Problem Set - Data Management Project

Introduction

Doctors may prescribe medicines to their patients. Each prescription includes the date of issue, the patient's code, the patient's date of birth, the code of the clinician (internal doctor), the drug name, the drug strength, the dosage form, the quantity prescribed, and the directions for use. For repeatable prescriptions the information also includes the intended interval between each issue of the repeatable prescription and how many times the repeatable prescription can be issued.

Assignment .1 - Relational schema definition

The goal of this first exercise is to define a "schema" for managing prescriptions (considering the above requirements). Remember that there exist non-repeatable and repeatable prescriptions. Define the models and configure the Alchemy ORM accordingly. Perform some test queries to validate your solution.

Assignment .2 - Data migration

In this exercise your goal is to "convert" the previously defined relational schema (only for repeatable and non-repeatable prescriptions) into a NoSQL one (using Mongo). Populate Mongo with some sample data and perform some test queries (either with mongosh or using Pymongo).

Assignment .3 - Report

Write a short report (2-3 pages at most) comparing the SQL and NoSQL solution (functionality, complexity, robustness, performance,...) and, based on the experience you gained in this exercise, list some of the advantages and drawbacks of each solutions.