

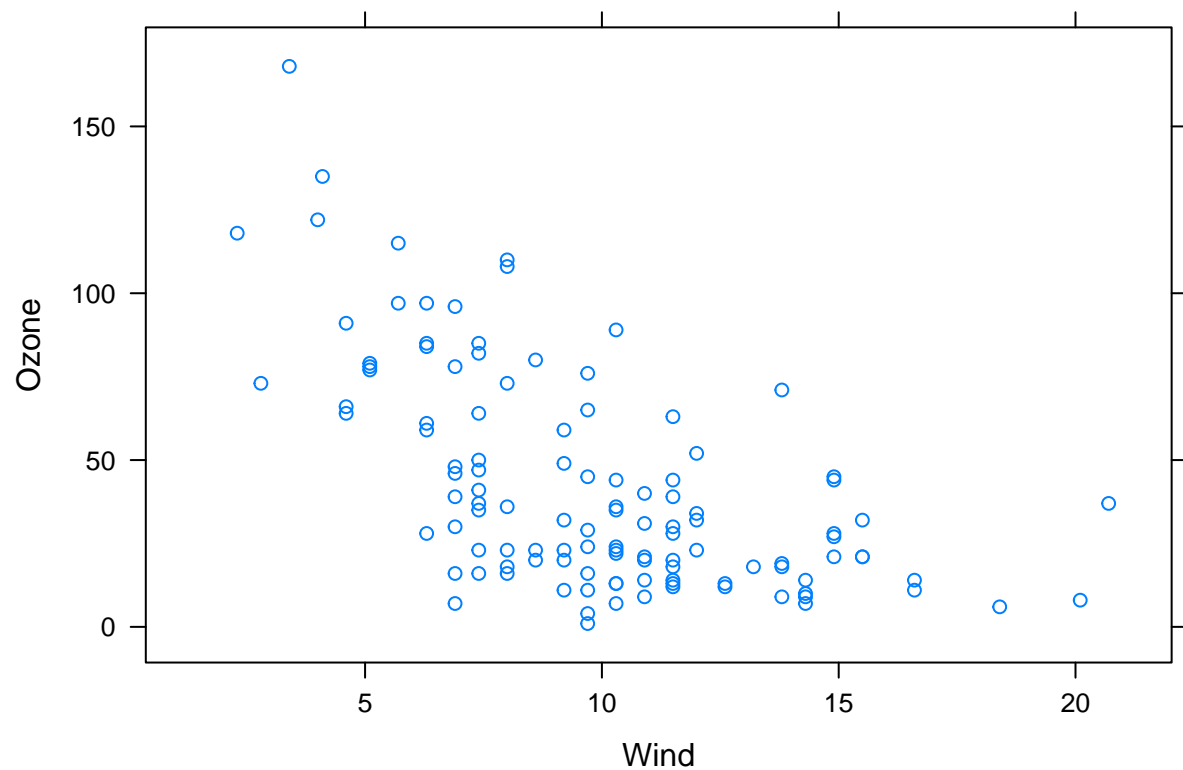
Lattice Plotting System

Anandu R

Basics

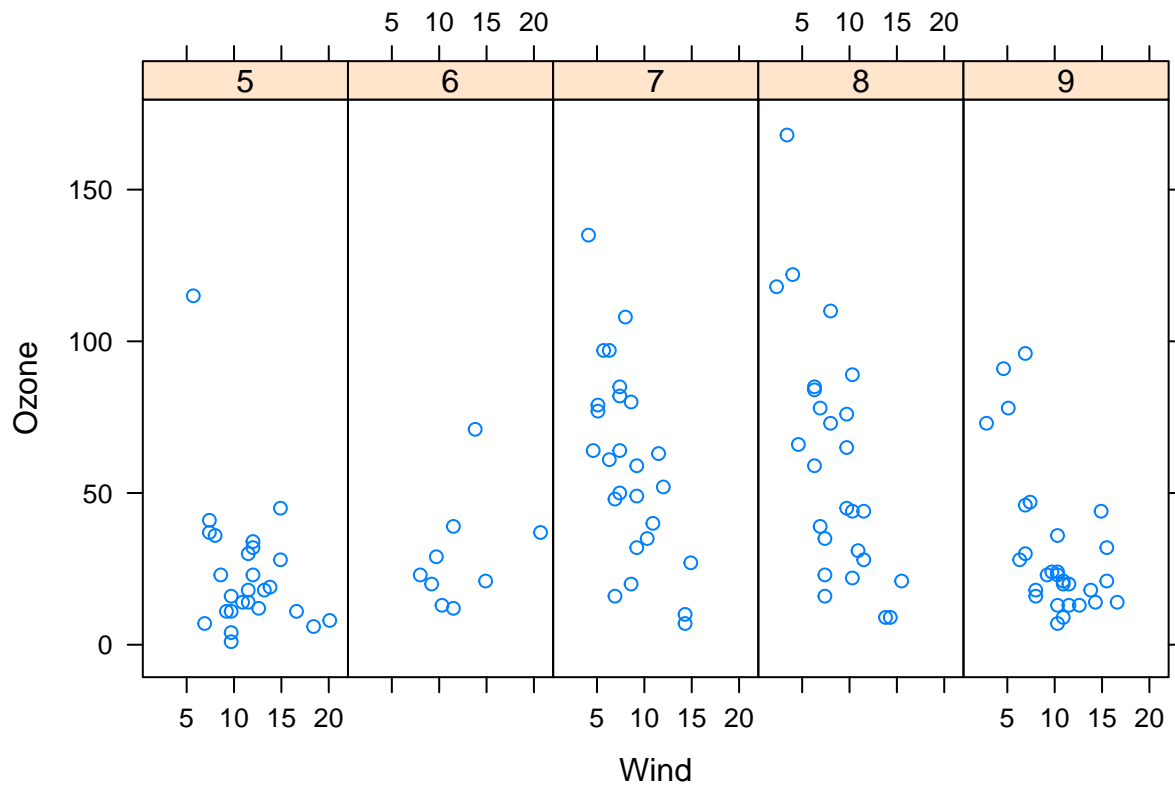
Using `xyplot` to create a scatter plot Ozone vs Wind

```
library(datasets)
library(lattice)
airquality = transform(airquality, Month = factor(Month))
xyplot(Ozone~Wind, data = airquality)
```



Using xyplot to create separate scatter plots of Ozone vs Wind for each month

```
library(datasets)
library(lattice)
airquality = transform(airquality, Month = factor(Month))
xyplot(Ozone~Wind | Month, data = airquality, layout = c(5,1))
```



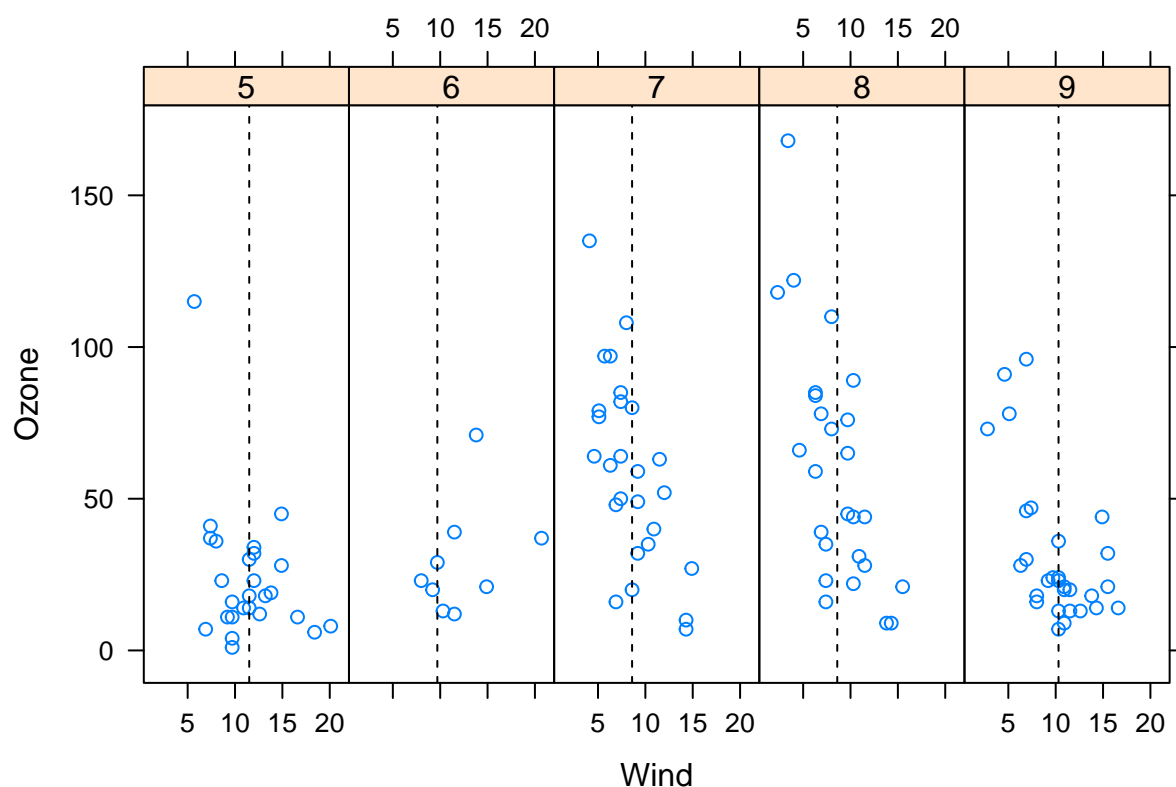
We infer from the above plot that the relationship between Ozone and Wind changes across the months, July and August display a strong relationship - negative relationship, where Ozone level decreases with increase in Wind levels

Lattice graphics objects return a plot object **trellis** which is autoprinted by the R, so it appears the function itself is plotting the data as in Base plot system.

Lattice Panel Functions

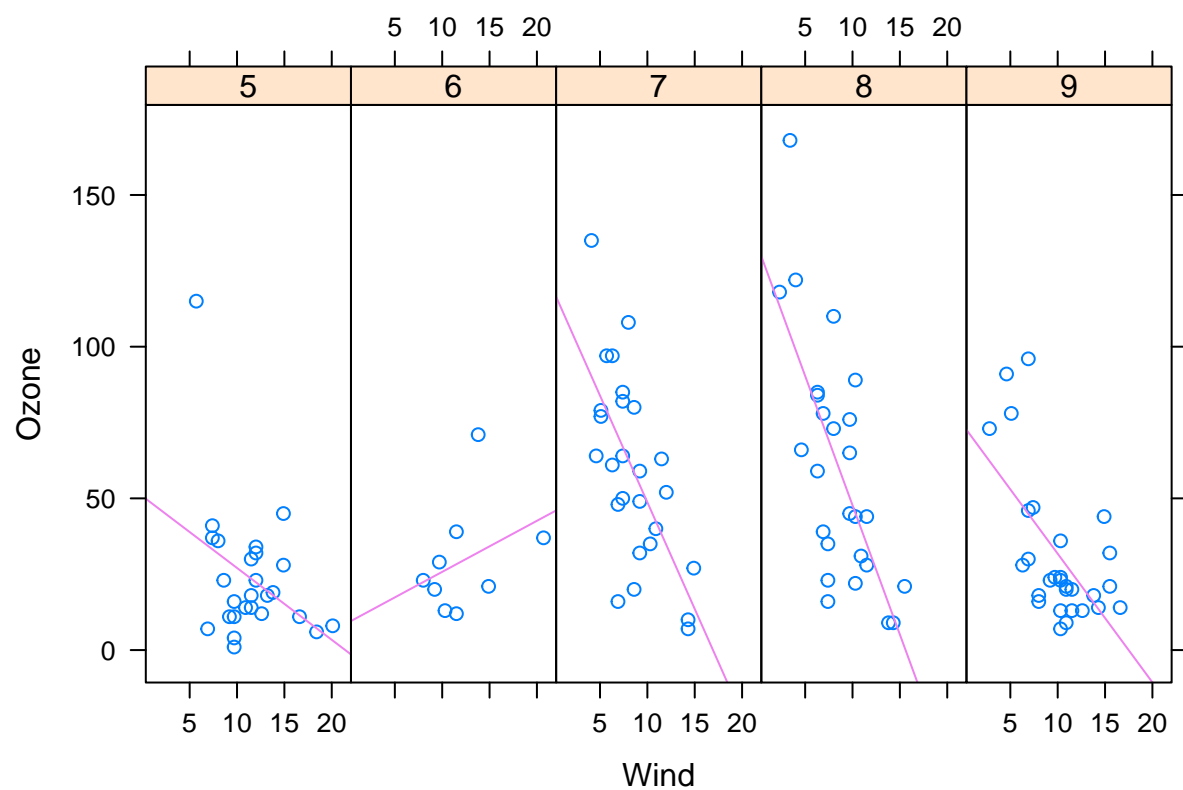
It is possible to add custom features to the panels in lattice plot by specifying the panel argument assigning a function to it.

```
library(datasets)
library(lattice)
airquality = transform(airquality, Month = factor(Month))
xyplot(Ozone~Wind | Month, data = airquality, layout = c(5,1), panel = function(x, y, ...){
  panel.xyplot(x, y, ...)
  panel.abline(v = median(x), lty = 2)
})
```



Adding regression line panel function

```
library(datasets)
library(lattice)
airquality = transform(airquality, Month = factor(Month))
xyplot(Ozone~Wind | Month, data = airquality, layout = c(5,1), panel = function(x, y, ...){
  panel.xyplot(x, y, ...)
  panel.lmline(x, y, col = "Violet")
})
```



Lattice plots are ideal for creating conditional plots where you examine the same kind of plot under different conditions (A factor variable within the dataset)