week9

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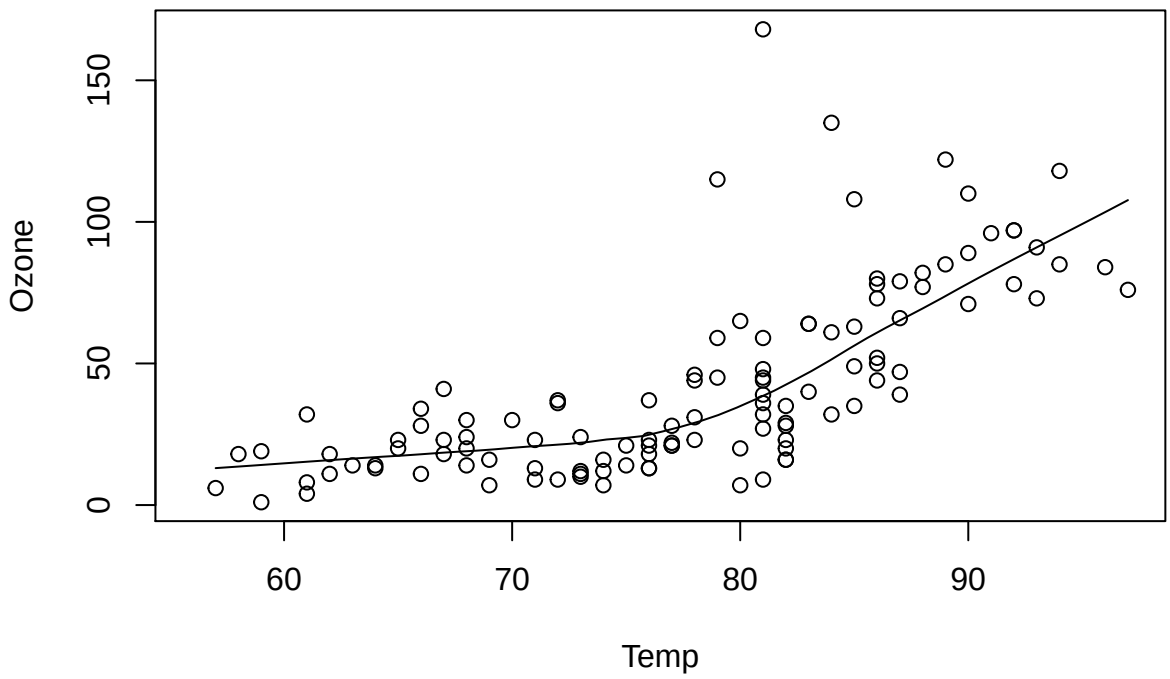
Sampling Distributions

plotting system

The base plotting system

Scatterplot with loess curve

```
data(airquality)
with(airquality, {
  plot(Temp, Ozone)
  lines(loess.smooth(Temp, Ozone))})
```



Add title

```
data(cars)

## Create the plot / draw canvas
```

```r
with(cars, plot(speed, dist))

## Add annotation
title("Speed vs. Stopping distance")
```

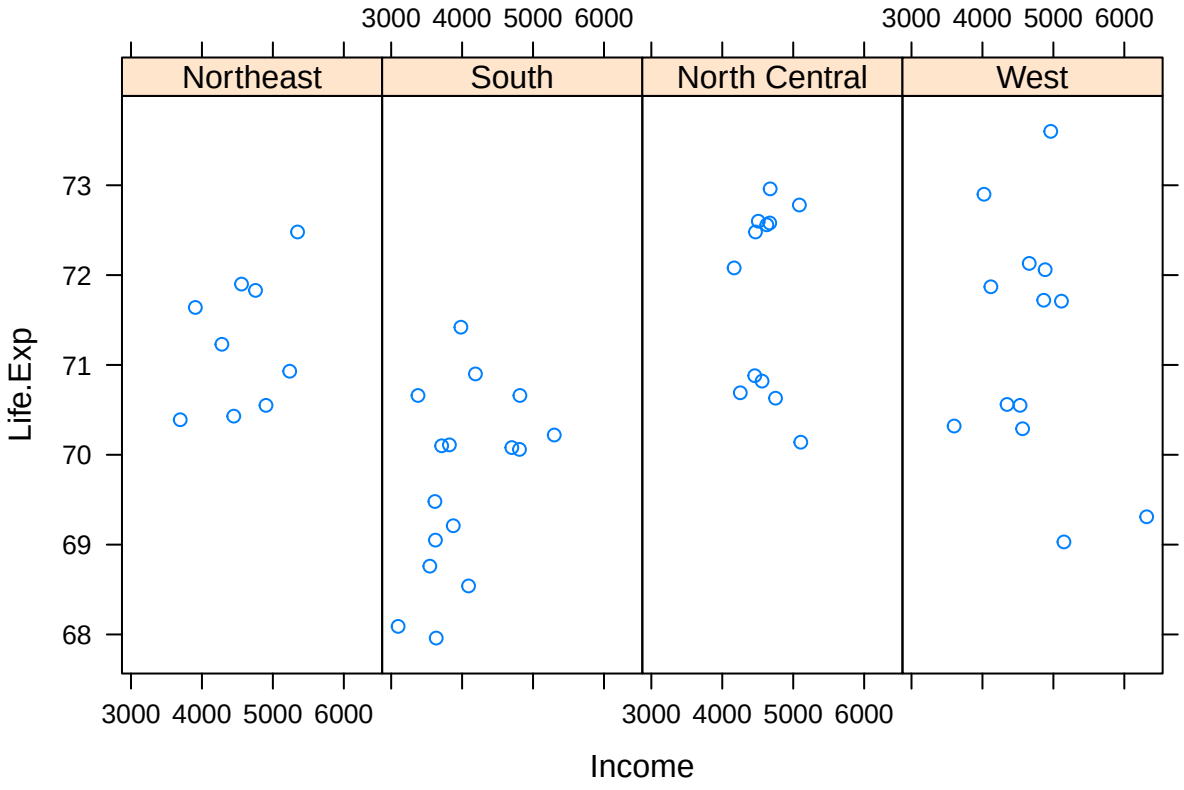
The Lattice System

xyplot bwplot

```r
library(lattice)
```

relationship between life expectancy and income and how that relationship varies by region

```r
state <- data.frame(state.x77, region = state.region)
xyplot(Life.Exp ~ Income | region, data = state, layout = c(4, 1))
```

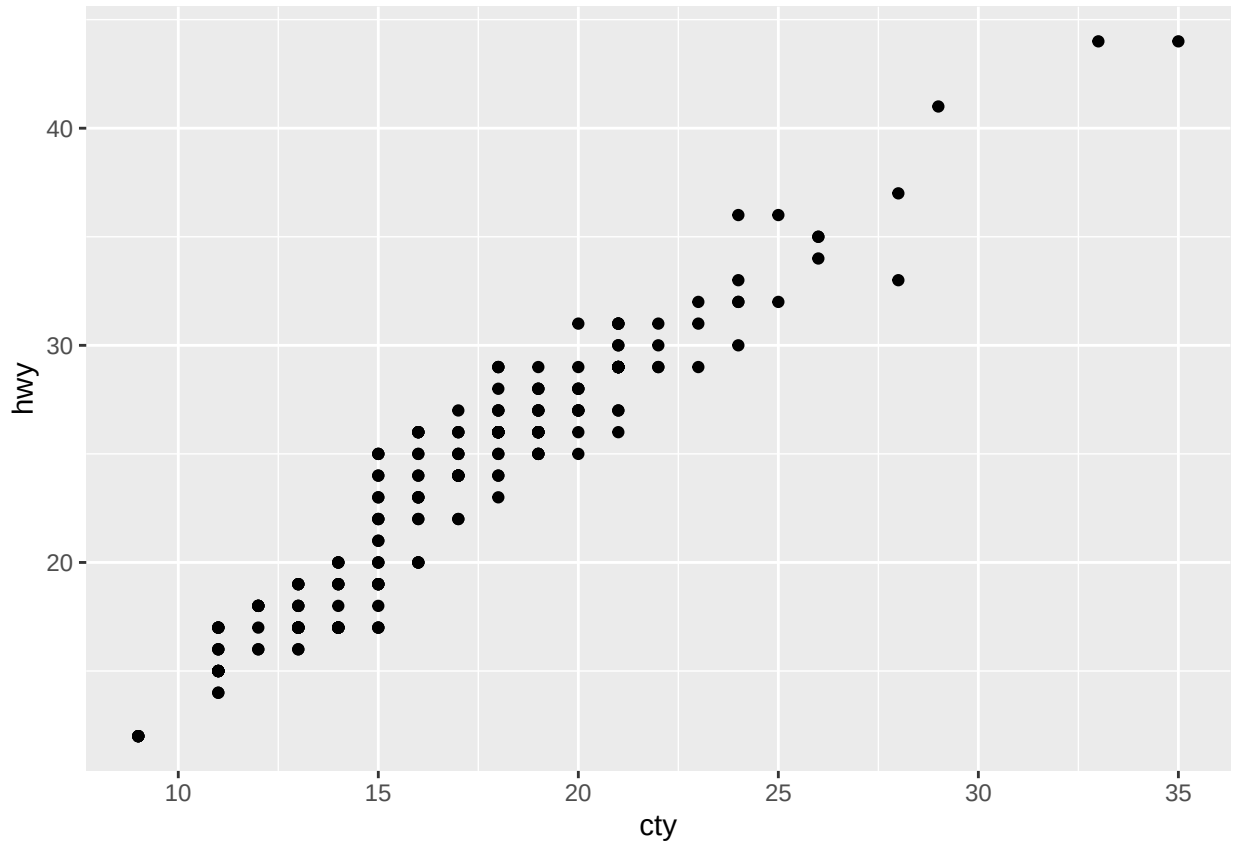


The ggplot2 System

```
library(ggplot2)
```

qplot() quickly get some data on the screen

```
data(mpg)
qplot(cty, hwy, data = mpg)
```

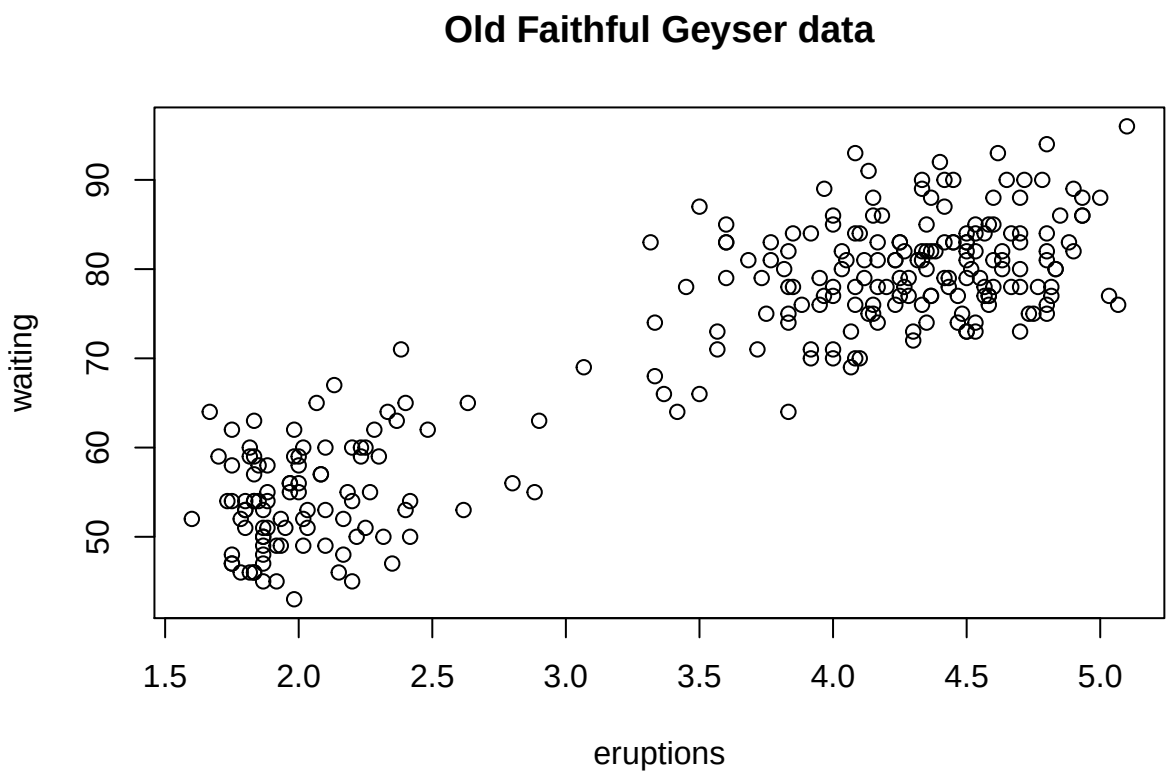


Graphics Devices

base plot

```
## Make plot appear on screen device
with(faithful, plot(eruptions, waiting))

## Annotate with a title
title(main = "Old Faithful Geyser data")
```




```
## Open PDF device; create 'week9.pdf' in my working directory

pdf(file = "week9.pdf")
# Create plot and send to a file (no plot appears on screen)
with(faithful, plot(eruptions, waiting))

## Annotate plot; still nothing on screen
title(main = "Old Faithful Geyser data")

## Close the PDF file device
dev.off()
```

```
## pdf
##   2
```

```
## the file 'week9.pdf' is in the directory
```

Copying Plots

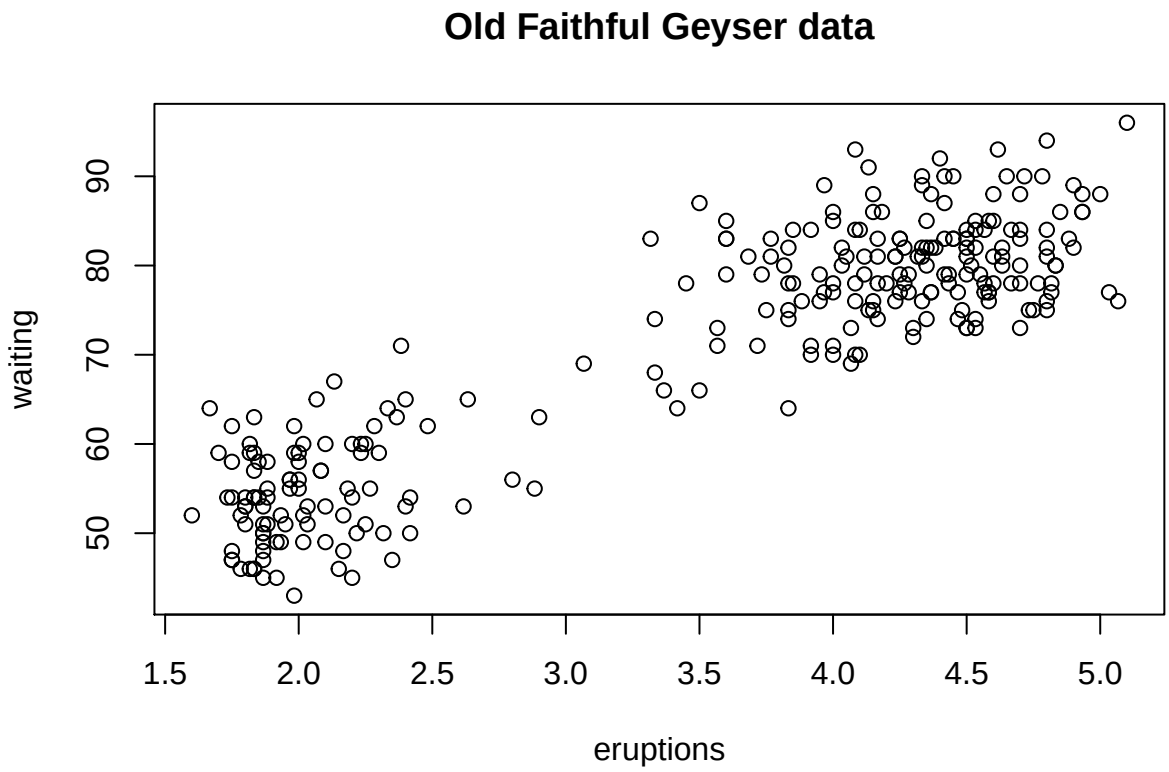
dev.copy() copy a plot from one device to another

```
library(datasets)

## Create plot on screen device
```

```r
with(faithful, plot(eruptions, waiting))

## Add a main title
title(main = "Old Faithful Geyser data")
```




```r
## Copy my plot to a PNG file
dev.copy(png, file = "geyserplot.png")
```

```
## quartz_off_screen
##                 3
```

```r
## Close the PNG device!
dev.off()
```

```
## pdf
##   2
```