

# boot\_uebung1\_team1

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```
options(repos = list(CRAN="http://cran.rstudio.com/"))
```

## Übung 1

### A2

```
install.packages("HSAUR2")
```

```
## Installiere Paket nach 'C:/Users/sberg/AppData/Local/R/win-library/4.2'
## (da 'lib' nicht spezifiziert)

## Paket 'HSAUR2' erfolgreich ausgepackt und MD5 Summen abgeglichen
##
## Die heruntergeladenen Binärpakete sind in
## C:\Users\sberg\AppData\Local\Temp\RtmpKsUJbD\downloaded_packages
```

(i)

```
data("Forbes2000", package = "HSAUR2")
summary(Forbes2000)
```

```
##      rank      name      country
## Min.   : 1.0   Length:2000   United States :751
## 1st Qu.: 500.8 Class :character Japan           :316
## Median :1000.5 Mode  :character United Kingdom:137
## Mean   :1000.5      Germany      : 65
## 3rd Qu.:1500.2      France       : 63
## Max.   :2000.0      Canada      : 56
##              (Other) :612
##      category      sales      profits
## Banking           : 313   Min.   : 0.010   Min.   : -25.8300
## Diversified financials: 158   1st Qu.: 2.018   1st Qu.:  0.0800
## Insurance          : 112   Median : 4.365   Median :  0.2000
## Utilities           : 110   Mean    : 9.697   Mean    :  0.3811
## Materials           : 97    3rd Qu.: 9.547   3rd Qu.:  0.4400
## Oil & gas operations : 90    Max.    :256.330   Max.    : 20.9600
## (Other)             :1120      NA's    :5
##      assets      marketvalue
## Min.   : 0.270   Min.   : 0.02
## 1st Qu.: 4.025   1st Qu.: 2.72
## Median : 9.345   Median : 5.15
## Mean   : 34.042   Mean    : 11.88
```

```
## 3rd Qu.: 22.793 3rd Qu.: 10.60
## Max. :1264.030 Max. :328.54
##
```

(ii)

```
class(Forbes2000)
```

```
## [1] "data.frame"
```

(iii)

```
attach(Forbes2000)
```

(iv)

```
head(Forbes2000,10)
```

```
##      rank      name      country      category  sales
## 1      1      Citigroup United States      Banking   94.71
## 2      2  General Electric United States  Conglomerates 134.19
## 3      3 American Intl Group United States      Insurance   76.66
## 4      4      ExxonMobil United States  Oil & gas operations 222.88
## 5      5              BP United Kingdom  Oil & gas operations 232.57
## 6      6  Bank of America United States      Banking   49.01
## 7      7      HSBC Group United Kingdom      Banking   44.33
## 8      8      Toyota Motor      Japan      Consumer durables 135.82
## 9      9      Fannie Mae  United States  Diversified financials  53.13
## 10     10  Wal-Mart Stores  United States      Retailing  256.33
##      profits  assets marketvalue
## 1      17.85 1264.03      255.30
## 2      15.59 626.93      328.54
## 3       6.46 647.66      194.87
## 4      20.96 166.99      277.02
## 5      10.27 177.57      173.54
## 6      10.81 736.45      117.55
## 7       6.66 757.60      177.96
## 8       7.99 171.71      115.40
## 9       6.48 1019.17       76.84
## 10      9.05 104.91      243.74
```

(v)

```
summary(Forbes2000)
```

```
##      rank      name      country
## Min.   : 1.0   Length:2000   United States :751
## 1st Qu.: 500.8 Class :character Japan          :316
## Median :1000.5 Mode  :character United Kingdom:137
## Mean   :1000.5      Germany       : 65
## 3rd Qu.:1500.2      France        : 63
## Max.   :2000.0      Canada        : 56
##              (Other) :612
##      category      sales      profits
```

```
## Banking : 313 Min. : 0.010 Min. : -25.8300
## Diversified financials: 158 1st Qu.: 2.018 1st Qu.: 0.0800
## Insurance : 112 Median : 4.365 Median : 0.2000
## Utilities : 110 Mean : 9.697 Mean : 0.3811
## Materials : 97 3rd Qu.: 9.547 3rd Qu.: 0.4400
## Oil & gas operations : 90 Max. : 256.330 Max. : 20.9600
## (Other) : 1120 NA's : 5
## assets marketvalue
## Min. : 0.270 Min. : 0.02
## 1st Qu.: 4.025 1st Qu.: 2.72
## Median : 9.345 Median : 5.15
## Mean : 34.042 Mean : 11.88
## 3rd Qu.: 22.793 3rd Qu.: 10.60
## Max. : 1264.030 Max. : 328.54
##
```

Interpretation: Eine "Zusammenfassung" der wichtigsten Daten des Datensatzes.

(vi)

```
write.table(Forbes2000, file="Forbes2000")
```

## A3

(i)

```
median(Forbes2000[Forbes2000$country=='United States',]$profits, na.rm=TRUE)
```

```
## [1] 0.24
```

```
median(Forbes2000[Forbes2000$country=='United Kingdom',]$profits, na.rm=TRUE)
```

```
## [1] 0.205
```

```
median(Forbes2000[Forbes2000$country=='France',]$profits, na.rm=TRUE)
```

```
## [1] 0.19
```

```
median(Forbes2000[Forbes2000$country=='Germany',]$profits, na.rm=TRUE)
```

```
## [1] 0.23
```

(ii)

```
Forbes2000[Forbes2000$profits<0 & Forbes2000$country=='Germany',]
```

##	rank	name	country	category	sales
## 350	350	Allianz Worldwide	Germany	Insurance	96.88
## 364	364	Deutsche Telekom	Germany	Telecommunications services	56.40
## 397	397	E.ON	Germany	Utilities	37.95
## 431	431	HVB-HypoVereinsbank	Germany	Banking	40.52
## 500	500	Commerzbank	Germany	Banking	22.43
## 798	798	Infineon Technologies	Germany	Semiconductors	7.18
## 869	869	BHW Holding	Germany	Diversified financials	7.46
## 926	926	Bankgesellschaft Berlin	Germany	Banking	9.43
## 1034	1034	W&W-Wustenrot	Germany	Diversified financials	7.57
## 1187	1187	mg technologies	Germany	Chemicals	8.54

## 1477	1477	Nurnberger Beteiligungs	Germany	Insurance	3.00
## 1887	1887	SPAR Handels	Germany	Food markets	6.84
## 1994	1994	Mobilcom	Germany	Telecommunications services	2.16
##		profits	assets	marketvalue	
## 350		-1.23	851.24	48.07	
## 364		-25.83	132.01	84.18	
## 397		-0.73	115.57	43.96	
## 431		-0.87	705.36	14.49	
## 500		-0.31	437.86	11.00	
## 798		-0.51	11.79	10.73	
## 869		-0.38	117.96	2.98	
## 926		-0.74	182.69	2.30	
## 1034		-0.08	56.44	1.89	
## 1187		-0.13	6.45	3.18	
## 1477		-0.03	15.97	0.93	
## 1887		-0.40	1.64	0.40	
## 1994		-3.62	8.67	1.42	

(iii)