

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. Each relationship between country and vaccine has country name and vaccine name. Each state has unique names, belong to different country and different population. Each hospital has different name and different city and state. People who go to be vaccinated will have a number, unique ID, name, age, date of birth.

(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. people
5. vaccine

List of weak entities:

6. country_vaccine_relationship

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

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

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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.