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Exercise Sheet 06 zu 'Wissenschaftliches Rechnen - R'

We continue with forecasting.

Exercise 27.
Solve the small exercise on page 20 in Slides Unit 06

Exercise 28.
Read page 21 in Slides Unit 06 and solve the small exercise on page 22.

Exercise 29 (ATM forecasting - mini hackathon[i]).
Download new ATM data via `load(url("http://trutschnig.net/ATM5.RData"))`. The data contains daily withdrawn amounts at five (new) ATMs in the period 2007-01-01 till 2009-02-01. Your main task is to forecast the daily withdrawn amounts at the first ATM (number 31) for each of the 7 days from 2009-02-02 to 2009-02-08. Proceed as follows:

1. Use ggplot2 to produce a quick plot of the 5 timeseries and save them in a pdf.
2. Train you top model from last week (or any other model you consider good) and calculate the forecasts. Notice that you need to forecast 1 day ahead, 2 days ahead, ..., 7 days ahead.
3. Add the forecasts to the plots produced before and save them in a pdf.
4. Collect the forecasts in a dataframe containing the date in the first, the ATM number in the second, the forecast for the day in the third column, your name in the last column and export the dataframe.
5. Bring the dataframe to the next class.

Exercise 30.
Repeat the previous exercise for the remaining 4 ATMs.

[i]The winner of the hackathon gets offered a one-month paid internship at IDA Lab Salzburg