schwingungsanalyse_prepare_data.py

```python
# Schwingungsanalyse
# ##############################################################################

# This python script prepares the data for the main python script for
# calculation of the frequencies of the occilations.

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# ##############################################################################

# Import of Libraries
# ------------------------------------------------------------------------------

# import math as m
# import string as st
# import random as r
# import re
import os


# ------------------------------------------------------------------------------
# Debugging-Settings

verbose = True  # Shows more debugging information


# Functions
# ------------------------------------------------------------------------------

def convert_data(input_filename, output_filename, Hz):
    """
    This function converts files formating for later use.

    Args:
        input_filename ([string]): [Defines the filename the data is in]
        output_filename ([string]): [Defines the filename for saving the data]
        Hz ([int]): [describes the datarate, by with the first line will be
                    calculated]
    """

    # Import der Messwerte
    file = open(os.path.join("data", input_filename))
    data = file.readlines()
    file.close()
    data.pop(0)
    for i, e in enumerate(data):
        if(e[0] != "/"):
            data[i] = e.strip().split(",")
            temp = []
            for j, f in enumerate(data[i]):
                if(j == 0):
                    temp.append(int(f)/int(Hz))  # Berechnung der Timestamps
                else:
                    temp.append(float(f))
            data[i] = temp

    # Export der konvertierten Messwerte
    file = open(os.path.join("data", output_filename),f"w")
    for i in data:
        for j, e in enumerate(i):
            if(j == 0):
                file.writelines(f"{e}")
            else:
                file.writelines(f"; {e}")
        file.writelines(f"\n")
    file.close()


# Classes
# ------------------------------------------------------------------------------


# Beginning of the Programm
# ------------------------------------------------------------------------------

if __name__ == '__main__':
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```
081     print("Running schwingungsanalyse_prepare_data.py...")
082
083     convert_data("Schwingungsanalyse_50Hz_PtoP_0.1.txt", "Schwingungsanalyse_01.txt", 50)
084     convert_data("Schwingungsanalyse_100Hz_PtoP_0.1.txt", "Schwingungsanalyse_02.txt", 100)
085     convert_data("Schwingungsanalyse_100Hz_PtoP_0.5.txt", "Schwingungsanalyse_03.txt", 100)
086     convert_data("Schwingungsanalyse_100Hz_PtoP_1.0.txt", "Schwingungsanalyse_04.txt", 100)
087     # convert_data("Schwingungsanalyse_Cloud_PtoP-0.5_LtoL-0.5.txt", "Schwingungsanalyse_05.txt", 1)
088     # convert_data("Schwingungsanalyse_Cloud_PtoP-2.0_LtoL-2.0.txt", "Schwingungsanalyse_06.txt", 1)
089     # convert_data("Schwingungsanalyse_Cloud_PtoP-5.0_LtoL-5.0.txt", "Schwingungsanalyse_07.txt", 1)
```