Trabalhando com pacote Lattice

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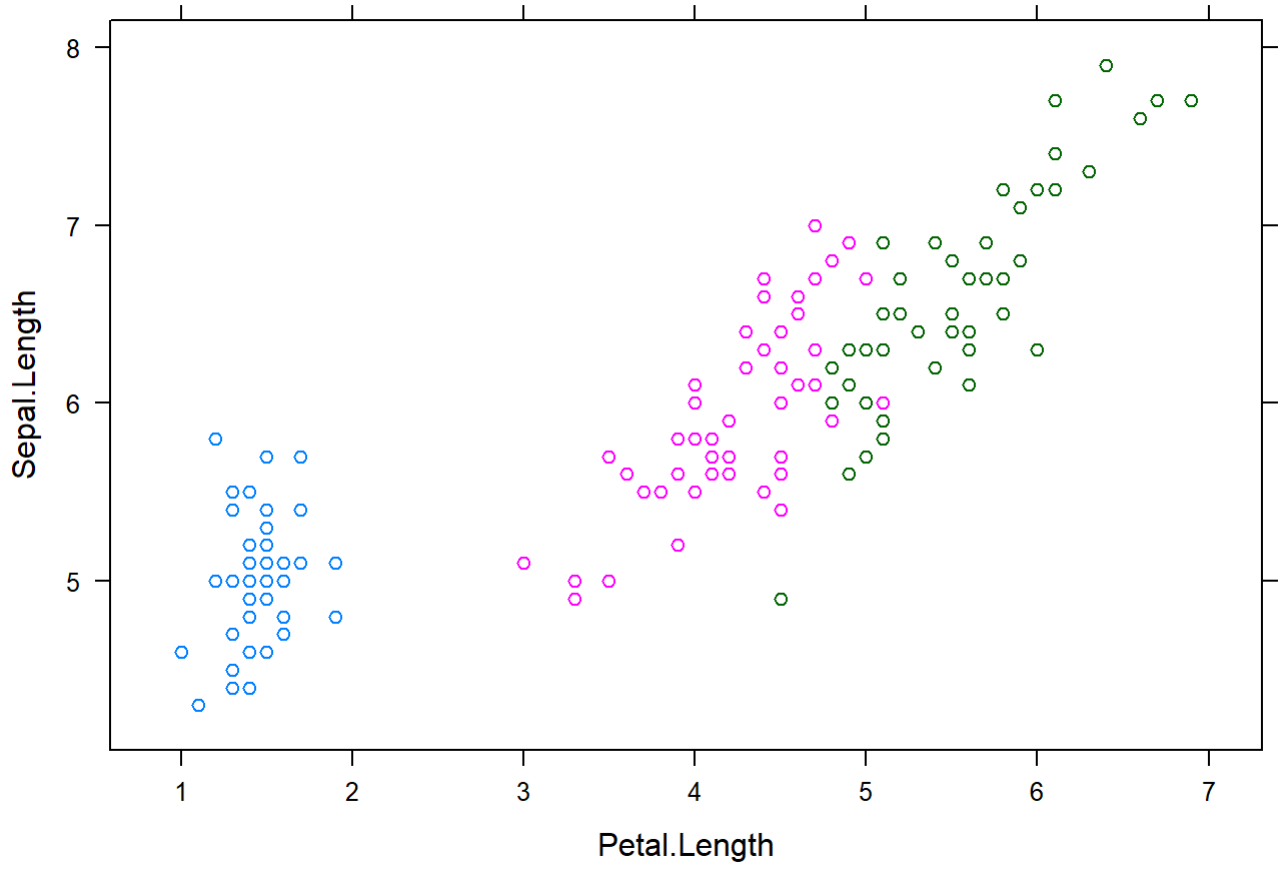
Pacote Lattice

```
library(lattice)
```

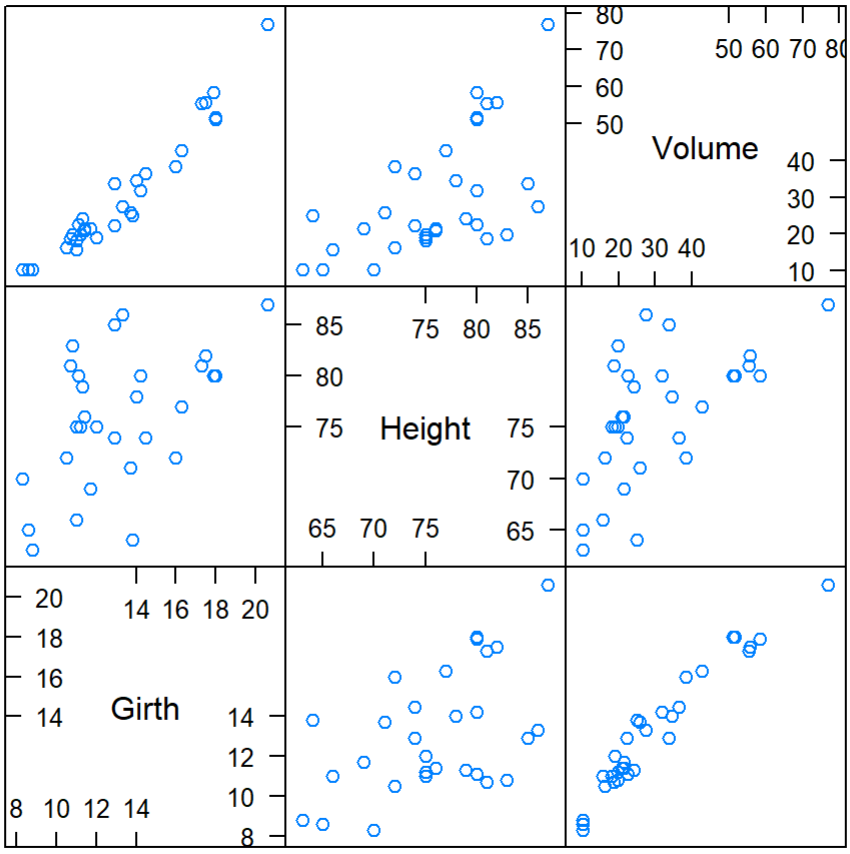
Plotando com a biblioteca

```
xyplot(data=iris, groups=Species, Sepal.Length~Petal.Length)
```



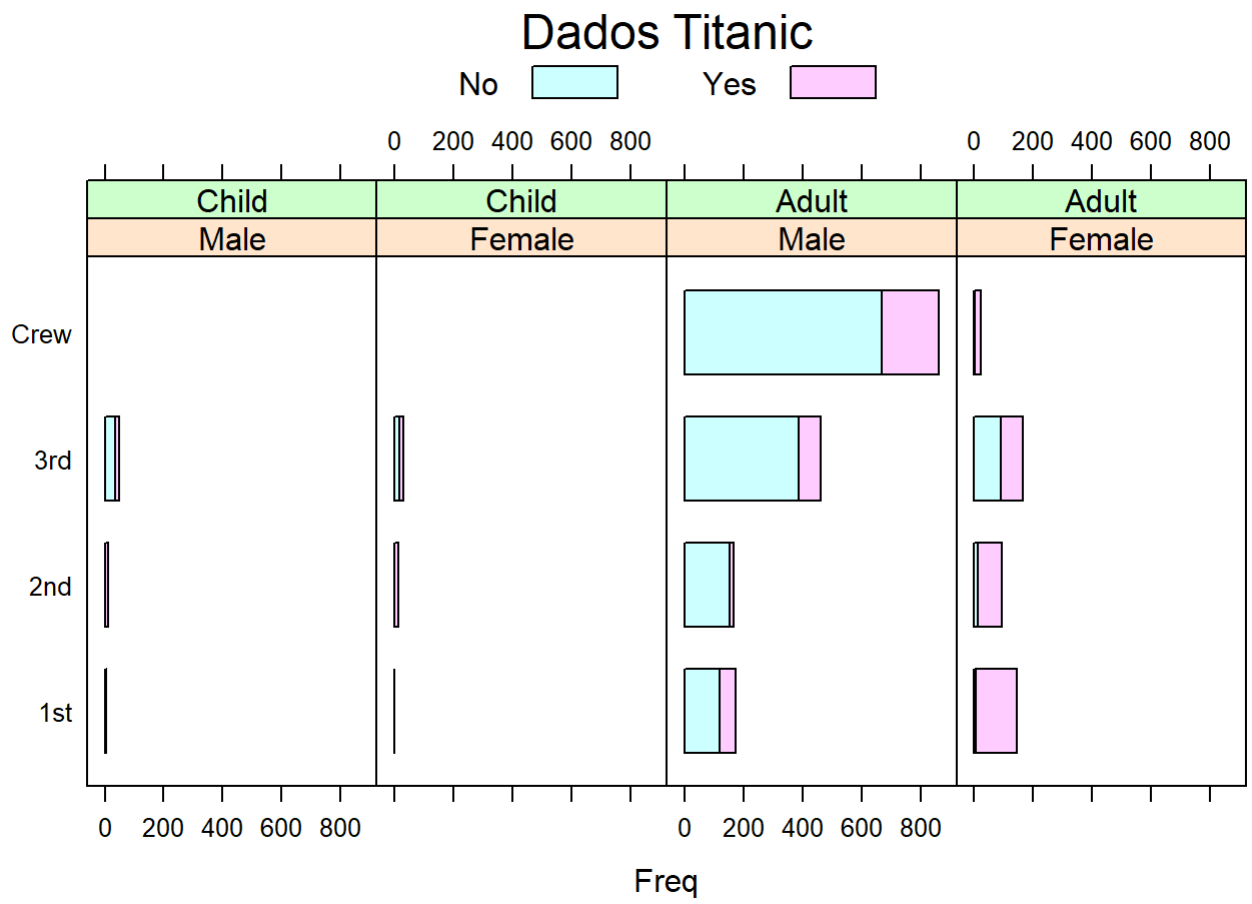
Scatterplot

```
splom(trees)
```



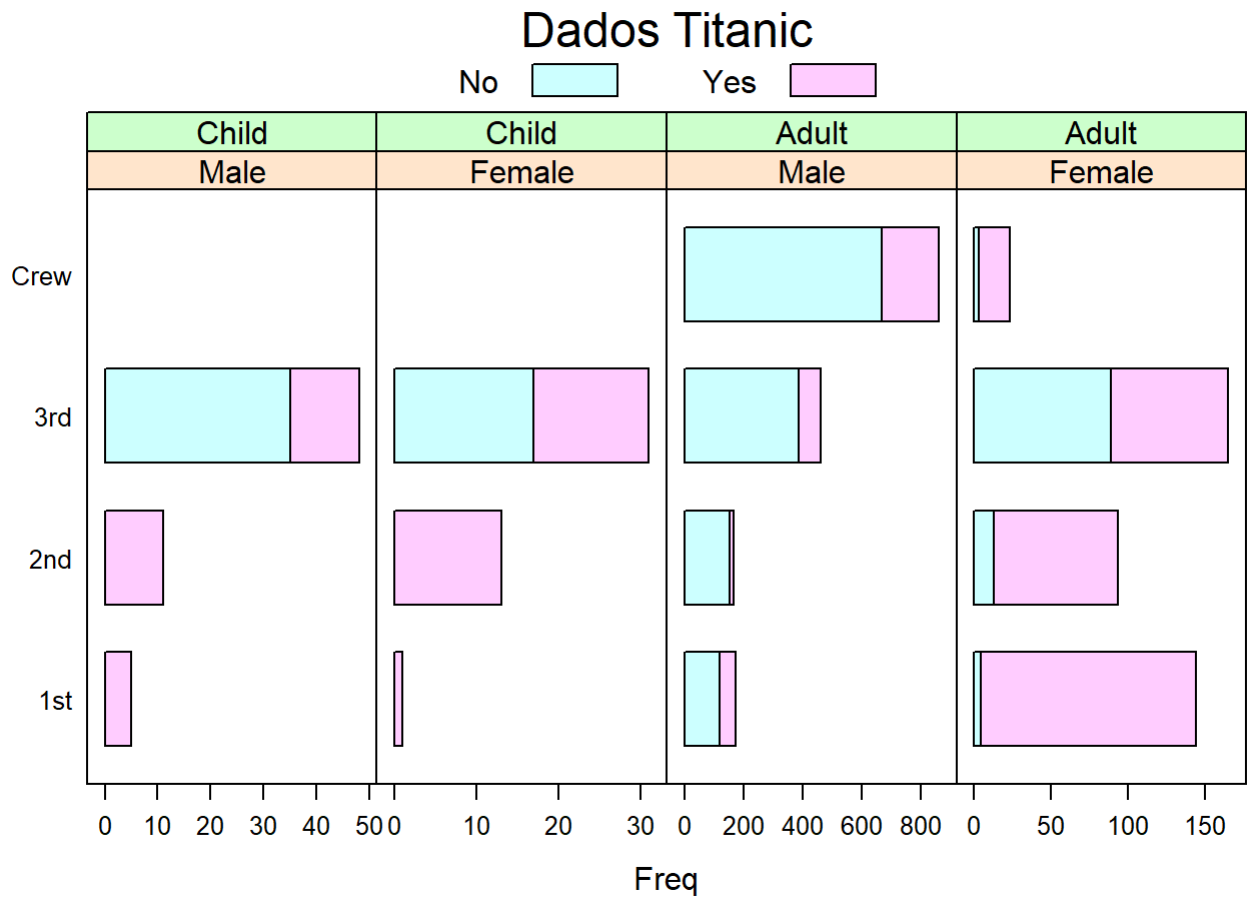
Dataset Titanic

```
barchart(Class~Freq| Sex+Age, data=as.data.frame(Titanic), groups=Survived, stack=T,
         layout=c(4,1), auto.key=list(title="Dados Titanic", columns=2))
```



Ajustando a escala

```
barchart(Class~Freq| Sex+Age, data=as.data.frame(Titanic), groups=Survived, stack=T,
         layout=c(4,1), auto.key=list(title="Dados Titanic", columns=2),
         scales=list(x="free"))
```



Base de dados e tabela estatistica

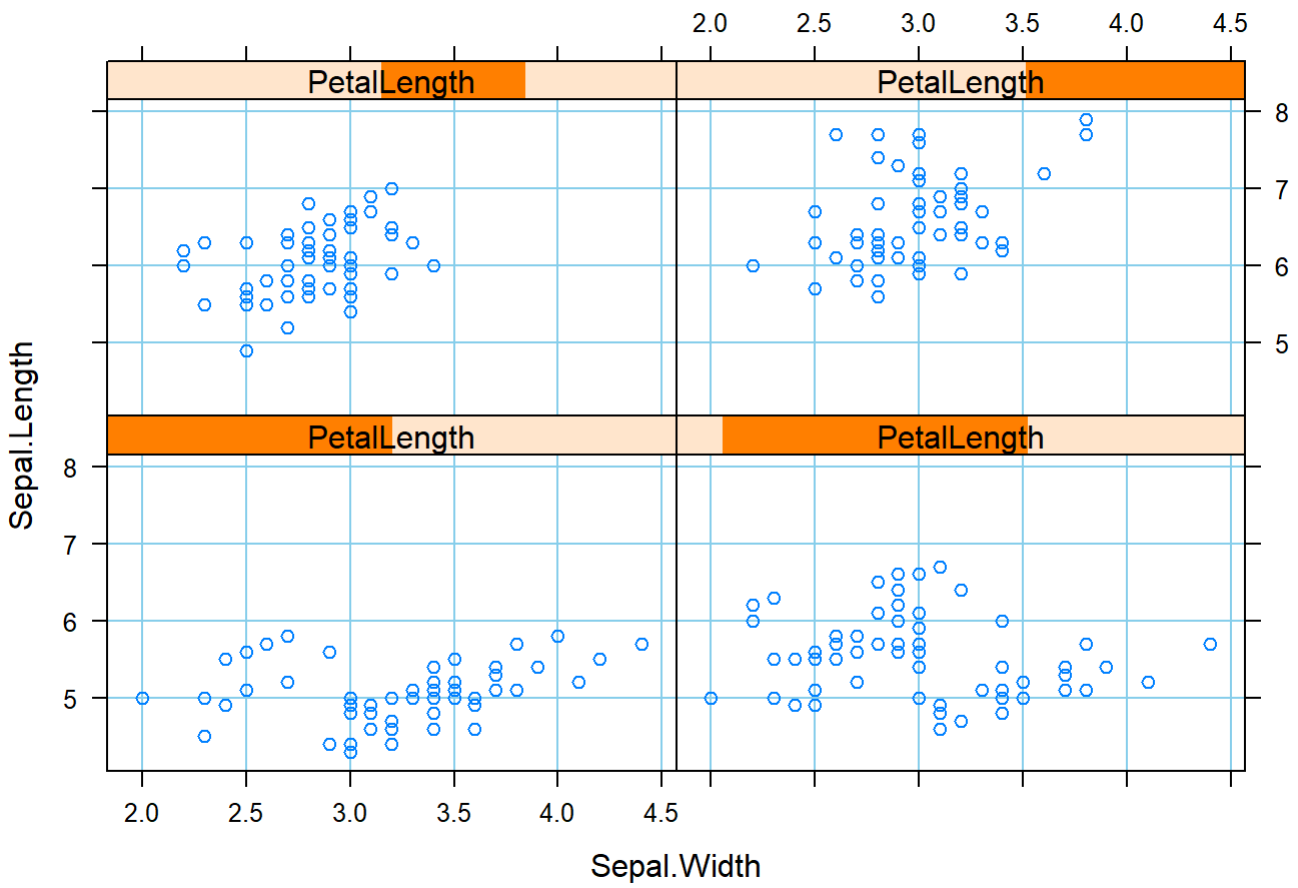
```
x=equal.count(rivers)
x
```

```
##
## Data:
##   [1]  735  320  325  392  524  450 1459  135  465  600  330  336  280  315  870
##  [16]  906  202  329  290 1000  600  505 1450  840 1243  890  350  407  286  280
##  [31]  525  720  390  250  327  230  265  850  210  630  260  230  360  730  600
##  [46]  306  390  420  291  710  340  217  281  352  259  250  470  680  570  350
##  [61]  300  560  900  625  332 2348 1171 3710 2315 2533  780  280  410  460  260
##  [76]  255  431  350  760  618  338  981 1306  500  696  605  250  411 1054  735
##  [91]  233  435  490  310  460  383  375 1270  545  445 1885  380  300  380  377
## [106]  425  276  210  800  420  350  360  538 1100 1205  314  237  610  360  540
## [121] 1038  424  310  300  444  301  268  620  215  652  900  525  246  360  529
## [136]  500  720  270  430  671 1770
##
## Intervals:
##     min    max count
## 1 134.5  325.5    40
## 2 269.5  380.5    40
## 3 326.5  470.5    41
## 4 382.5  620.5    41
## 5 489.5  900.5    41
## 6 624.5 3710.5    40
##
## Overlap between adjacent intervals:
## [1] 20 20 21 20 21
```

```
PetalLength = equal.count(iris$Petal.Length,4)
PetalLength
```

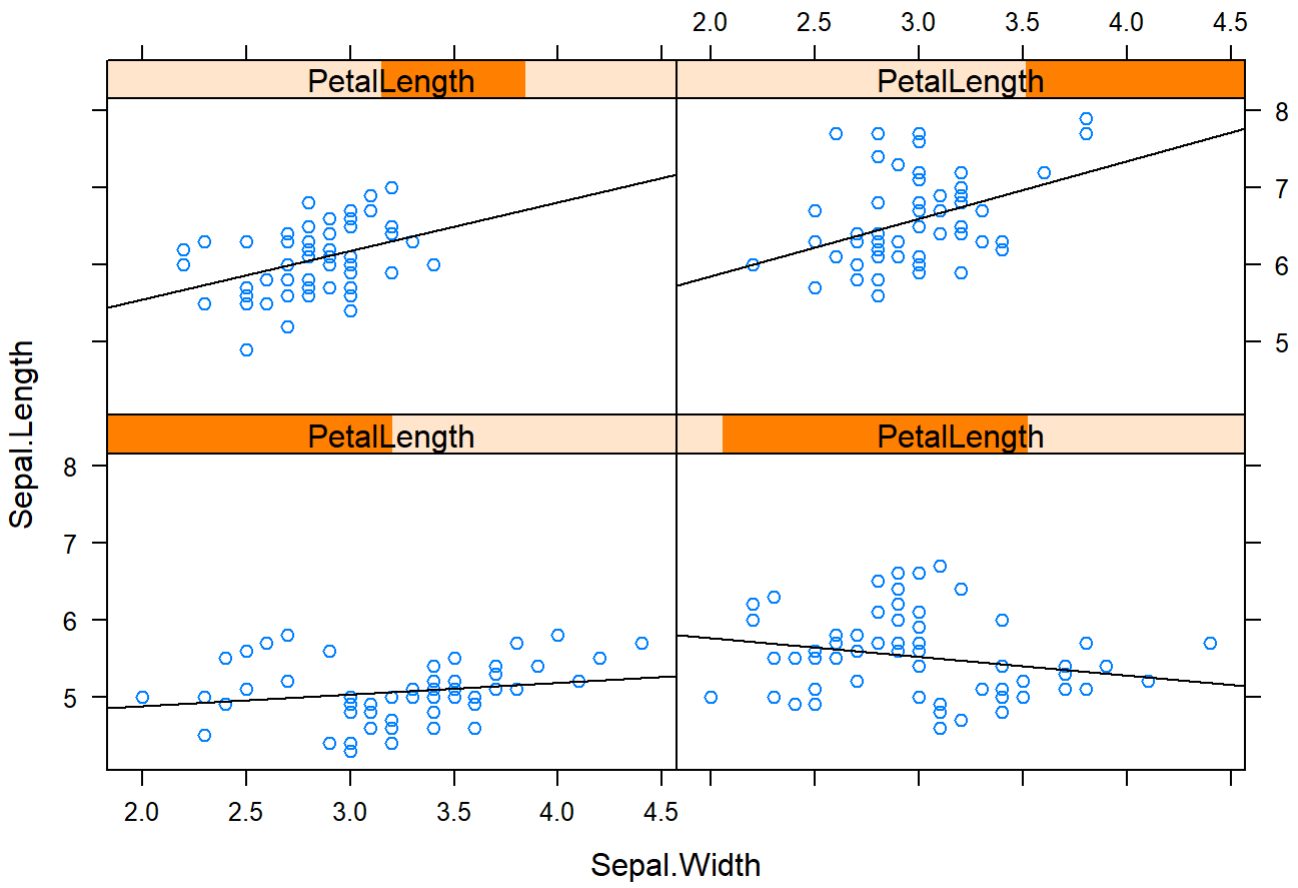
```
##
## Data:
##   [1] 1.4 1.4 1.3 1.5 1.4 1.7 1.4 1.5 1.4 1.5 1.5 1.6 1.4 1.1 1.2 1.5 1.3 1.4
##  [19] 1.7 1.5 1.7 1.5 1.0 1.7 1.9 1.6 1.6 1.5 1.4 1.6 1.6 1.5 1.5 1.4 1.5 1.2
##  [37] 1.3 1.4 1.3 1.5 1.3 1.3 1.3 1.6 1.9 1.4 1.6 1.4 1.5 1.4 4.7 4.5 4.9 4.0
##  [55] 4.6 4.5 4.7 3.3 4.6 3.9 3.5 4.2 4.0 4.7 3.6 4.4 4.5 4.1 4.5 3.9 4.8 4.0
##  [73] 4.9 4.7 4.3 4.4 4.8 5.0 4.5 3.5 3.8 3.7 3.9 5.1 4.5 4.5 4.7 4.4 4.1 4.0
##  [91] 4.4 4.6 4.0 3.3 4.2 4.2 4.2 4.3 3.0 4.1 6.0 5.1 5.9 5.6 5.8 6.6 4.5 6.3
## [109] 5.8 6.1 5.1 5.3 5.5 5.0 5.1 5.3 5.5 6.7 6.9 5.0 5.7 4.9 6.7 4.9 5.7 6.0
## [127] 4.8 4.9 5.6 5.8 6.1 6.4 5.6 5.1 5.6 6.1 5.6 5.5 4.8 5.4 5.6 5.1 5.1 5.9
## [145] 5.7 5.2 5.0 5.2 5.4 5.1
##
## Intervals:
##    min  max count
## 1 0.95 3.95    61
## 2 1.45 4.65    66
## 3 3.85 5.35    62
## 4 4.65 6.95    60
##
## Overlap between adjacent intervals:
## [1] 37 32 30
```

```
xyplot(Sepal.Length ~ Sepal.Width| PetalLength, data=iris,
       panel = function(...){panel.grid(h=-1, v=-1, col.line='skyblue')
       panel.xyplot(...)})
```



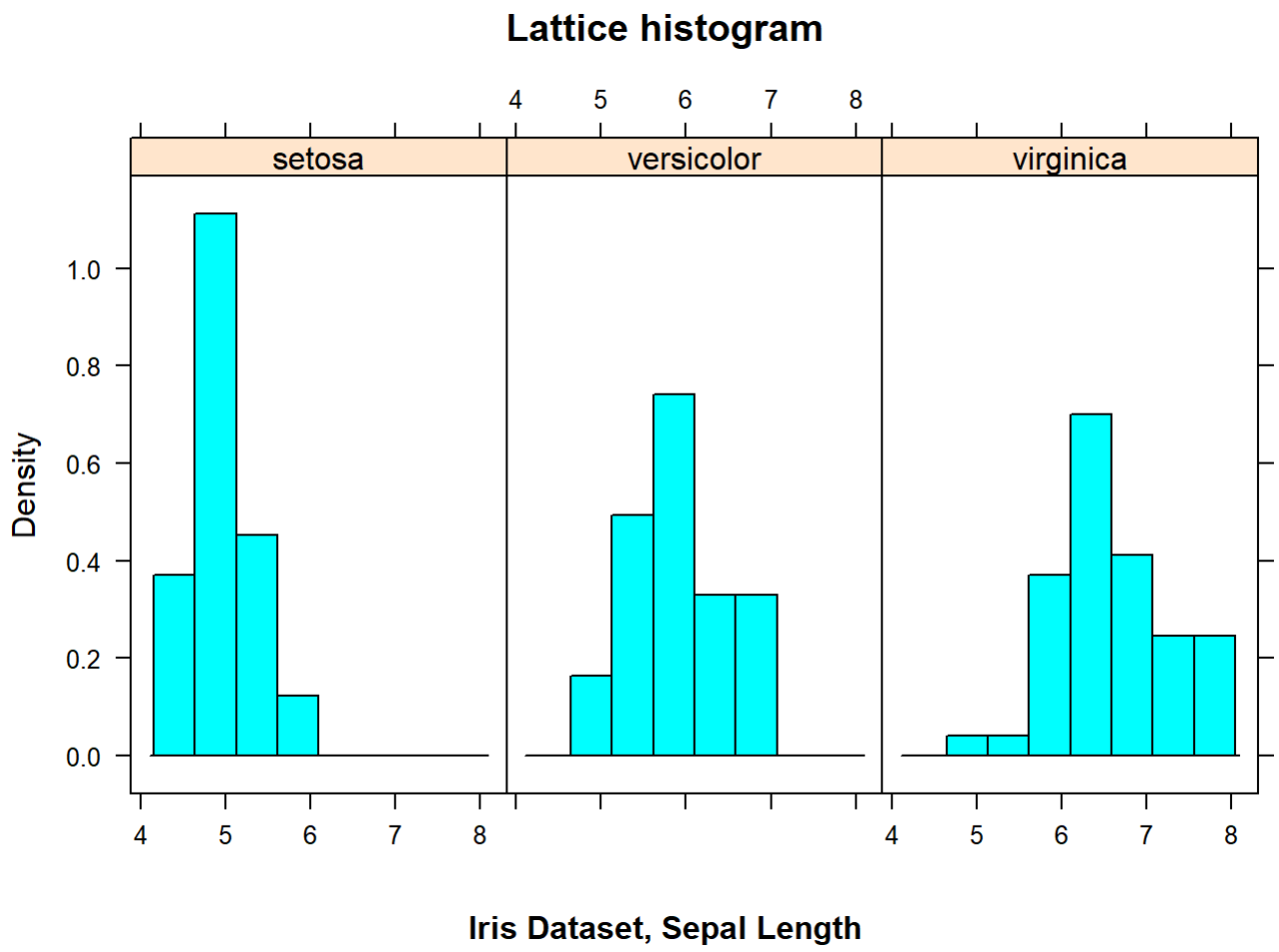
Com reta de regressao

```
xyplot(Sepal.Length ~ Sepal.Width| PetalLength, data=iris,
       panel = function(x,y,...){
         panel.xyplot(x,y,...)
         mylm<-lm(y~x)
         panel.abline(mylm)})
```



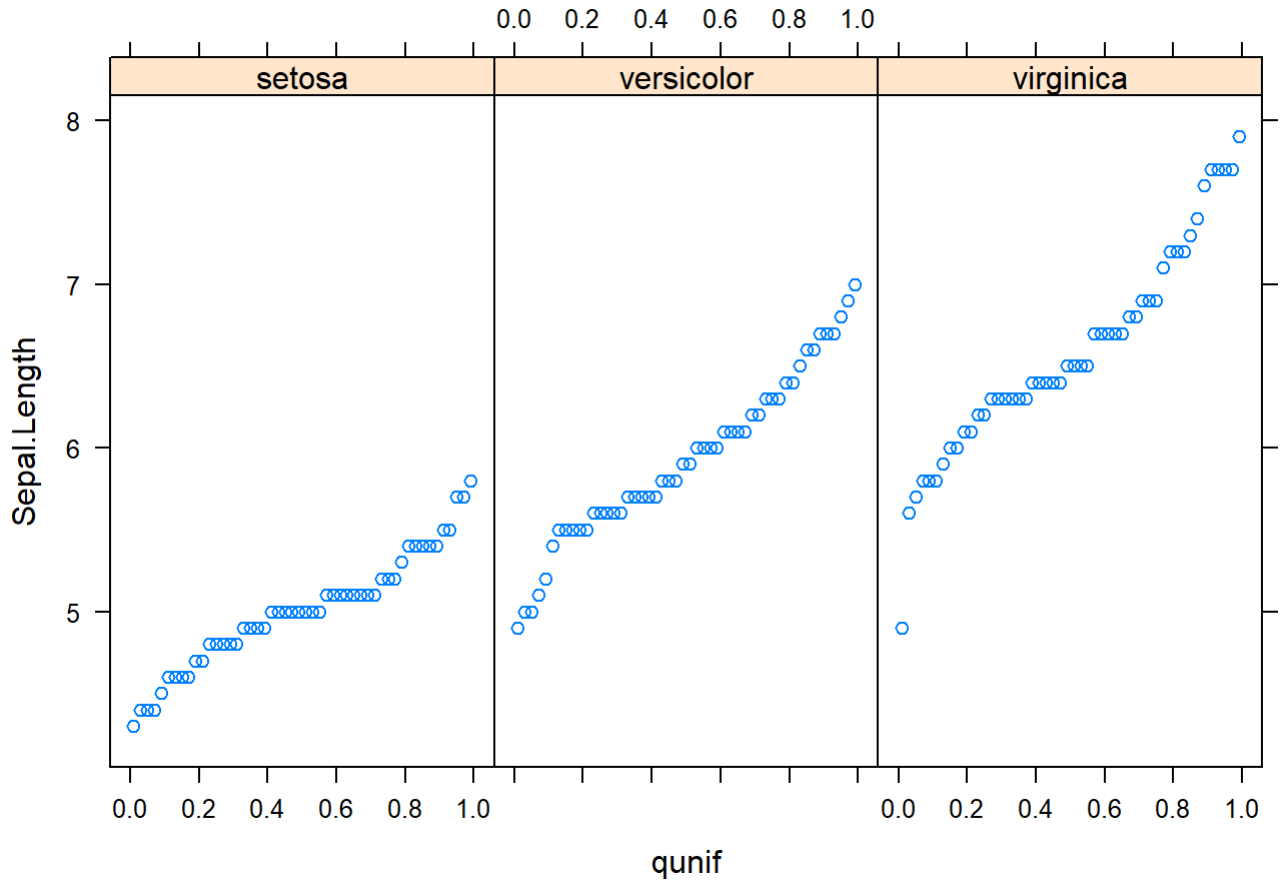
Histograma

```
histogram(~Sepal.Length| Species, xlab = " ", data=iris, layout=c(3,1),
          type="density", main = "Lattice histogram",
          sub="Iris Dataset, Sepal Length")
```



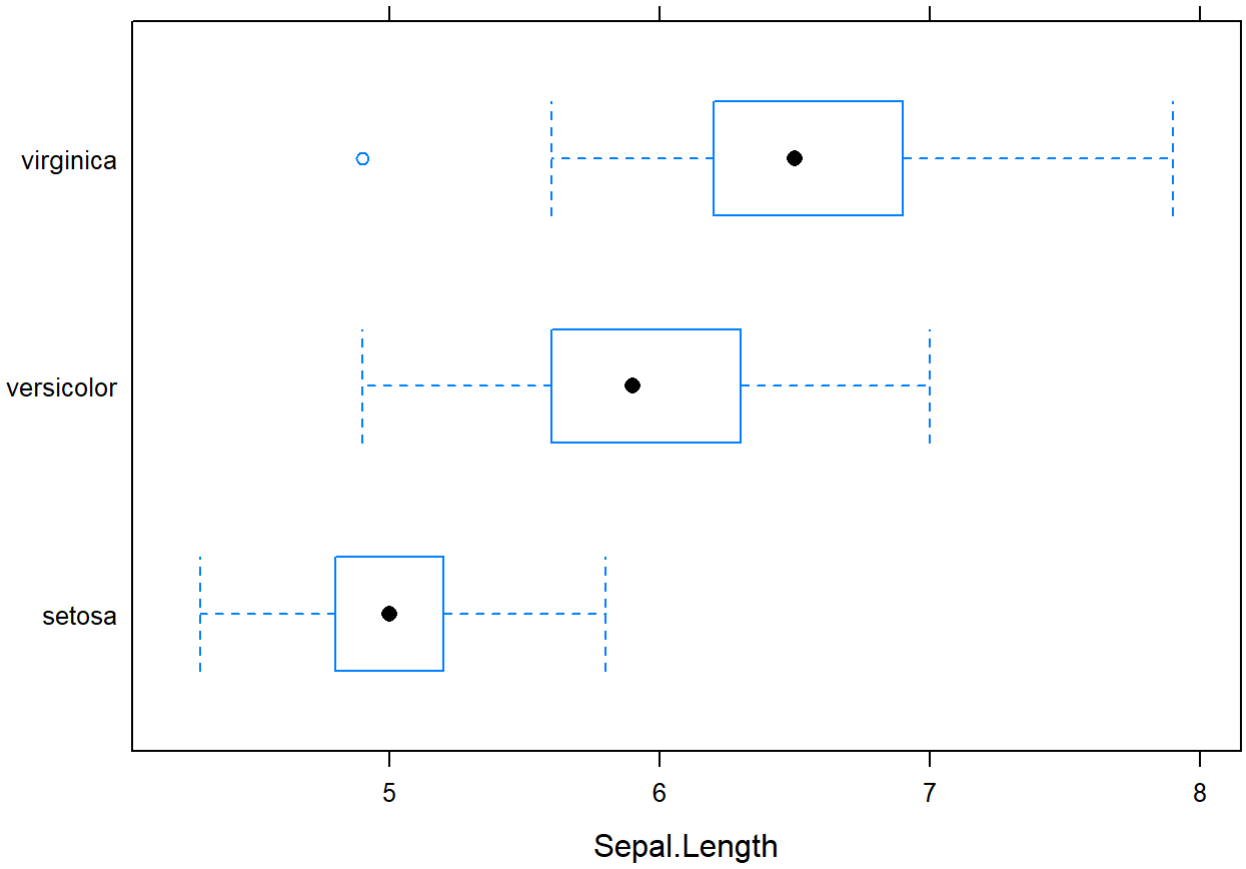
QQplot

```
qqmath(~Sepal.Length| Species, data=iris, distribution = qunif)
```



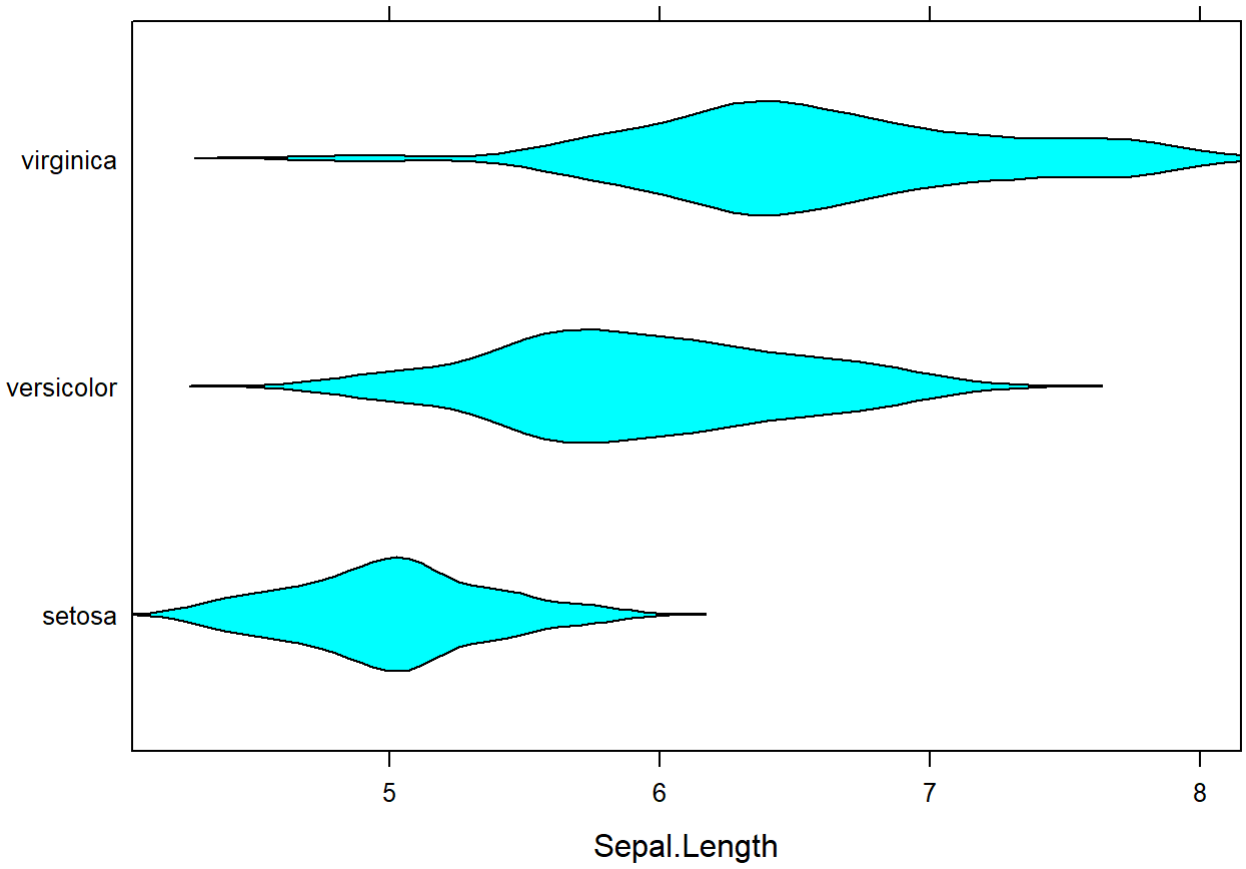
Boxplot

```
bwplot(Species~Sepal.Length, data=iris)
```

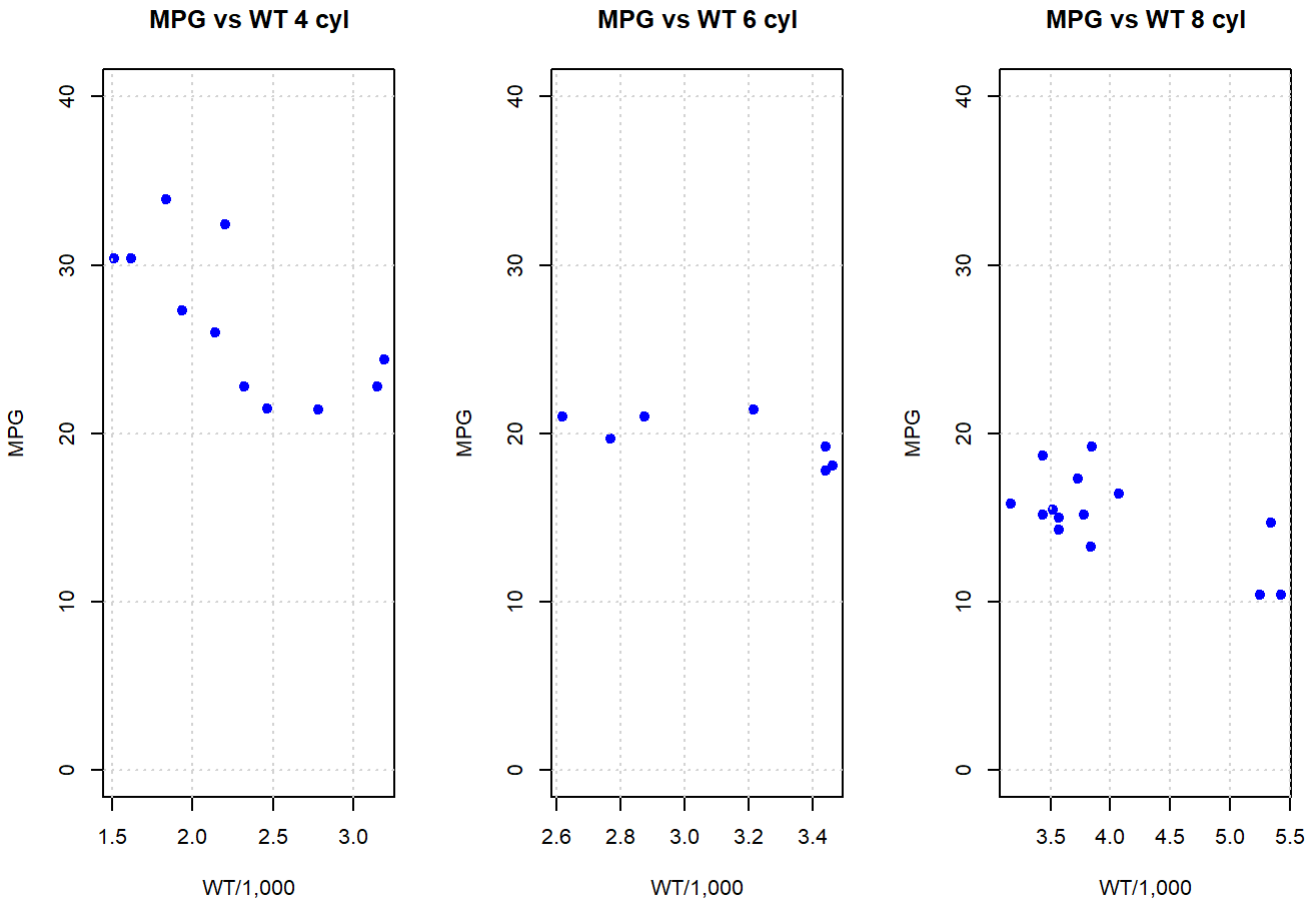


Violinplot

```
bwplot(Species~Sepal.Length, data=iris, panel = panel.violin)
```




```
par(mfrow=c(1,3))
cyls = split(mtcars, mtcars$cyl)
for (ii in 1:length(cyls)){
  tmpdf  =cyls[[ii]]
  sname=names(cyls)[ii]
  plot(tmpdf$wt, tmpdf$mpg, main=paste("MPG vs WT", sname, "cyl"),ylim = c(0,40),
       xlab="WT/1,000",ylab = 'MPG',pch=19, col="blue")
  grid()
}
```


MPG vs WT 4 cyl
MPG vs WT 6 cyl
MPG vs WT 8 cyl
MPG
WT/1,000
0
10
20
30
40
1.5
2.0
2.5
3.0
2.6
2.8
3.0
3.2
3.4
3.5
4.0
4.5
5.0
5.5