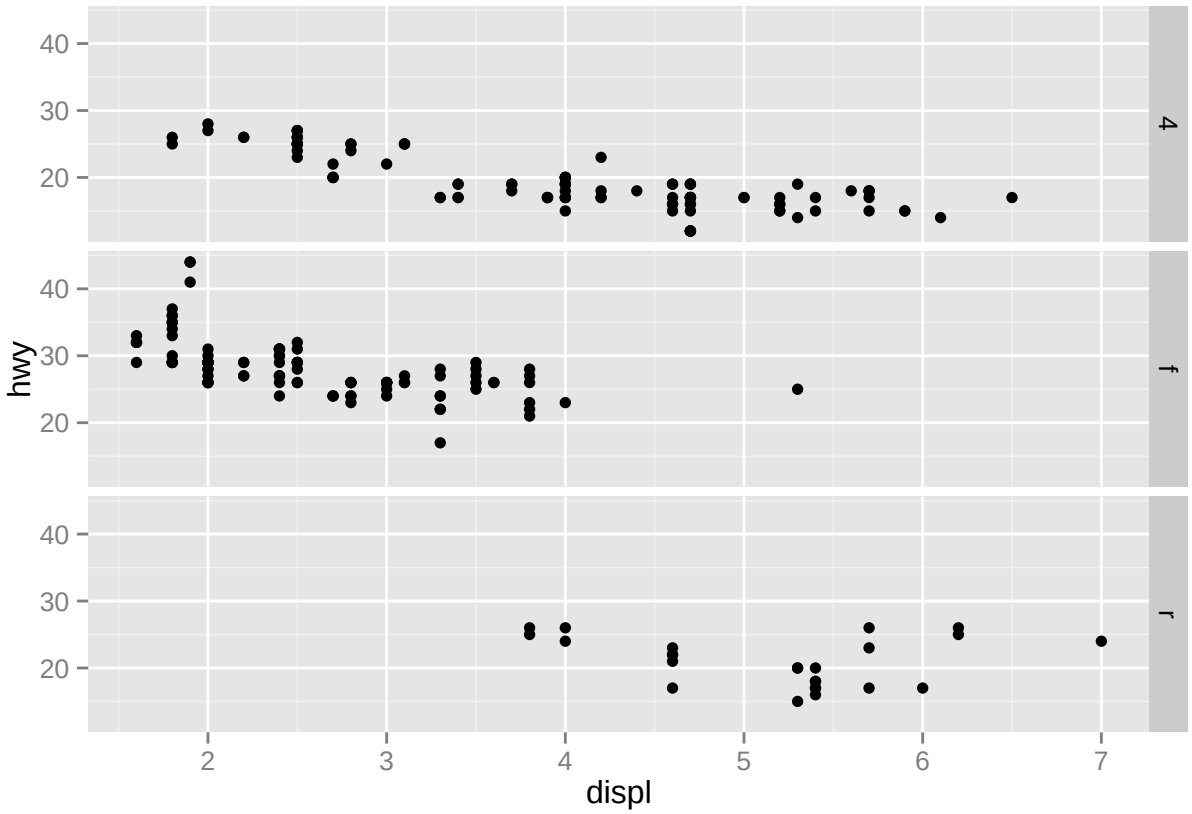
```
library(ggplot2)
#?mpg #ver la ayuda de un dataset
#View(mpg)
#qplot(disp,hwy, data=mpg)
#qplot(displ,hwy, data=mpg,color=class)
#qplot(displ,hwy, data=mpg,color=class,shape=trans)
```

Utilizemos Facetting

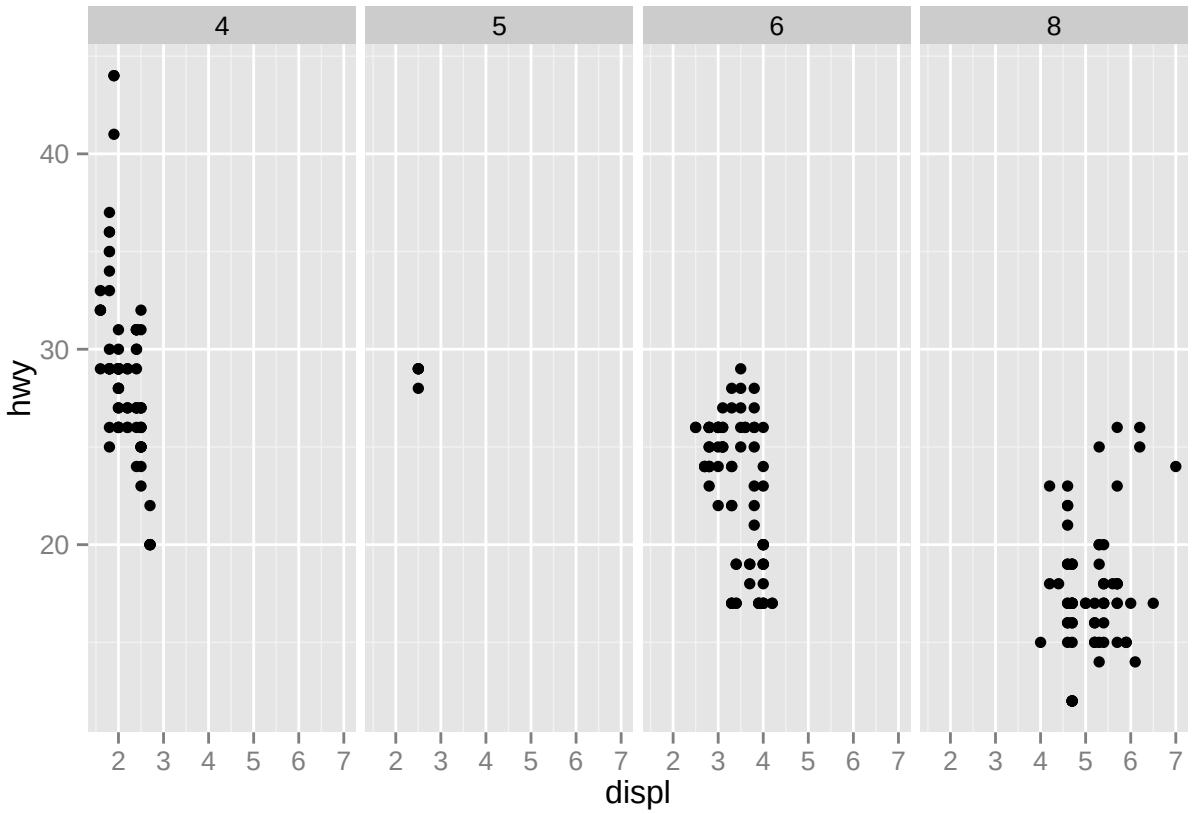
```
qplot(displ,hwy, data=mpg)+
  facet_grid(drv ~ cyl)
```



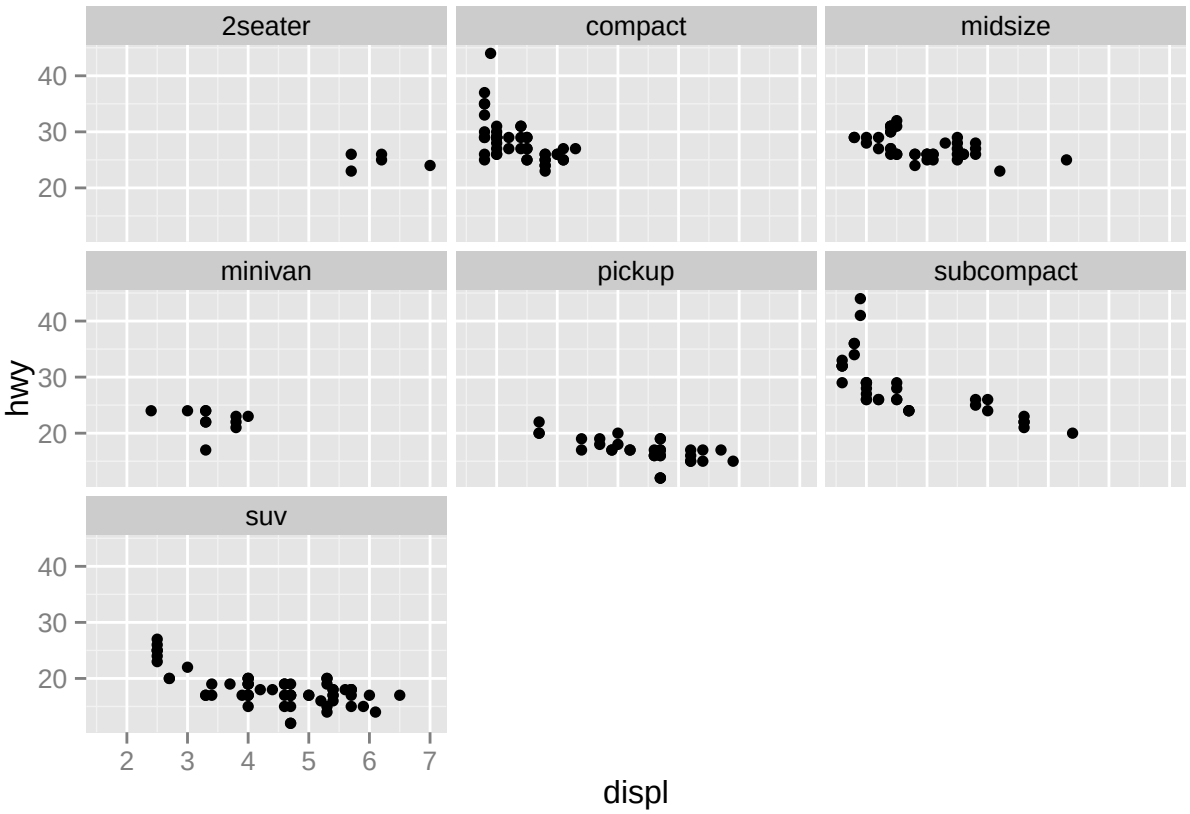

```
qplot(displ,hwy, data=mpg)+
  facet_grid(drv ~ .)
```




```
qplot(displ,hwy, data=mpg)+
  facet_grid(. ~ cyl)
```




```
qplot(displ,hwy, data=mpg)+
  facet_wrap( ~ class)
```



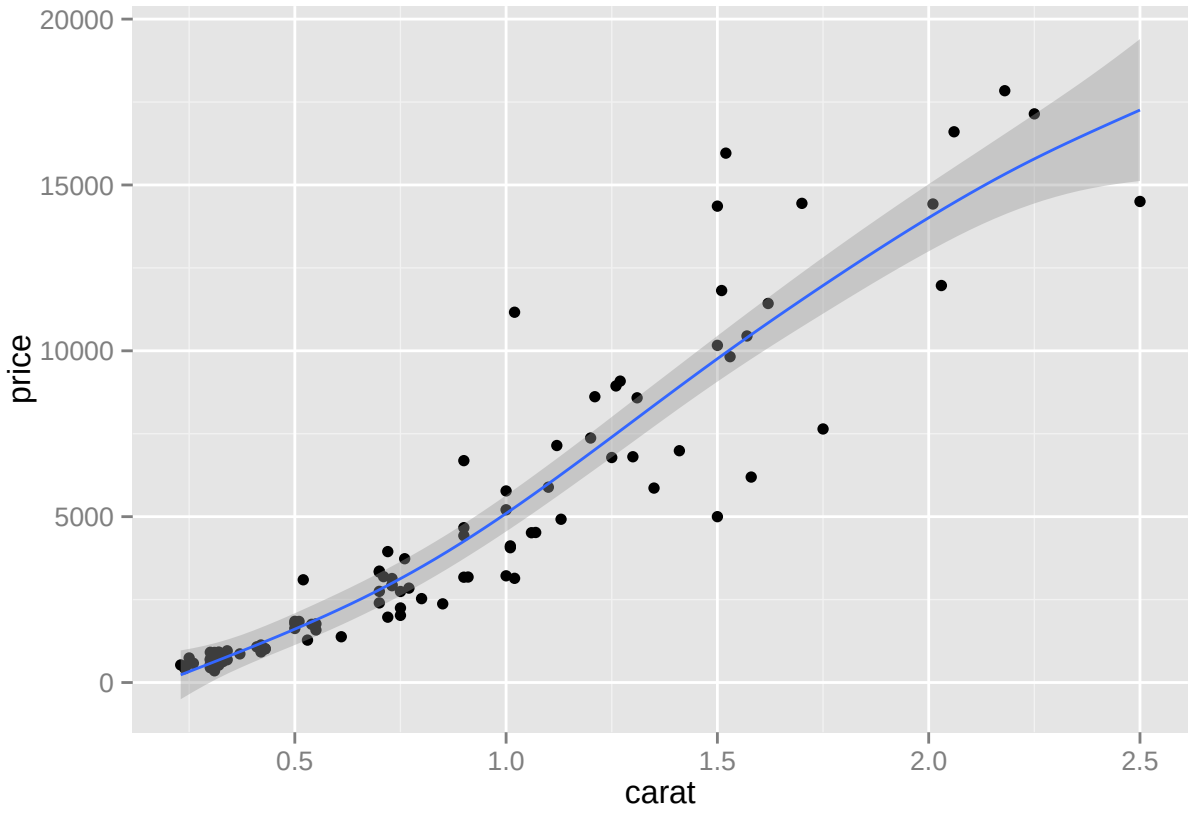
Using Geom

- En ocasiones cuando tenemos una gráfica de puntos es complicado observar la tendencia de los datos, ocasionado por la cantidad de puntos, para ello podemos agregar una linea suavizada a la gráfica.

```
library(mgcv)
```

```
## Loading required package: nlme
## This is mgcv 1.8-7. For overview type 'help("mgcv-package")'.
```

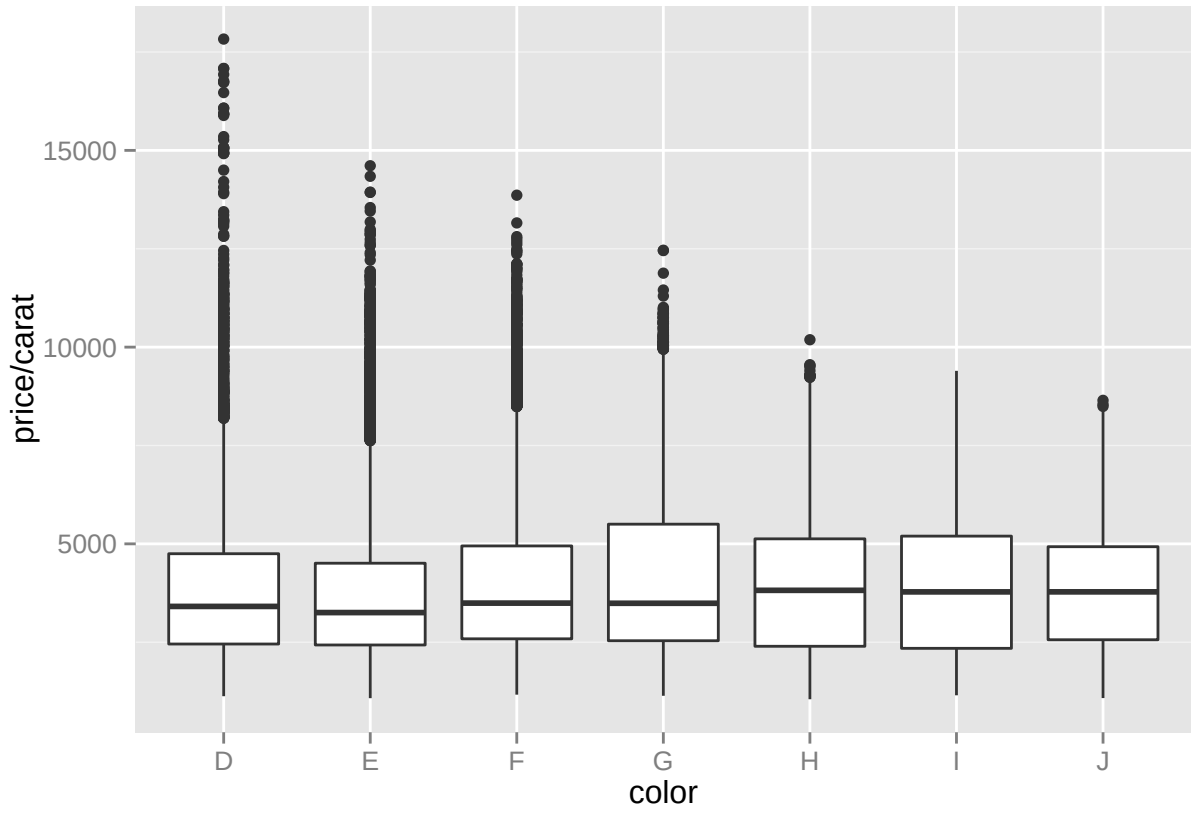
```
qplot(carat,price,data=dsmall, geom=c("point","smooth"), span=1, method = "gam", formula = y ~ s(x))
```



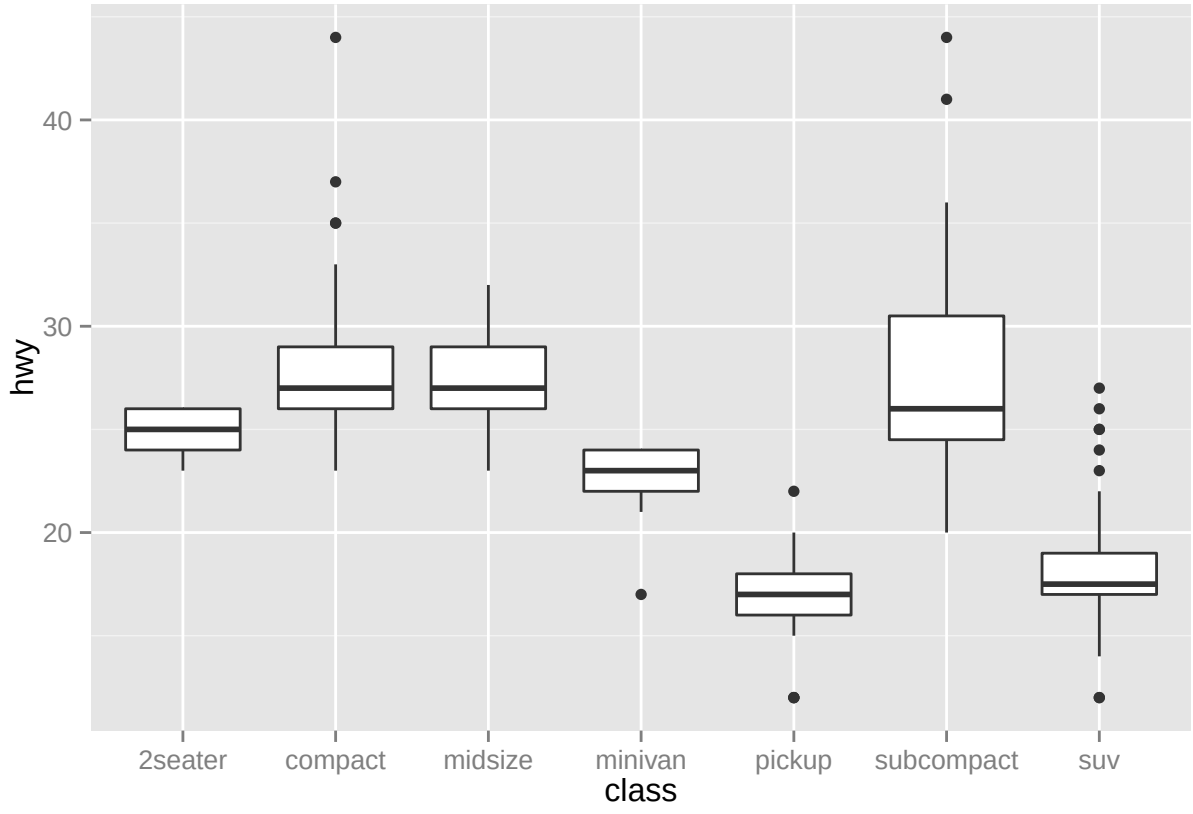
Cajas

- Cuando un conjunto de datos contiene una variable categorica y una o más variables continuas, problemente sea más interesante conocer como los valores de la variable continua varia con los niveles de la variable categorica.

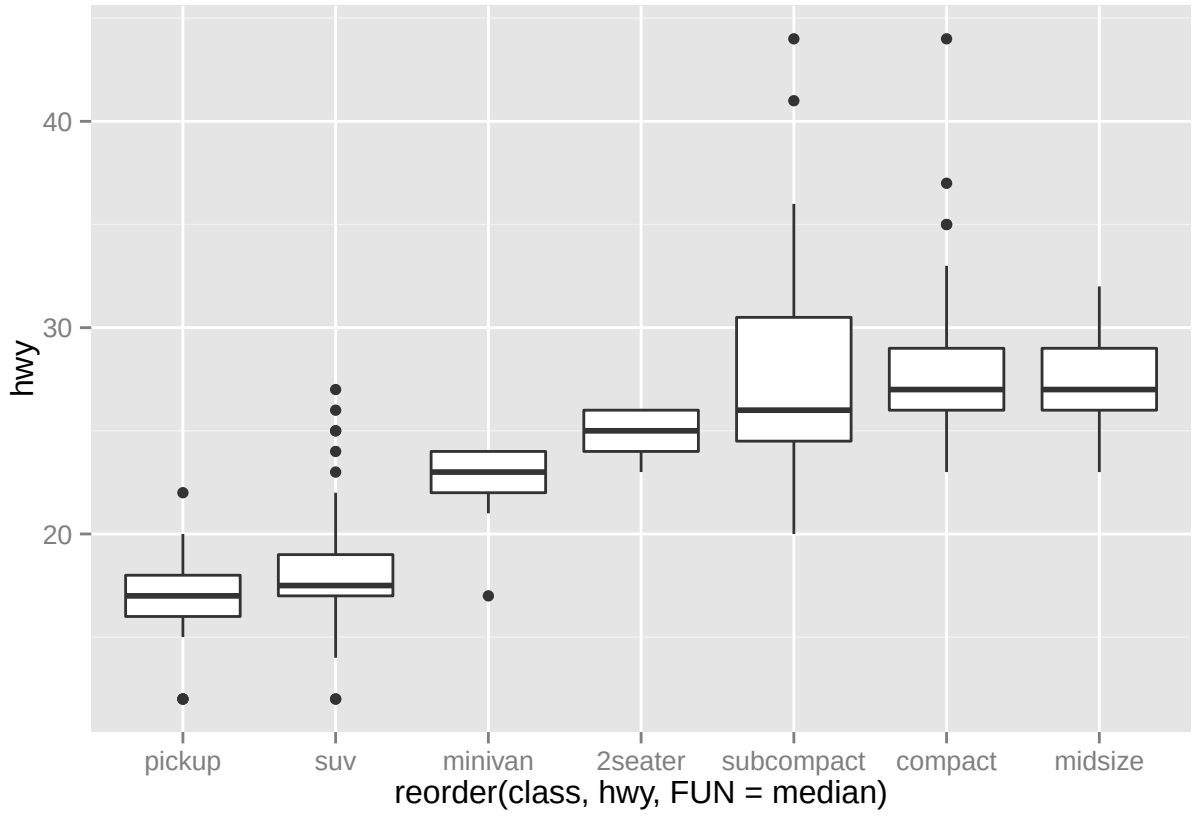
```
qplot(color, price / carat, data = diamonds, geom = "boxplot")
```

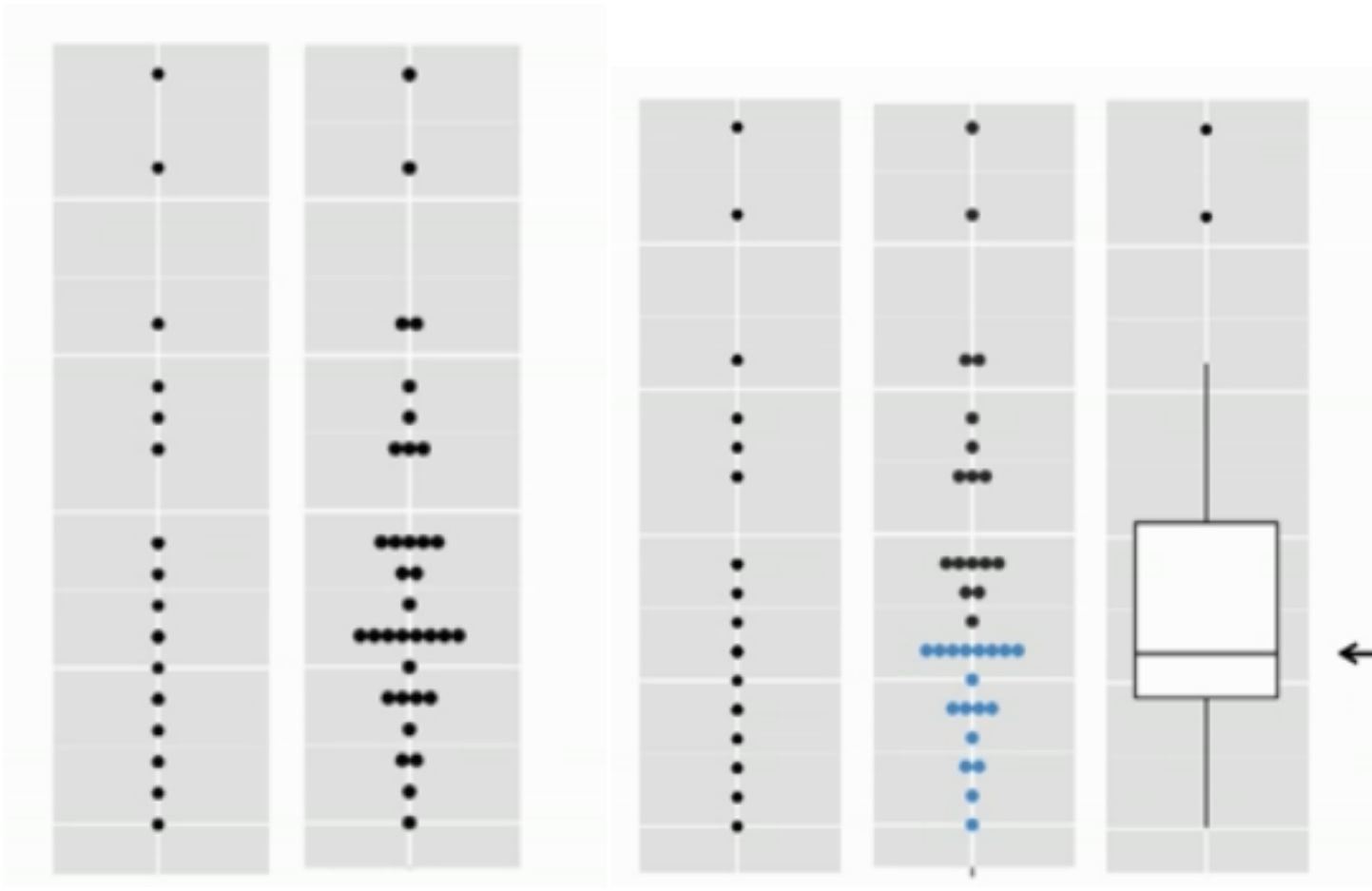


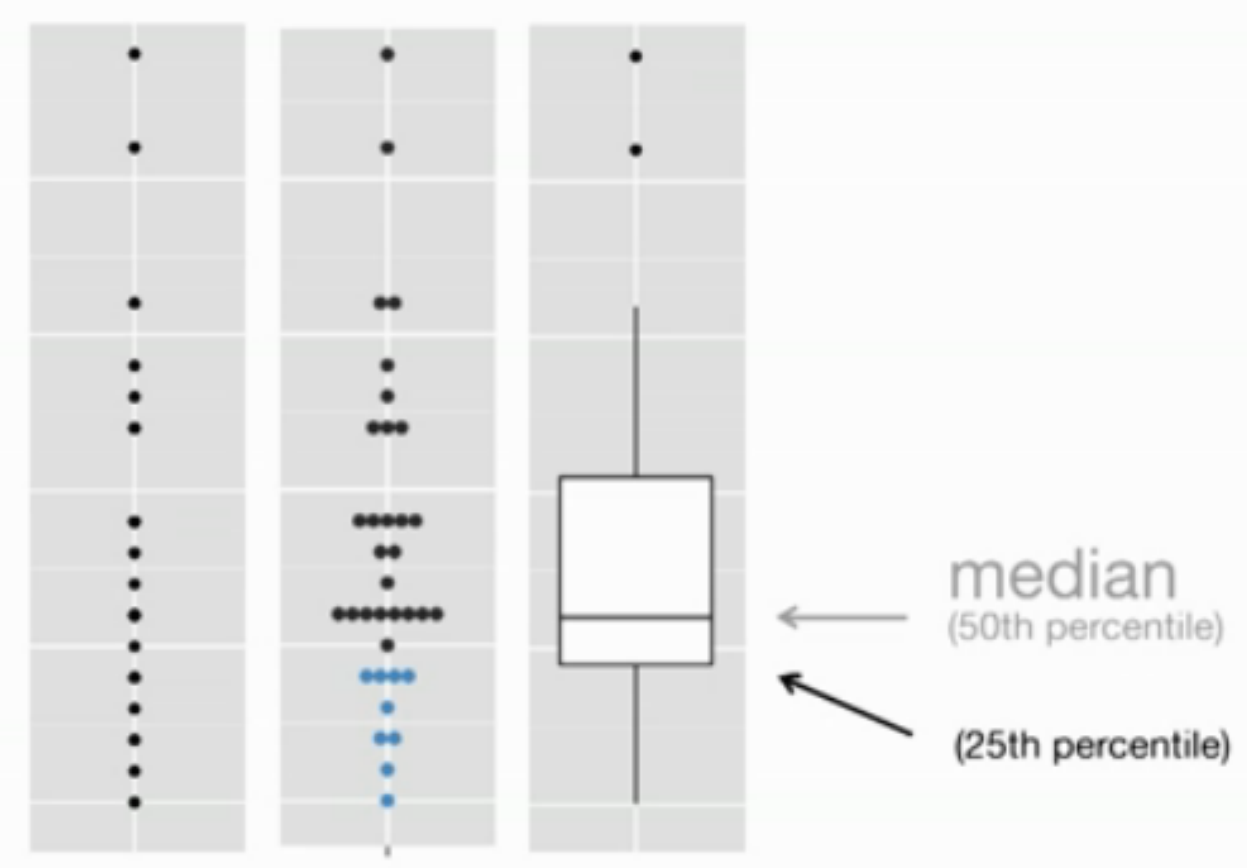

```
qplot(class,hwy,data=mpg,geom="boxplot")
```

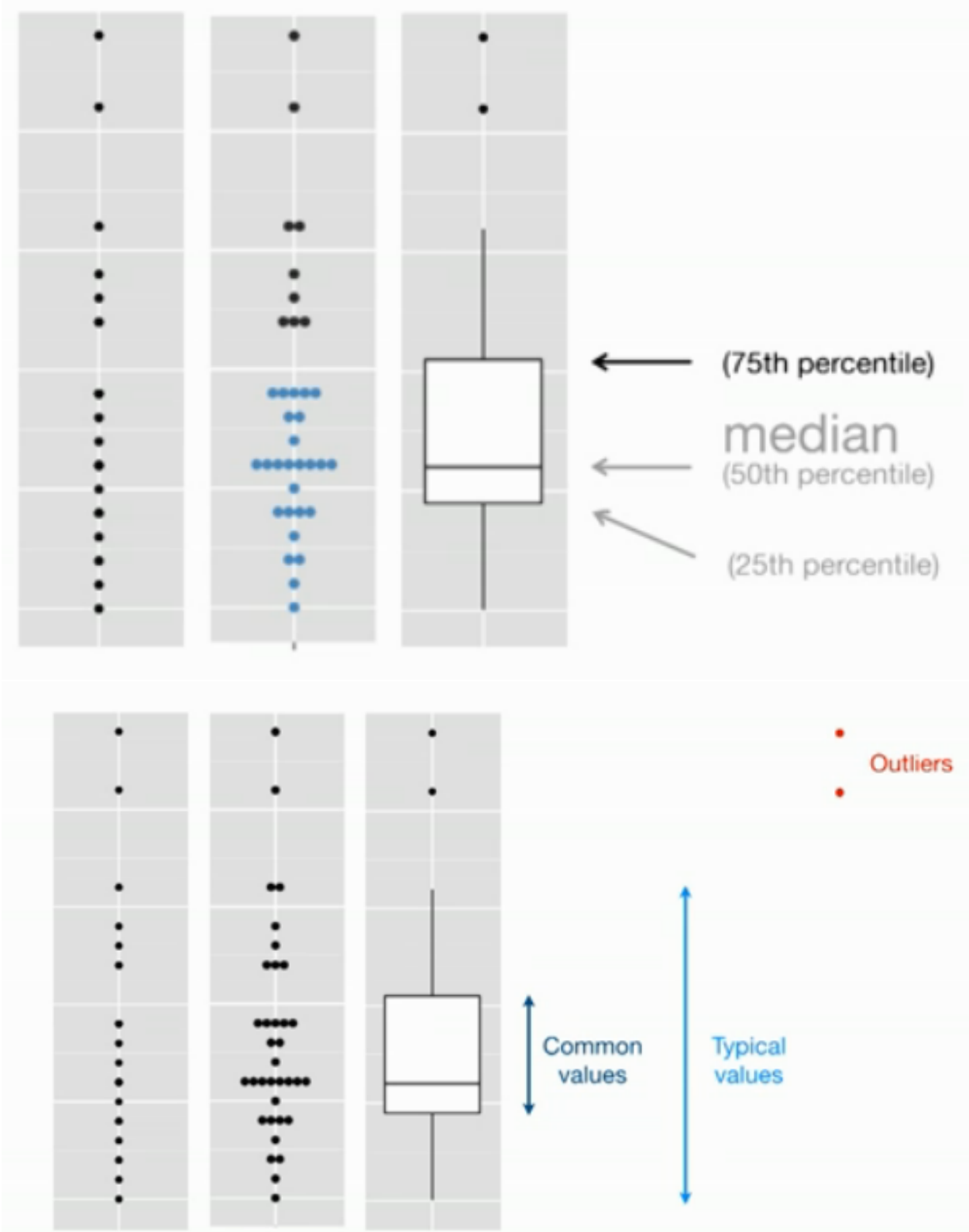


```
qplot(reorder(class,hwy,FUN=median),hwy,data=mpg,geom="boxplot")
```





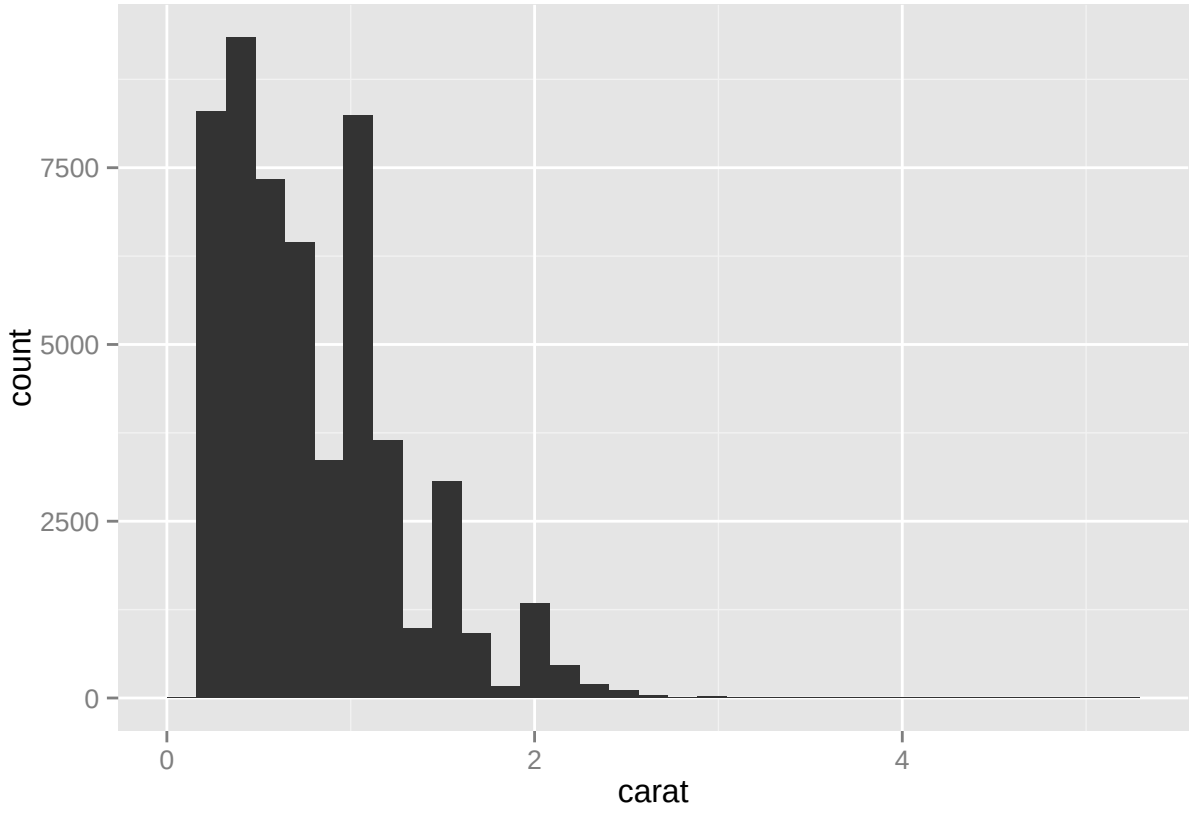

median
(50th percentile)
(25th percentile)


(75th percentile)
median
(50th percentile)
(25th percentile)
Outliers
Common values
Typical values

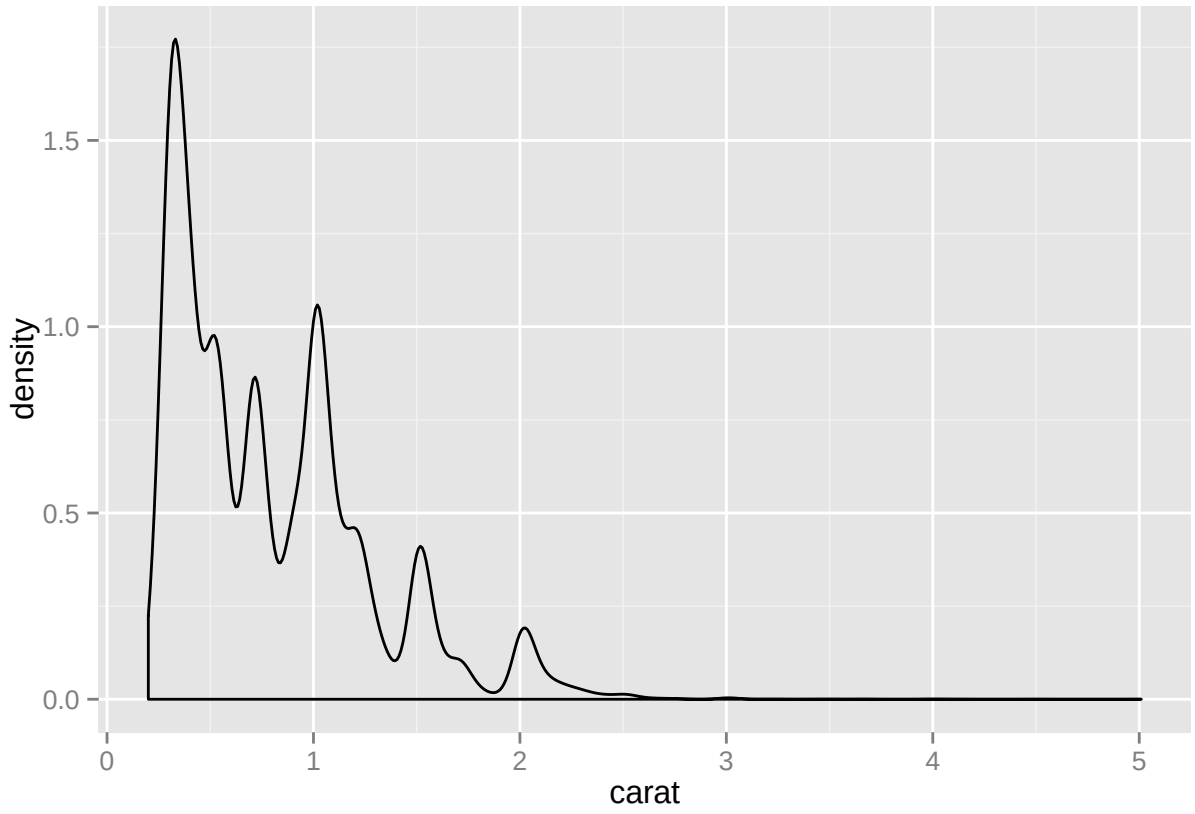
Usando gráficos de Barras y Densidad

```
qplot(carat,data=diamonds, geom="histogram")
```

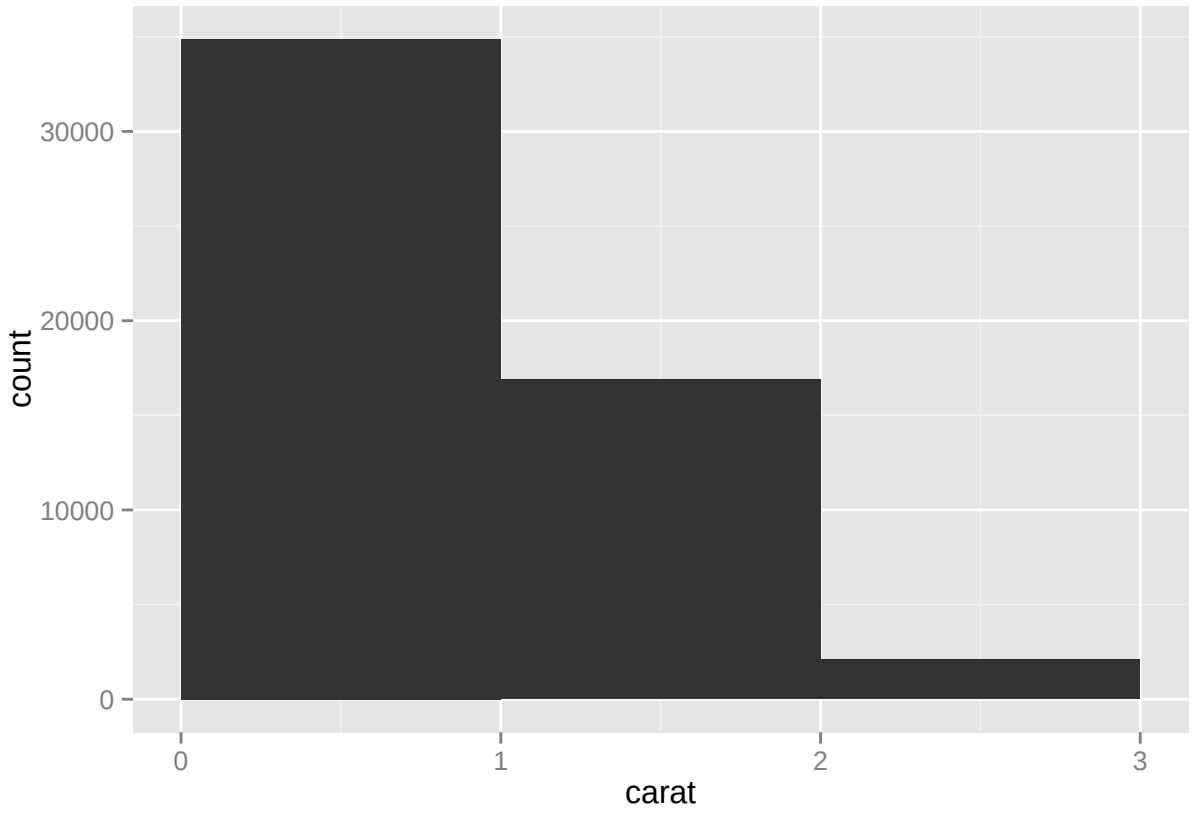
```
## stat_bin: binwidth defaulted to range/30. Use 'binwidth = x' to adjust this.
```



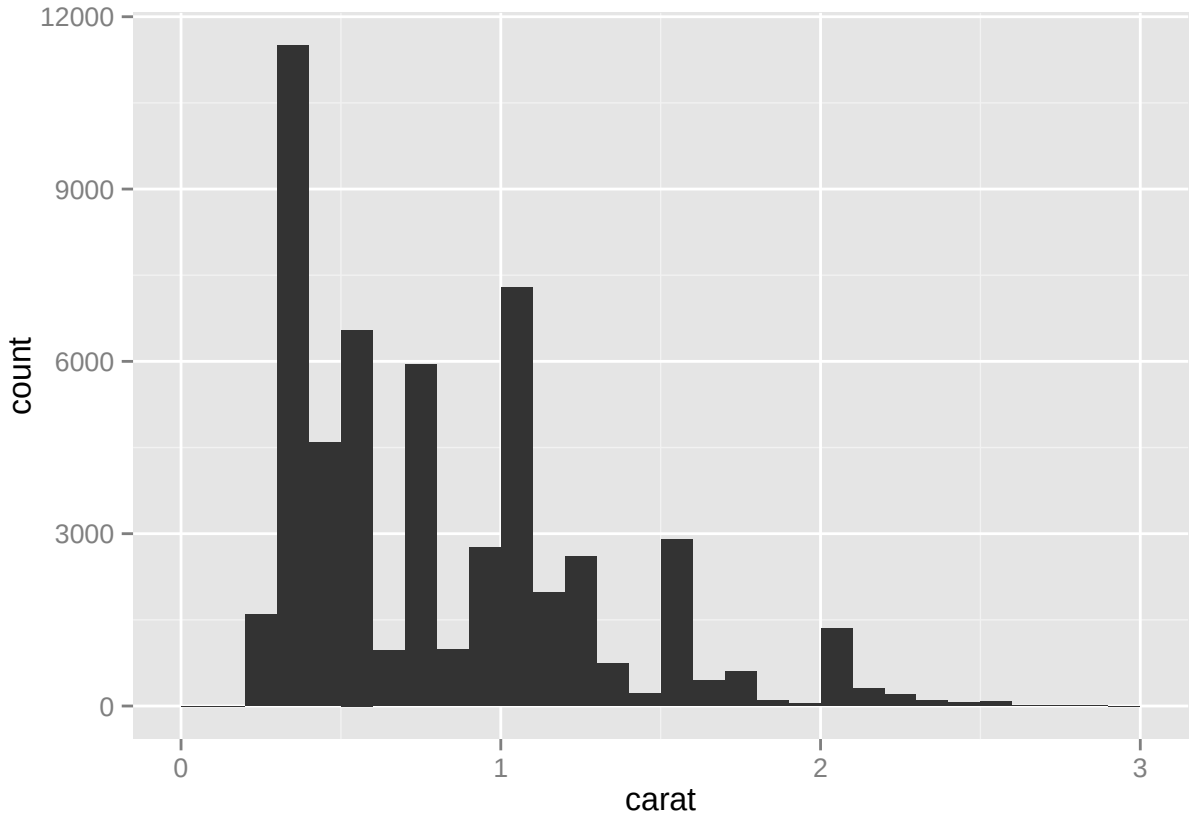

```
qplot(carat,data=diamonds, geom="density" )
```



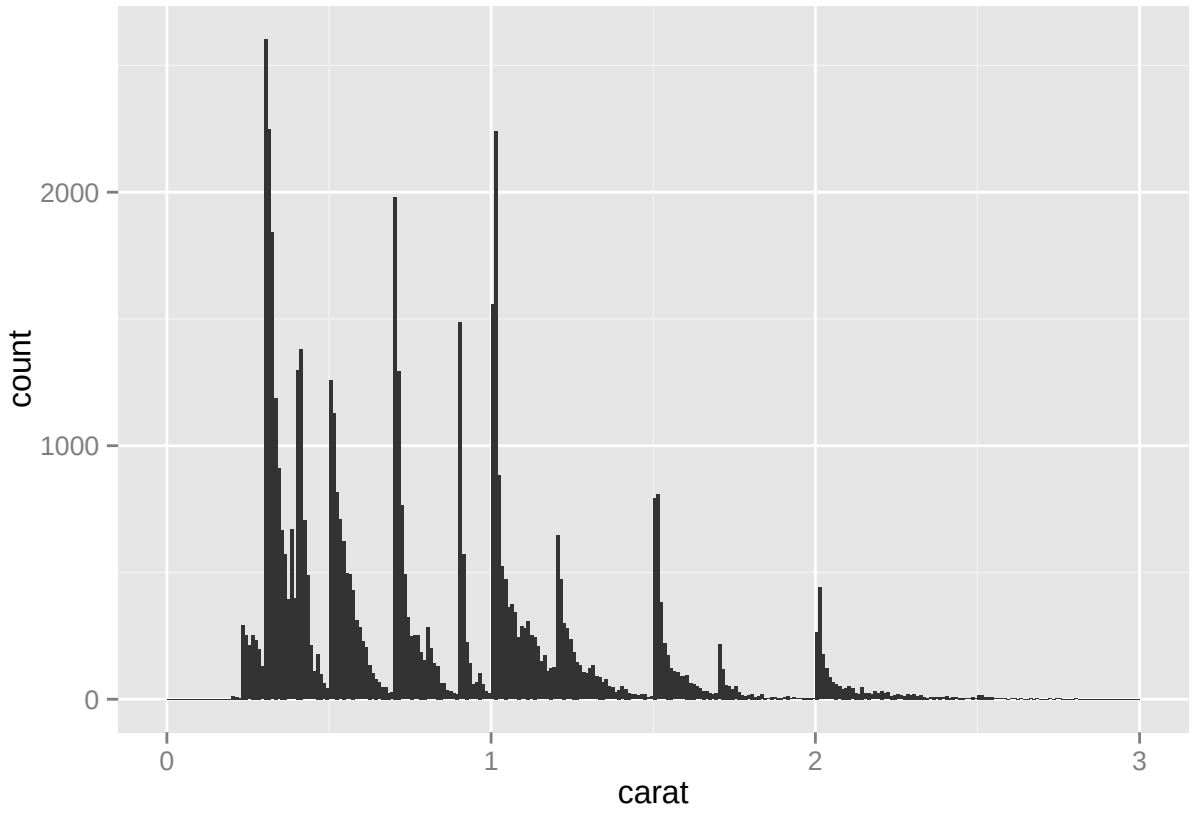

```
qplot(carat, data = diamonds, geom = "histogram", binwidth = 1,
  xlim = c(0,3))
```



```
qplot(carat, data = diamonds, geom = "histogram", binwidth = 0.1,
  xlim = c(0,3))
```




```
qplot(carat, data = diamonds, geom = "histogram", binwidth = 0.01,
  xlim = c(0,3))
```



Creando Mapas con R

- Ejercicio usando el archivo texas.csv crear el gráfico usando los siguientes parametros

```
geom="polygon"
group = group
fill = group
```

```
texas <- read.csv("datos/texas.csv",header = TRUE)
tx <- qplot(long,lat,data=texas,geom="polygon",group=group,fill=group)
tx <- ggtitle("Poblacion de los condades de Texas")
```