

# Homework assignment

Měření a zpracování dat (MZD)

Petr Bureš, Ondřej Příbyl

Ústav aplikované matematiky  
ČVUT v Praze, Fakulta dopravní

ZDA - Block II



## Assignment

For the given transportation data (in MS Excel) create the following steps:

1. Provide a basic data description (number of covered days, missing data, maximal values for particular days, ...)
  2. Prepare an algorithm (equation based on theoretical reasoning) for automated identification of missing data
  3. Prepare static models for all days of week. It shall not be affected by missing or incorrect data.
  4. Compare the static models (correlation analysis). Which of the typical days could be aggregated and why?
  5. Fill in missing data using several algorithms. Compare these algorithms, their results and make your recommendations.
  6. Implement filtering of the data. Compare at least 2 different approaches (using different parameters). Recommend solutions for two different applications: input for data planning using typical days), a highway control system with automated identification of accidents.
- Next to implementation, always describe the method/algorithm and provide reasoning for its usage and advantages/limitations.