

R-Lösung zur Übungsblatt 1

Aufgabe 1

```
> cars <- read.table(".....Cars 2004.txt",header=T,sep="\t", quote="")
> names(Cars.2004)
```

Aufgabe 2

- Variante 1:

```
> summary(Cars)
> for (i in 4:14){print(var(cars[,i]))}
> for (i in 4:14){print(IQR(cars[,i]))}
```

- Variante 2:

```
> y<-sapply(cars[-(1:3)],function(x){c(mean(x),median(x),var(x),IQR(x))})
> rownames(y)<-c("mean","median","var","IQR")
> y
```

Aufgabe 3

```
> table(Drive,Type)
>
> #Pickup und SUV -> SUV_Pickup
> #Sedan und Wagon -> S_W
>
> levels(cars$Type)<-c("Mini Van","SUV_Pickup","Sedan_Wagon",
  "Sports Car","SUV_Pickup","Sedan_Wagon")
> table(cars[,3:2])
```

Graphische Darstellung:

```
> barplot(table(cars[,3:2]),legend = levels(cars[,3]),
  beside = TRUE,col=heat.colors(3))
>
> z<-t(apply(table(cars[,3:2]),1,function(x)x/colSums(table(cars[,3:2]))))
> barplot(z,legend=levels(cars[,3]),col=heat.colors(3),ylim=c(0,1.3))
>
> barplot(table(cars[,3:2]),legend = levels(cars[,3]),col=heat.colors(3))
>
> mosaicplot(table(cars[,2:3]), color = heat.colors(3),main="")
```

Aufgabe 5

```
> horsesort<-sort(Horsepower)
> p<-(1:388)/388
> plot(horsesort,p,"l")
> lines(0:500,pnorm(0:500,mean(Horsepower),sd(Horsepower)),col="red")
> abline(h=0.25,col=3)
> abline(h=0.5,col=3)
> abline(h=0.75,col=3)
> summary(Horsepower)
```