

Motor Trend Cars

Data

This data is from Motor Trend magazine in 1974.

1. Data overview

```
?mtcars
```

```
## starting httpd help server ...
```

```
## done
```

```
summary(mtcars)
```

```
##      mpg          cyl          disp          hp
##  Min.   :10.40   Min.   :4.000   Min.    : 71.1   Min.    : 52.0
##  1st Qu.:15.43   1st Qu.:4.000   1st Qu.:120.8   1st Qu.: 96.5
##  Median :19.20   Median :6.000   Median :196.3   Median :123.0
##  Mean   :20.09   Mean    :6.188   Mean    :230.7   Mean    :146.7
##  3rd Qu.:22.80   3rd Qu.:8.000   3rd Qu.:326.0   3rd Qu.:180.0
##  Max.   :33.90   Max.    :8.000   Max.    :472.0   Max.    :335.0
##      drat          wt          qsec          vs
##  Min.    :2.760   Min.    :1.513   Min.    :14.50   Min.    :0.0000
##  1st Qu.:3.080   1st Qu.:2.581   1st Qu.:16.89   1st Qu.:0.0000
##  Median :3.695   Median :3.325   Median :17.71   Median :0.0000
##  Mean    :3.597   Mean    :3.217   Mean    :17.85   Mean    :0.4375
##  3rd Qu.:3.920   3rd Qu.:3.610   3rd Qu.:18.90   3rd Qu.:1.0000
##  Max.    :4.930   Max.    :5.424   Max.    :22.90   Max.    :1.0000
##      am          gear          carb
##  Min.    :0.0000   Min.    :3.000   Min.    :1.000
##  1st Qu.:0.0000   1st Qu.:3.000   1st Qu.:2.000
##  Median :0.0000   Median :4.000   Median :2.000
##  Mean    :0.4062   Mean    :3.688   Mean    :2.812
##  3rd Qu.:1.0000   3rd Qu.:4.000   3rd Qu.:4.000
##  Max.    :1.0000   Max.    :5.000   Max.    :8.000
```

```
dim(mtcars) # The first number is the number of rows in the data frame and the second is the number of
```

```
## [1] 32 11
```

```
names(mtcars)
```

```
## [1] "mpg" "cyl" "disp" "hp" "drat" "wt" "qsec" "vs" "am" "gear"
## [11] "carb"
```

```
# Labelling variables
var.labels = c(mpg="Miles per gallon", cyl="Number of cylinders", disp="Displacement", hp="Horsepower",

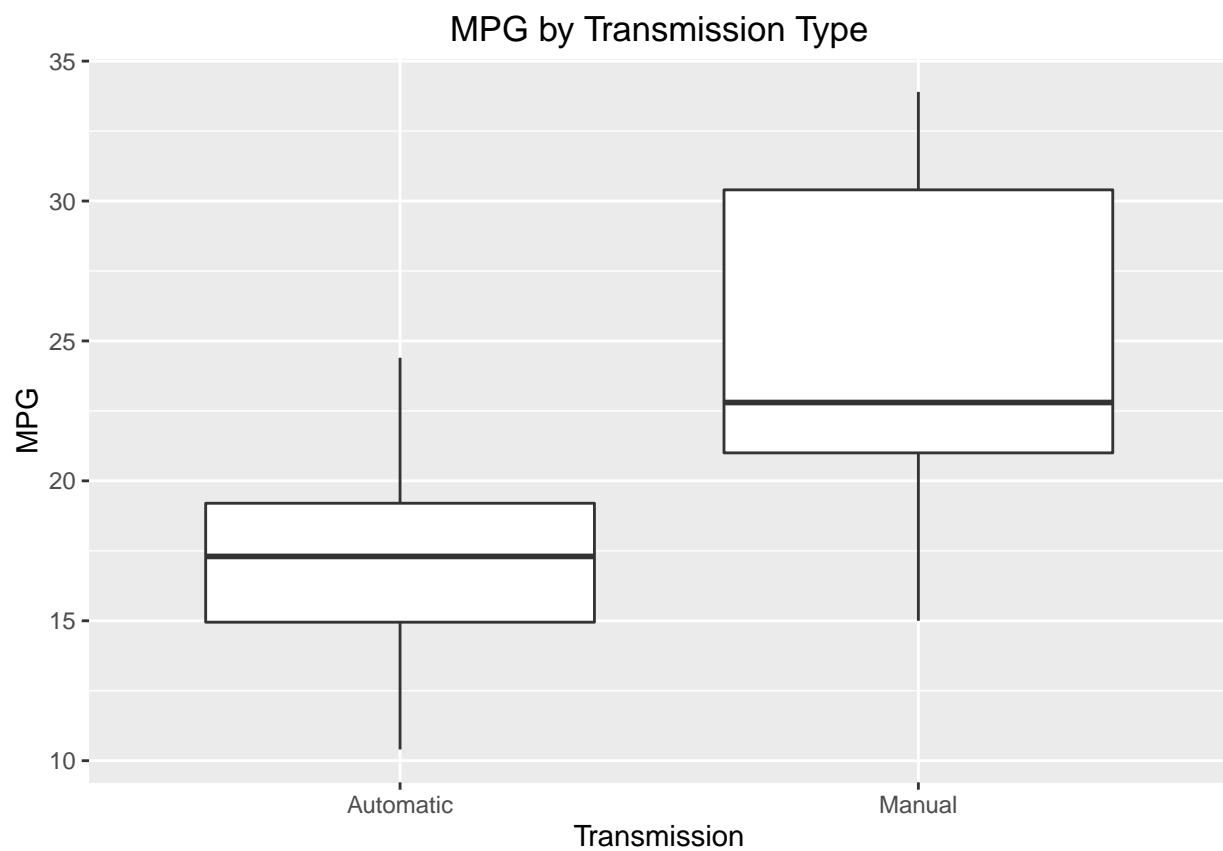
label(mtcars) = lapply(names(var.labels),
function(x) label(mtcars[,x]) = var.labels[x])

View(mtcars)
```

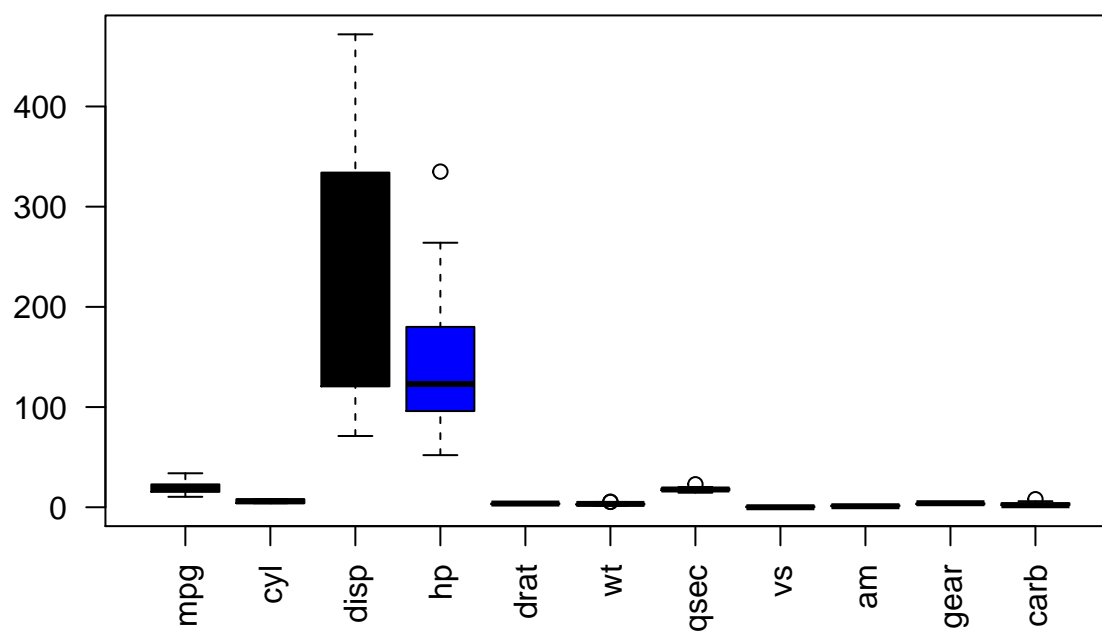
2. Exploring the variables

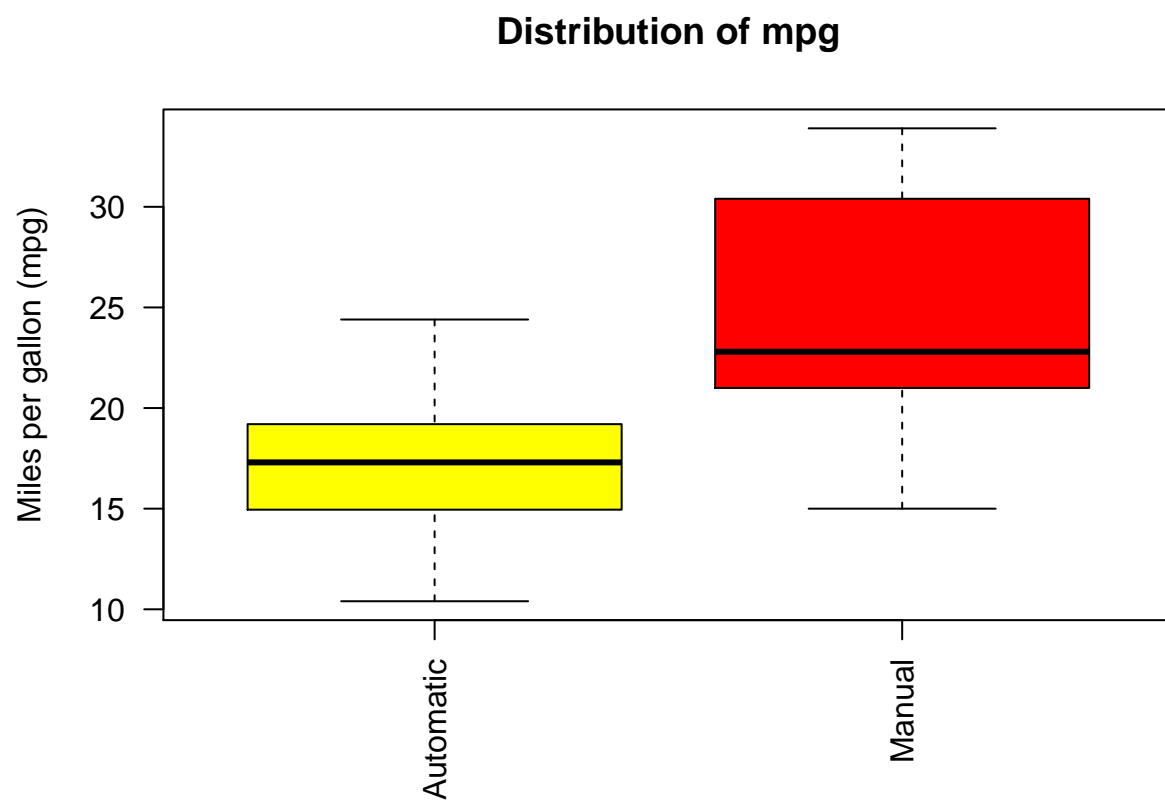
```
##           x
## median    19.2000000
## mean      20.0906250
## SE.mean    1.0654240
## CI.mean.0.95 2.1729465
## var        36.3241028
## std.dev     6.0269481
## coef.var    0.2999881
```

Plots

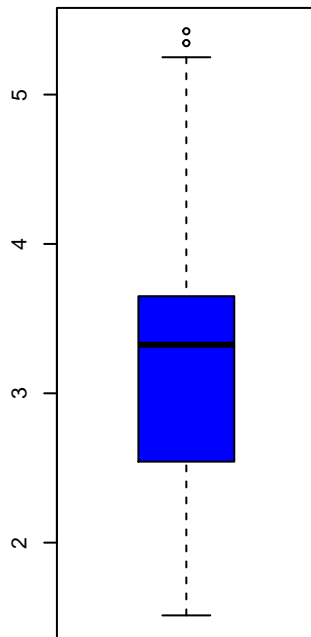


Boxplots of all variables

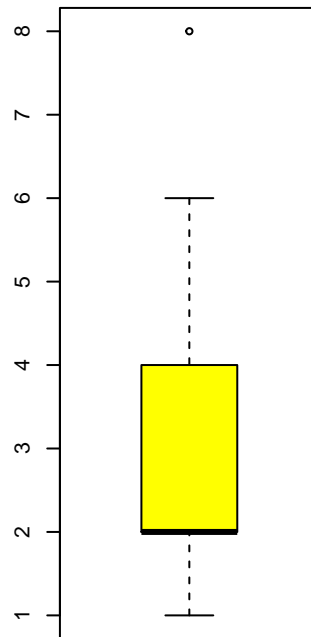




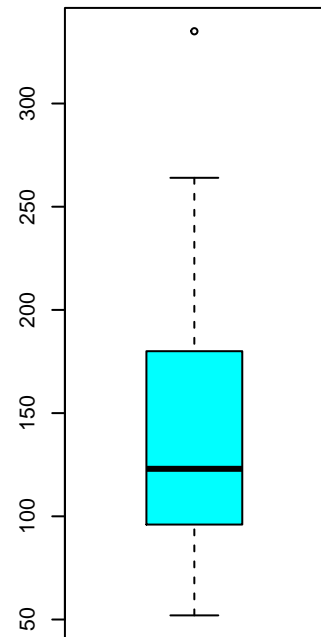
```
## The following object is masked from package:ggplot2:  
##  
##     mpg
```



Weight

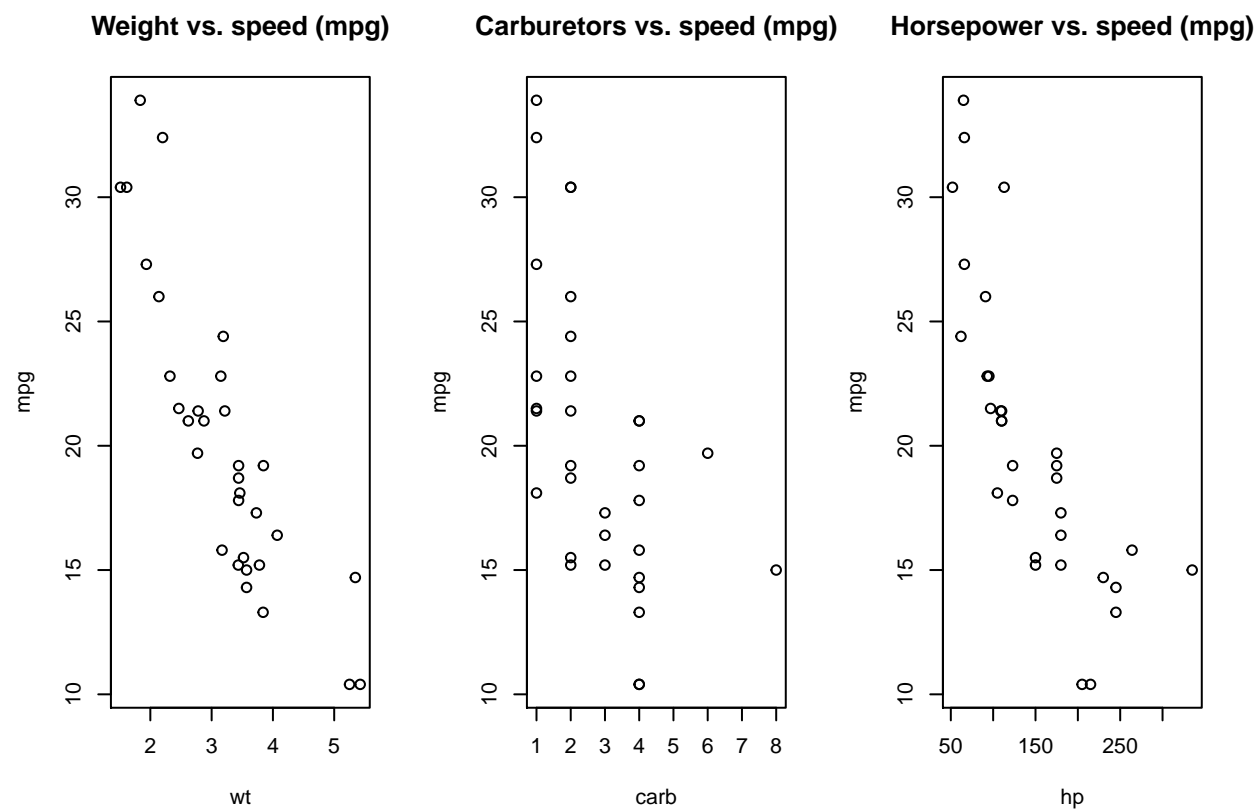


Carburetors



Horsepower

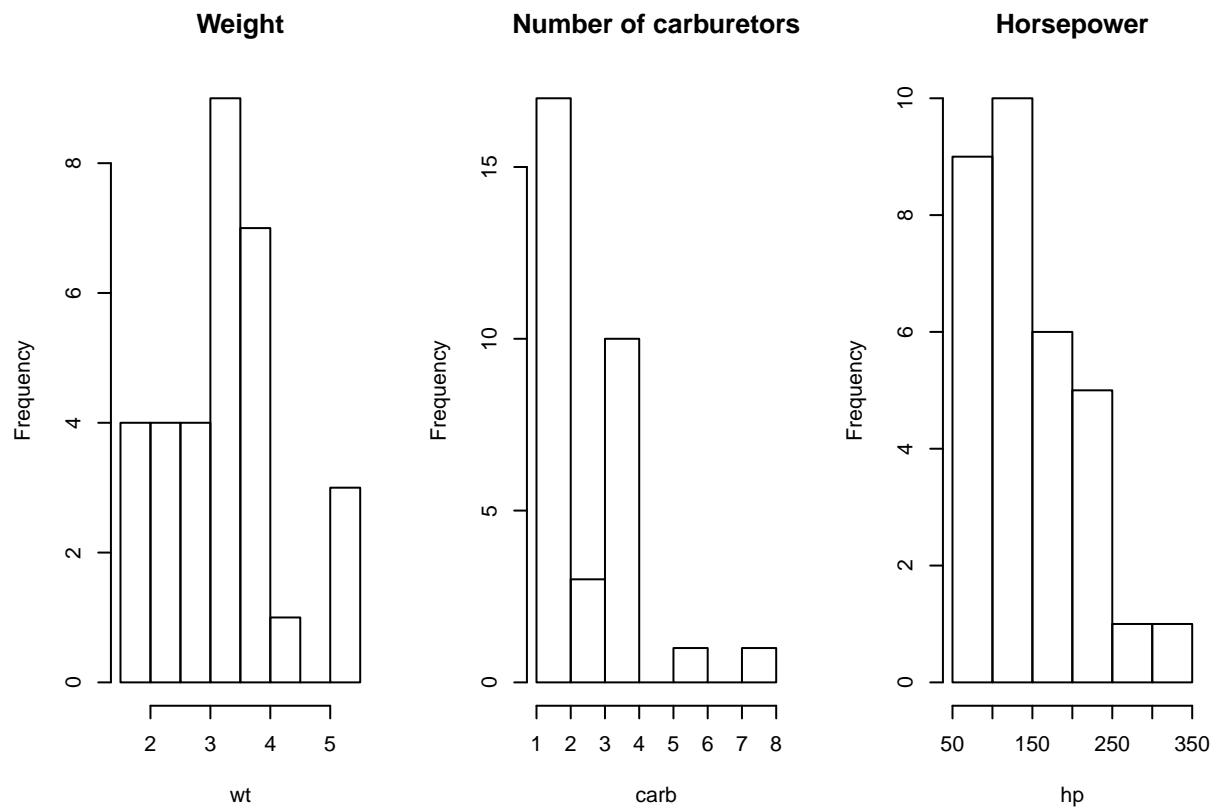
```
## The following objects are masked from mtcars (pos = 3):
##
##   am, carb, cyl, disp, drat, gear, hp, mpg, qsec, vs, wt
##
## The following object is masked from package:ggplot2:
##
##   mpg
```



```
## The following objects are masked from mtcars (pos = 3):
##
##   am, carb, cyl, disp, drat, gear, hp, mpg, qsec, vs, wt

## The following objects are masked from mtcars (pos = 4):
##
##   am, carb, cyl, disp, drat, gear, hp, mpg, qsec, vs, wt

## The following object is masked from package:ggplot2:
##
##   mpg
```



```
## Using am as id variables
```

```
## Warning: attributes are not identical across measure variables; they will
## be dropped
```

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

