Coursera R Programming

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14.07.2014

Contents

Basistypen

vector()

```
v_vec<-c(1:4,11:14); v_vec
```

```
## [1]  1  2  3  4 11 12 13 14
```

```
v_vec_b<-seq(from = -pi, to = pi, length.out = 10); v_vec
```

```
## [1]  1  2  3  4 11 12 13 14
```

list()

```
l_list<-list(ganzzahl=c(1:4), c("Hallo","Lala")); l_list
```

```
## $ganzzahl
## [1] 1 2 3 4
##
## [[2]]
## [1] "Hallo" "Lala"
```

matrix()

```
m_mat<-matrix(v_vec, nrow=5, ncol=4); m_mat
```

```
## Warning: Datenlänge [8] ist kein Teiler oder Vielfaches der Anzahl der
## Zeilen [5]
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    1   12    3   14
## [2,]    2   13    4    1
## [3,]    3   14   11    2
## [4,]    4    1   12    3
## [5,]   11    2   13    4
```

```
dim(m_mat)
```

```
## [1] 5 4
```

```
# Ändern der Dimension einer Matrix
dim(m_mat)<-c(10,2); m_mat
```

```
##       [,1] [,2]
##  [1,]    1    3
##  [2,]    2    4
##  [3,]    3   11
##  [4,]    4   12
##  [5,]   11   13
##  [6,]   12   14
##  [7,]   13    1
##  [8,]   14    2
##  [9,]    1    3
## [10,]    2    4
```

```
# Generierung aus zwei Vectoren
v1<-1:4
v2<-11.1:14.1
cbind(v1,v2)
```

```
##      v1   v2
## [1,]  1 11.1
## [2,]  2 12.1
## [3,]  3 13.1
## [4,]  4 14.1
```

```
rbind(v1,v2)
```

```
##    [,1] [,2] [,3] [,4]
## v1  1.0  2.0  3.0  4.0
## v2 11.1 12.1 13.1 14.1
```

factor()

```
f_fac<-c("pos","neg","pos","pos","neg")
table(f_fac)
```

```
## f_fac
## neg pos
##   2   3
```

data.frame()

```
a <- c(10,20,15,43,76,41,25,46)                          # numerisch
b <- factor(c("m", "w", "m", "w", "m", "w", "m", "w")) # Faktor Geschlecht: m=männlich, w=weiblich
c <- c(2,5,8,3,6,1,5,6)                                  # numerisch
myframe <- data.frame(a,b,c); myframe
```

```
##    a b c
## 1 10 m 2
## 2 20 w 5
## 3 15 m 8
## 4 43 w 3
## 5 76 m 6
## 6 41 w 1
## 7 25 m 5
## 8 46 w 6
```

table() attributes()

Operationen auf Basistypen

unclass() cbind() rbind() redimension() name() vector()

vectr() to matrix() matrix() to dataframe()

as. *is.* rm.*

Untermenge von Daten

subset by [[c(RR,CC)]] subset by $COL subset by subset

Daten bereinigen

clean vector (NA) by TF-counterVector clean vector (NA) by complete cases clean matrix (NA) by complete cases clean matrix and select by subset

Daten I/O

read/write table data read/write text read/write code read/write serial obj

source vs. dget Speicheroptimiertes lesen mit sapply()

dump, source - MultiData I/O dput, dget - Singledta I/O

file, gzfile, url -> connection connection I/O ops