

Exercises 04: Process Mining

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Please note that all results of each exercise should be included in one PDF file. The group name and the names of the members should be visible in the document.

Exercise 1: Compare Mining Algorithms

First, open “PM.py”. Second, click on “Run Cell”. Explain the following evaluation methods (cf. `def meta(event_log, pn, i, f)`):

- Replay Fitness
- Precision
- Generalization
- Simplicity

Compare the following algorithms with the evaluation methods:

- Alpha miner
- Heurist miner
- Inductive miner

Use the following data sets:

- coffee.csv
- roadtraffic50traces.xes
- roadtraffic50traces.xes

Document the results.

Exercise 2: Deep Packet Inspection and Process Mining

You should analyze “pcap” files. The files are in the “Data” folder (cf. Exercises 01: Exercise 4). First, open the files with “Wireshark”. Second, export “pcap” to “csv” files. Third, open each “csv” file with pandas. Now you can choose an algorithm (cf. Exercise 1) and analyze the data.

Document the results.

Bonus Exercise 3 (n-dimensional Case):

If the task has not yet been solved.

Use higher dimensional data and compare symbolic regression with regression with polynomial features.