Fachhochschule Südwestfalen
University of Applied Sciences

Wirtschaftsmathematik

Prof. Dr. Stefan Böcker, FRM

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Wir geben Impulse

Outline

Zins und Zinseszins

Rentenrechnung

Tilgungsrechnung

Investitionsrechnung

Outline

Funktionsbegriff

Darstellung von Funktionen

Einige Beispiele

Eigenschaften von reellen Funktionen

Wichtige Funktionen

Ableitung einer Funktion

Outline

Grundlagen zu linearen Gleichungssystemen

Gauß-Algorithmus

Matrizenrechnung

Outline

Problemdarstellung und grafische Lösung

Simplex-Algorithmus

Allgemeines lineares Optimierungsproblem

Outline

Slide with bullets

- Bullet 1
- Bullet 2
- Bullet 3

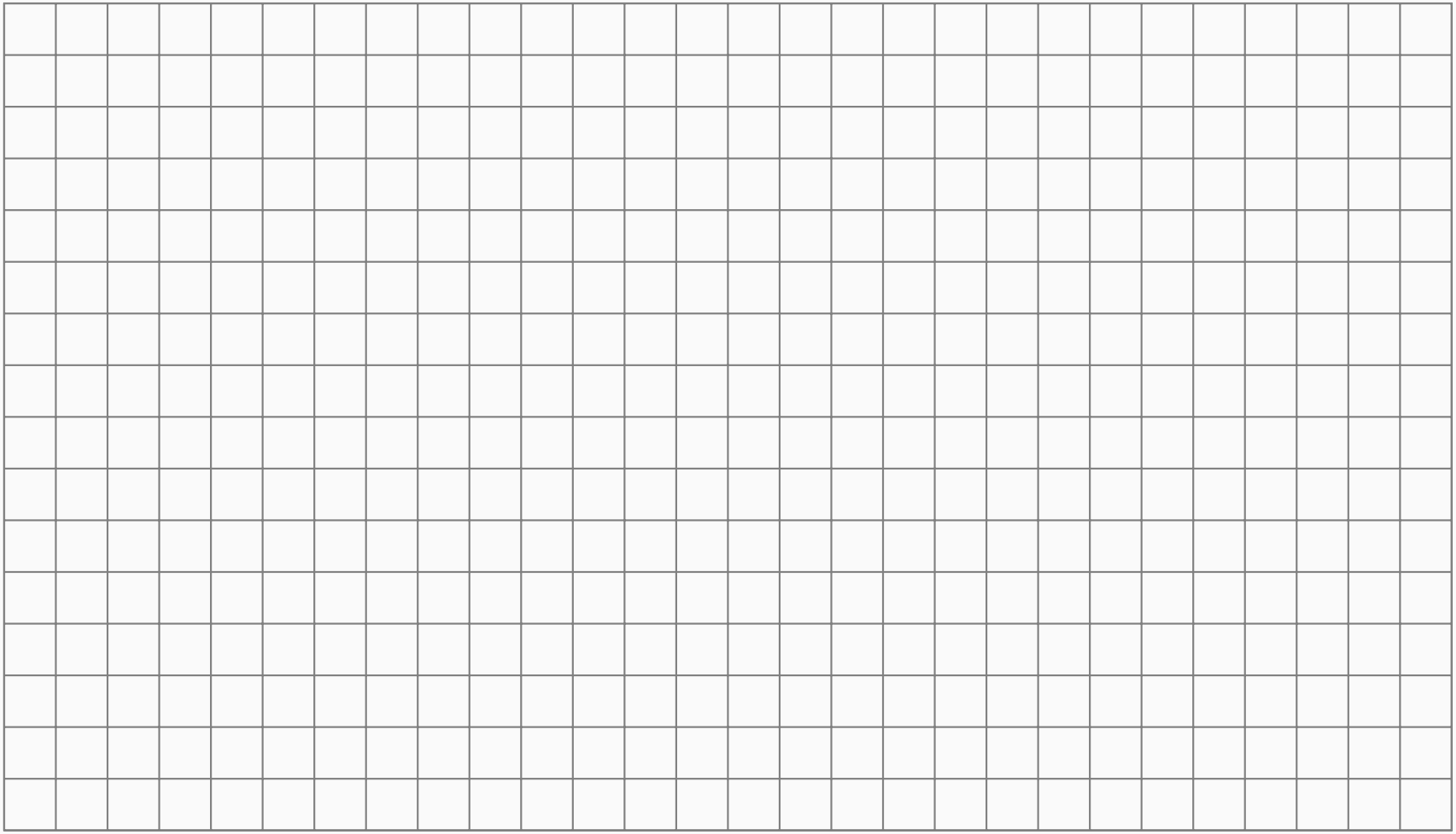
Use `\alert` to **highlight** some text

Some enumeration

1. The first item
2. Stuff
3. Nonsense

Squared Paper

- `\squared{}` (or `\kariert{}`) can be used to produce squared paper



Squared Paper

- `\lined{}` (or `\liniert{}`) can be used to produce lined paper

Outline

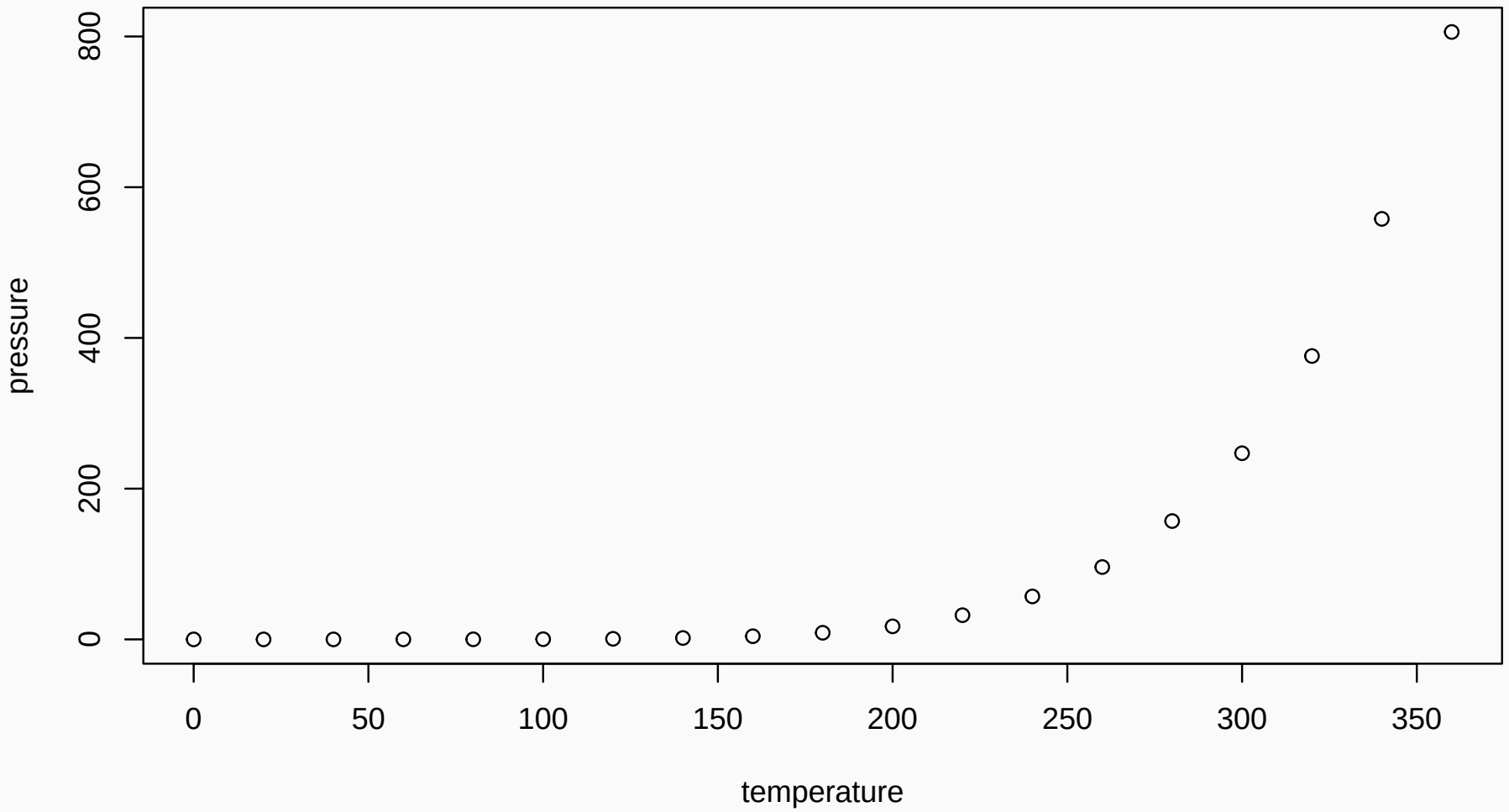
Slide with R output

```
summary(cars)
```

```
##      speed           dist
##  Min.   : 4.0   Min.   :  2
##  1st Qu.:12.0   1st Qu.: 26
##  Median :15.0   Median : 36
##  Mean   :15.4   Mean   : 43
##  3rd Qu.:19.0   3rd Qu.: 56
##  Max.   :25.0   Max.   :120
```

Slide with graphics

```
plot(pressure)
```



Slide with mathematics

Quantile score for observation y. For $0 < p < 1$:

$$S(y_t, q_t(p)) = \begin{cases} p(y_t - q_t(p)) & \text{if } y_t \geq q_t(p) \\ (1-p)(q_t(p) - y_t) & \text{if } y_t < q_t(p) \end{cases}$$

Average score over all percentiles gives the best distribution forecast:

$$QS = \frac{1}{99T} \sum_{p=1}^{99} \sum_{t=1}^{T} S(q_t(p), y_t)$$

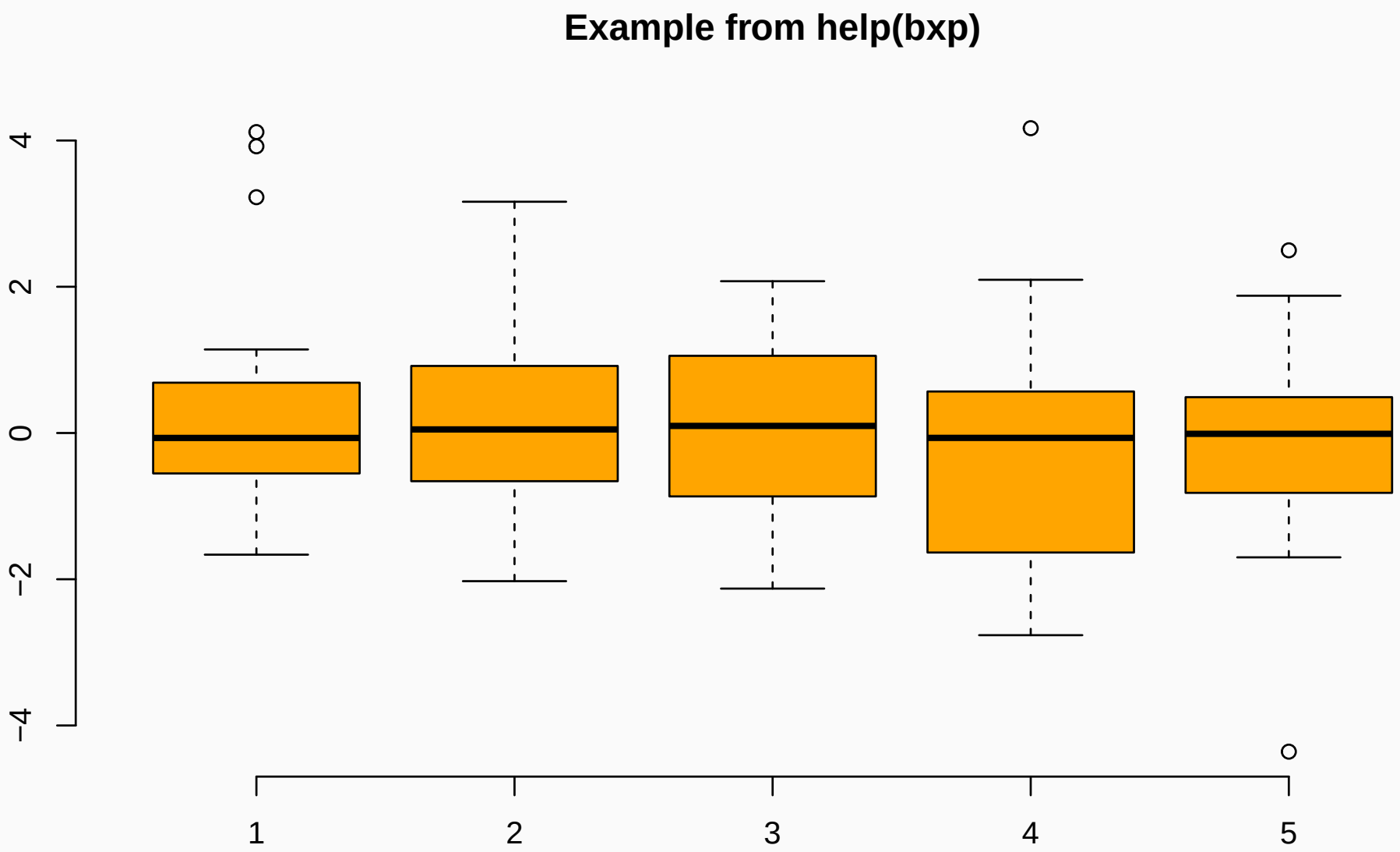
Outline

R Figure

The following code generates the plot on the next slide (taken from `help(bxp)` and modified slightly):

```
library(stats)
set.seed(753)
bx.p <- boxplot(split(rt(100, 4),
                      gl(5, 20)), plot=FALSE)
bxp(bx.p, notch = FALSE, boxfill = "orange",
    frame = FALSE, outl = TRUE,
    main = "Example from help(bxp)")
```

R Figure



R Table

A simple `knitr::kable` example:

```
knitr::kable(mtcars[1:4, 1:7],
       caption="(Parts of) the mtcars dataset")
```

Tabelle 1: (Parts of) the mtcars dataset

	mpg	cyl	disp	hp	drat	wt	qsec
Mazda RX4	21.0	6	160	110	3.90	2.620	16.46
Mazda RX4 Wag	21.0	6	160	110	3.90	2.875	17.02
Datsun 710	22.8	4	108	93	3.85	2.320	18.61
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44

Resources

For more information:

- See the RMarkdown repository for more on RMarkdown
- See the binb repository for more on binb
- See the binb vignettes for more examples.