CS480 – Course project

Summer 2021

Database: world_covid19_vaccination

Description:

Most countries in the world are vaccinating against COVID-19. These countries have unique names, country abbreviations, and different kinds of vaccines that they are using. Each vaccine has a name, a type (inactivated or mRNA vaccine...), R&D companies, protection rates, and side effects. Each batch of vaccine has a batch number, production date, and manufacturing address. Each country counts the number of people that have been vaccinated in different areas. Each state has a different population and specific hospitals that perform the task. Each hospital will assign some departments to complete the task of vaccination. Each hospital will also set up vaccination sites in a different area. People who go to be vaccinated will have a number, unique ID, name, age, date of birth, address, and date of vaccination (including the first and second dates for a second shot if needed).

Part 2 – CRUD (Create, read, update, and delete)

Deadline: July 17, 2021

List of strong entities:

1. country
2. state
3. hospital
4. vaccine

List of weak entities:

5. people
6. batch

We will implement the following functionality using Java and SQL with necessary GUI interfaces.

1. Insert/update/read a **country.**
2. Insert/update/read a **state.**
3. Insert/update/reat a **vaccine.**
4. Insert/delete/update/read a **hospital.**
5. Insert/update/read **people** (all attributes except the number). The number should be generated by the system automatically using MySQL autoincrement.
6. Insert/update/read a **batch.**

Part 3 – Queries

Deadline: July 31, 2021

Based on the Demo, we will implement the following functionality using Java and SQL with necessary GUI interfaces.

Trivial Queries:

1. List all countries
2. List all vaccines
3. List all states

Non-trivial Queries:

1. List all the countries by the most used vaccine type.
2. List all the states that have a population greater than 5,000,000.
3. Find all the countries that accept more than one type of vaccine.
4. List the countries with the highest vaccination rates; if there is a tie, list all countries that are part of the tie.
5. Define a VIEW called CountryOverallInfo and then display all countries with their names, vaccine types, and vaccination rates in the system.