

This code is a Python program that performs various operations related to a business inventory system. The code begins by importing necessary modules such as ``os``, ``sys``, ``math``, ``datetime``, ``PyQt5.QtWidgets``, and ``sqlalchemy``. These modules provide functionalities for working with the operating system, performing mathematical calculations, working with dates and times, creating graphical user interfaces, and interacting with a database. Next, the code defines three database tables using the ``sqlalchemy`` module. These tables are named ``artikelen``, ``params``, and ``magazijnvoorraad``. Each table has several columns with different data types such as integers, floats, strings, and booleans. After defining the tables, the code creates a connection to a PostgreSQL database using the ``create_engine`` function from the ``sqlalchemy`` module. The connection is established with the username "postgres" and the database name "bisystem". The code then retrieves the current year and checks if it is an odd or even year. If it is an odd year and a certain condition is met, the code updates a parameter in the ``params`` table. It then retrieves some data from the ``params`` and ``artikelen`` tables and performs calculations based on the retrieved data. The calculated values are used to update certain columns in the ``artikelen`` table. If it is an even year and a certain condition is met, the code updates a different parameter in the ``params`` table. It then retrieves data from the ``params`` and ``artikelen`` tables and performs calculations similar to the previous case. The calculated values are used to update certain columns in the ``artikelen`` table. Next, the code retrieves the current month and checks if it is different from the maximum month value in the ``magazijnvoorraad`` table. If it is different, the code inserts a new row into the ``magazijnvoorraad`` table with the current month as the value for the ``jaarmaand`` column. It then retrieves data from the ``artikelen`` table and calculates the total, current, and non-current values based on the retrieved data. The calculated values are used to update the corresponding columns in the ``magazijnvoorraad`` table. Finally, the code checks if the current script is being run as the main module. If it is, it creates a ``QApplication`` object and sets the style to "Windows". It then checks the platform and runs a shell script if the platform is Linux. After that, it imports a module named ``login`` and calls a function named ``inlog`` from that module. Finally, it starts the event loop of the ``QApplication`` object. Overall, this code performs various database operations and interacts with a graphical user interface to manage a business inventory system.