Overview

Thank you for participating in our coding exercise. Please read all of the instructions and information below before attempting to create a solution. You are allowed one week to complete this exercise and there are no extra points awarded for early submittals.

Background

Patients are often prescribed brand name medications by their doctors. Many brand name medications have generic equivalents that are less expensive than the (chemically identical) brand version. Newer medications protected by patents will not have generic equivalents.

PillPack substitutes generic medications for brand medications whenever possible.

Problem Definition

PillPack receives patient prescriptions electronically. Some are for brand medications and some are for generics. PillPack also maintains a database containing brand and generic medications.

For every prescription associated with a brand name medication, we must search our database for a generic equivalent. An equivalence exists when two or more medications have the same RxNorm Concept Unique Identifier (RXCUI). If one exists, we must create an update to the prescription so we can dispense and ship the generic to the patient.

We have a RESTful API that can be used to explore the database of Prescriptions and Medications.

Prescription and Medication API:

http://api-sandbox.pillpack.com/

Goals of the Exercise

1. Create a solution (in any language) that identifies all prescriptions that need a substitute medication.
2. The output of the solution should be a JSON document containing the full list of necessary prescription updates.
    a. This is an example of the document structure. Each node in the array contains an ID of a prescription requiring a substitute medication and the ID of the appropriate substitution.

Solution Expectation

We expect the code that you submit to be solely your own work, and trust you to honor the spirit of this individual exercise. You are free to consult with any existing online documentation for the tools and libraries necessary for your solution (Javadocs, Ruby Docs, etc.).

When writing your solution, please keep in mind that we intend to put your code through the same peer review process through which we would put any other production-worthy code. Instructions for our engineers are much appreciated, and if you are providing a solution in a language that requires a compiler please be kind and provide compilation instructions along with a binary that is suitable to run on macOS El Capitan.

Notes

This application contains sample data (no real data). The description, NDC, and RXCUI attributes are conceptually similar to real world medication metadata, but the values are machine-generated expressly for use in this exercise.

The prescription and medication records cannot be changed through the API. This sample data set is immutable and will not change during the exercise.