-- Database Creation and Table Structure

CREATE DATABASE epi\_vaccination;

USE epi\_vaccination;

-- Create Tables

CREATE TABLE Child (

child\_id INT PRIMARY KEY AUTO\_INCREMENT,

child\_name VARCHAR(100),

dob DATE,

age INT,

address VARCHAR(255),

guardian\_name VARCHAR(100),

contact\_no VARCHAR(15)

);

CREATE TABLE Vaccine (

vaccine\_id INT PRIMARY KEY AUTO\_INCREMENT,

name VARCHAR(100),

dose INT

);

CREATE TABLE Vaccination\_Centre (

centre\_id INT PRIMARY KEY AUTO\_INCREMENT,

name VARCHAR(100),

location VARCHAR(255)

);

CREATE TABLE Healthcare\_Professional (

id INT PRIMARY KEY AUTO\_INCREMENT,

name VARCHAR(100),

role VARCHAR(50),

years\_of\_experience INT,

qualification VARCHAR(100),

contact\_info VARCHAR(15)

);

CREATE TABLE Vaccination (

record\_id INT PRIMARY KEY AUTO\_INCREMENT,

child\_id INT,

vaccine\_id INT,

healthcare\_professional\_id INT,

centre\_id INT,

date\_administered DATE,

due\_date DATE,

status ENUM('pending', 'visited', 'vaccinated') DEFAULT 'pending',

FOREIGN KEY (child\_id) REFERENCES Child(child\_id),

FOREIGN KEY (vaccine\_id) REFERENCES Vaccine(vaccine\_id),

FOREIGN KEY (healthcare\_professional\_id) REFERENCES Healthcare\_Professional(id),

FOREIGN KEY (centre\_id) REFERENCES Vaccination\_Centre(centre\_id)

);

-- Initial Data Setup

INSERT INTO Vaccine (vaccine\_id, name, dose) VALUES

(1, 'BCG', 1),

(2, 'OPV (Oral Polio Vaccine)', 4),

(3, 'DPT (Diphtheria, Pertussis, Tetanus)', 3),

(4, 'Hepatitis B', 3),

(5, 'Hib (Haemophilus influenzae type b)', 3),

(6, 'PCV (Pneumococcal Conjugate)', 3),

(7, 'Rotavirus', 3),

(8, 'Measles', 2),

(9, 'MMR (Measles, Mumps, Rubella)', 1),

(10, 'DPT Booster', 1),

(11, 'OPV Booster', 1),

(12, 'DT (Diphtheria, Tetanus)', 1);

INSERT INTO Vaccination\_Centre (centre\_id, name, location) VALUES

(1000001, 'Banani Branch', 'B-45/8, Banani, Dhaka'),

(1000002, 'Malibagh Branch', 'D-34/3, Malibagh, Dhaka');

INSERT INTO Healthcare\_Professional (id, name, role, years\_of\_experience, qualification, contact\_info) VALUES

(700001, 'Doctor One', 'Doctor', 2, 'MBBS, MD', '01710000001'),

(800001, 'Nurse One', 'Nurse', 1, 'BSc Nursing', '01810000001'),

(700002, 'Dr. Rashed Karim', 'Doctor', 7, 'MBBS, MD', '01730000001'),

(800002, 'Nurse Tasnim Akter', 'Nurse', 4, 'BSc Nursing', '01731000002');

-- Application Queries

-- Admin Dashboard Queries

DELETE FROM Vaccination

WHERE child\_id = ? AND vaccine\_id = ?

DELETE FROM Vaccination

WHERE child\_id = ?

DELETE FROM Child

WHERE child\_id = ?

SELECT COUNT(DISTINCT child\_id) as total\_vaccinated

FROM Vaccination

WHERE status = 'vaccinated'

AND MONTH(date\_administered) = MONTH(CURRENT\_DATE())

AND YEAR(date\_administered) = YEAR(CURRENT\_DATE())

SELECT

c.\*,

v.name AS vaccine\_name,

v.vaccine\_id,

vc.name AS centre\_name,

hp.name AS healthcare\_prof\_name,

vac.due\_date,

vac.status

FROM Child c

LEFT JOIN Vaccination vac ON c.child\_id = vac.child\_id

LEFT JOIN Vaccine v ON vac.vaccine\_id = v.vaccine\_id

LEFT JOIN Vaccination\_Centre vc ON vac.centre\_id = vc.centre\_id

LEFT JOIN Healthcare\_Professional hp ON vac.healthcare\_professional\_id = hp.id

ORDER BY c.child\_id DESC

-- Doctor Dashboard Queries

UPDATE Vaccination

SET status = 'visited'

WHERE child\_id = ? AND vaccine\_id = ?

INSERT INTO Vaccination (

child\_id, vaccine\_id, healthcare\_professional\_id,

centre\_id, date\_administered, due\_date, status, dose\_number

)

VALUES (?, ?, ?, ?, CURDATE(), ?, 'pending', 1)

SELECT \* FROM Vaccine

SELECT \* FROM Vaccination\_Centre

-- Login Page Queries

SELECT \* FROM Child WHERE child\_name = ? OR child\_id = ?

SELECT \* FROM Healthcare\_Professional WHERE (name = ? OR id = ?) AND role = ?

-- New Patient Enrollment Query

INSERT INTO Child (child\_name, dob, age, address, guardian\_name, contact\_no)

VALUES (?, ?, ?, ?, ?, ?)

-- Nurse Dashboard Queries

UPDATE Vaccination

SET status = 'vaccinated',

dose\_number = ?

WHERE child\_id = ? AND vaccine\_id = ?

SELECT

c.\*,

v.name AS vaccine\_name,

v.vaccine\_id,

v.dose AS total\_doses,

vac.dose\_number AS doses\_taken,

vc.name AS centre\_name,

hp.name AS prescribed\_by,

vac.due\_date,

vac.status

FROM Child c

JOIN Vaccination vac ON c.child\_id = vac.child\_id

JOIN Vaccine v ON vac.vaccine\_id = v.vaccine\_id

JOIN Vaccination\_Centre vc ON vac.centre\_id = vc.centre\_id

JOIN Healthcare\_Professional hp ON vac.healthcare\_professional\_id = hp.id

WHERE vac.status = 'visited'

ORDER BY vac.due\_date ASC

SELECT

c.child\_id,

c.child\_name,

v.name AS vaccine\_name,

v.dose AS total\_doses,

vac.dose\_number AS doses\_taken,

vc.name AS centre\_name,

vac.due\_date,

vac.status

FROM Child c

JOIN Vaccination vac ON c.child\_id = vac.child\_id

JOIN Vaccine v ON vac.vaccine\_id = v.vaccine\_id

JOIN Vaccination\_Centre vc ON vac.centre\_id = vc.centre\_id

WHERE vac.status = 'vaccinated'

ORDER BY vac.due\_date DESC

-- Patient Dashboard Query

SELECT

c.child\_name,

v.name AS vaccine\_name,

vc.name AS centre\_name,

hp.name AS healthcare\_prof\_name,

vac.date\_administered,

vac.due\_date,

vac.status

FROM Child c

LEFT JOIN Vaccination vac ON c.child\_id = vac.child\_id

LEFT JOIN Vaccine v ON vac.vaccine\_id = v.vaccine\_id

LEFT JOIN Vaccination\_Centre vc ON vac.centre\_id = vc.centre\_id

LEFT JOIN Healthcare\_Professional hp ON vac.healthcare\_professional\_id = hp.id

WHERE c.child\_name = ?

ORDER BY vac.due\_date ASC

-- Register Healthcare Professional Query

INSERT INTO Healthcare\_Professional

(name, role, years\_of\_experience, qualification, contact\_info)

VALUES (?, ?, ?, ?, ?)