

Create Database for PPG Signal

In a sequel, we illustrate the typical operations done with databases in MatDeck. Photoplethysmogram (PPG) signals are collected using sensors for ECG, SpO2, and accelerometers and are recorded in .xlsx files. All together there are five signals in five .xlsx files with intuitive names. There are three different measurements, one for the standing volunteer, one for the running, and one for the walking. Every .xlsx file contains data for all three measurements which forms a table in the database ppg_base.db. The data used in this experiment is from the Physionet database of physiological signals. The database is used in the example with signal processing.

```
1 a := excel read("wrist_ppg_all.xlsx", "Sheet1", "A1:C7680", false)
2 database write("ppg_base.db", "wrist", a)
3 a1 := excel read("scenario.xlsx", "Sheet1", "A1:A3", false)
4 database write("ppg_base.db", "measurement", a1)
5 a2 := excel read("ecg_all.xlsx", "Sheet1", "A1:C7680", false)
6 database write("ppg_base.db", "ecg", a2)
7 a3 := excel read("xacc_all.xlsx", "Sheet1", "A1:C7680", false)
8 database write("ppg_base.db", "accelometer_x", a3)
9 a4 := excel read("yacc_all.xlsx", "Sheet1", "A1:C7680", false)
10 database write("ppg_base.db", "accelometer_y", a4)
11 a5 := excel read("zacc_all.xlsx", "Sheet1", "A1:C7680", false)
12 database write("ppg_base.db", "accelometer_z", a5)
```