Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Time: 2 hours

Given the following tables in a database:



Create the database in Microsoft SQL Server, taking into account the following:

* Primary keys that should be set are marked with a key on the tables
* Foreign keys necessary and relationship tables are not indicated in the diagram and, if needed, you will need to add them to the tables
* Data types of the columns are not indicated and the best type should be chosen according to the needs

Description of the key terms:

* A depot is a facility where medication is stored. When drug units are needed at a location, they are shipped from the depot that supplies the country of the destination. So the depot is located in a country and supplies some countries.
* A drug unit is, as the name specifies, the smallest unit that is used for managing the stock of medication. A drug unit is manufactured and afterwards it will be associated with one depot.
* The drug unit id is usually a code that is numeric or alphanumeric, by which the pill or bottle etc. is recognized. The pick number is a number used to actually pick drug units for shipment. When we need 2 drug units of type “A”, we order them by the pick number and then we select the first 2 for the shipment.

What you need to do:

1. Create the database using the following naming convention: “firstName.lastName”. If you need to, add the additional necessary columns and/or tables. Pick the best options for the data types.
2. Create an SQL script to insert at least 2 countries (Romania and United States of America), at least 2 depots, at least 2 drug types and 100 drug units. Don’t associate the drug units to any depots from this script. Run it to populate the database and save it to the desktop as “firstName.lastName.SQL”.
3. Create a new web application in Visual Studio and connect to the created database from it. (Using Entity Framework is a bonus)
4. Create a page where drug units can be associated/disassociated from a depot
5. Create a web page in the application that displays each depot and all the drug units from that depot. The columns that you should display in the table are Depot Name, Country Name, Drug Type Name, Drug Unit Id and Pick Number. Please display the depots even if they don’t have any drug unit associated. In that case you can display the null fields (the drug related fields) however you like (null, empty etc).
6. Create a page where you can select a depot and enter for each drug type the number of drug units wanted and then calculate which drug units would be picked for sending from the depot

Bonus:

1. Add the ability to set a weight in pounds for each drug type. No need to create the user interface for that, you can just add it directly in the database. This will indicate the weight of each drug unit of that type. For example, if for drug type “A” we enter 1 pound, then each drug unit of type A will have 1 pound.
2. After adding this, add a page where you will display for each depot and drug type the weight of all the drug units of that type and from that depot, but in kilograms.

Note: you can use the following conversion rate: 1 kg = 2.2 pounds

Notes:

* Internet access is permitted during the interview
* Installed tools that you should use:
  + SQL Server Management Studio
  + Visual Studio
* Credentials for SQL Server:
  + Database server: localhost
  + User: sa
  + Password: suvoda01!
  + Connection String:
    - Data Source=localhost; Initial Catalog=<DatabaseName>; User Id=sa;Password=suvoda01!; MultipleActiveResultSets=True;