**DB Creation:**

-- Database: clinical\_trials\_db

-- DROP DATABASE IF EXISTS clinical\_trials\_db;

CREATE DATABASE clinical\_trials\_db

WITH

OWNER = postgres

ENCODING = 'UTF8'

LC\_COLLATE = 'English\_United States.1252'

LC\_CTYPE = 'English\_United States.1252'

LOCALE\_PROVIDER = 'libc'

TABLESPACE = pg\_default

CONNECTION LIMIT = -1

IS\_TEMPLATE = False;

**Tables Code:**

--PRINCIPAL\_INVESTIGATORS

CREATE TABLE PRINCIPAL\_INVESTIGATORS (

Researcher\_ID INT PRIMARY KEY,

Name VARCHAR(100),

Title VARCHAR(50),

Specialization VARCHAR(100),

Contact\_Info VARCHAR(100),

Trial\_ID INT

);

INSERT INTO PRINCIPAL\_INVESTIGATORS (Researcher\_ID, Name, Title, Specialization, Contact\_Info, Trial\_ID) VALUES

(1, 'Dr. John Smith', 'Principal Investigator', 'Oncology', 'john.smith@hospital.com', 101),

(2, 'Dr. Sarah Brown', 'Lead Investigator', 'Neurology', 'sarah.brown@university.edu', 102),

(3, 'Dr. Robert Johnson', 'Clinical Scientist', 'Cardiology', 'robert.johnson@clinic.org', 103),

(4, 'Dr. Emily Davis', 'Research Fellow', 'Dermatology', 'emily.davis@skincare.com', 104),

(5, 'Dr. Olivia Wilson', 'Medical Researcher', 'Endocrinology', 'olivia.wilson@research.org', 105),

(6, 'Dr. Ethan Miller', 'Lead Scientist', 'Pulmonology', 'ethan.miller@medcenter.com', 106),

(7, 'Dr. Sophia Taylor', 'Senior Investigator', 'Gastroenterology', 'sophia.taylor@hospital.com', 107),

(8, 'Dr. Benjamin Anderson', 'Chief Investigator', 'Orthopedics', 'benjamin.anderson@clinic.com', 108),

(9, 'Dr. Mia Thomas', 'Research Head', 'Hematology', 'mia.thomas@bloodcenter.org', 109),

(10, 'Dr. Lucas Martinez', 'Primary Investigator', 'Immunology', 'lucas.martinez@health.org', 110),

(11, 'Dr. Amelia Walker', 'Research Lead', 'Pediatrics', 'amelia.walker@childclinic.com', 111),

(12, 'Dr. Jackson Lewis', 'Chief Scientist', 'Psychiatry', 'jackson.lewis@mentalhealth.org', 112),

(13, 'Dr. Harper King', 'Medical Director', 'Ophthalmology', 'harper.king@eyeclinic.com', 113),

(14, 'Dr. Alexander Scott', 'Senior Scientist', 'Urology', 'alexander.scott@researchinstitute.com', 114),

(15, 'Dr. Charlotte Hall', 'Clinical Specialist', 'Nephrology', 'charlotte.hall@healthcenter.com', 115),

(16, 'Dr. Henry Allen', 'Research Director', 'Oncology', 'henry.allen@cancercenter.org', 116),

(17, 'Dr. Grace Adams', 'Investigator', 'Neurology', 'grace.adams@hospital.org', 117),

(18, 'Dr. Daniel Gonzalez', 'Clinical Lead', 'Endocrinology', 'daniel.gonzalez@metabolicclinic.com', 118),

(19, 'Dr. Ella Baker', 'Research Scientist', 'Dermatology', 'ella.baker@university.com', 119),

(20, 'Dr. Logan Perez', 'Lead Researcher', 'Rheumatology', 'logan.perez@research.org', 120),

(21, 'Dr. Ava King', 'Medical Investigator', 'Cardiology', 'ava.king@hospital.com', 121),

(22, 'Dr. Matthew Hernandez', 'Senior Researcher', 'Pulmonology', 'matthew.hernandez@medcenter.org', 122),

(23, 'Dr. Sofia Lopez', 'Clinical Director', 'Pediatrics', 'sofia.lopez@childclinic.com', 123),

(24, 'Dr. William Scott', 'Chief Investigator', 'Osteoporosis', 'william.scott@bonecenter.org', 124),

(25, 'Dr. Isabella Lewis', 'Research Head', 'Immunology', 'isabella.lewis@health.com', 125);

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--CLINICAL\_TRIALS

CREATE TABLE CLINICAL\_TRIALS (

Trial\_ID INT PRIMARY KEY,

Trial\_Name VARCHAR(100),

Trial\_Phase VARCHAR(20),

Start\_Date DATE,

End\_Date DATE,

Status VARCHAR(20),

Inclusion\_Exclusion\_Criteria VARCHAR(1000),

Objective VARCHAR(1000),

Principal\_Investigator\_ID INT,

Study\_Type VARCHAR(50),

FOREIGN KEY (Principal\_Investigator\_ID) REFERENCES PRINCIPAL\_INVESTIGATORS(Researcher\_ID)

);

INSERT INTO CLINICAL\_TRIALS (Trial\_ID, Trial\_Name, Trial\_Phase, Start\_Date, End\_Date, Status, Inclusion\_Exclusion\_Criteria, Objective, Principal\_Investigator\_ID, Study\_Type) VALUES

(101, 'Diabetes Study', 'Phase 1', '2023-01-01', '2023-12-31', 'Ongoing', 'Age 18-65, no heart conditions', 'Assess new diabetes medication', 1, 'Interventional'),

(102, 'Asthma Study', 'Phase 2', '2023-02-01', '2023-10-01', 'Completed', 'Patients with moderate asthma', 'Test efficacy of new inhaler', 2, 'Observational'),

(103, 'Heart Health Study', 'Phase 3', '2023-03-15', '2023-09-15', 'Terminated', 'Patients with high cholesterol', 'Study diet impact', 3, 'Interventional'),

(104, 'Chronic Pain Study', 'Phase 2', '2023-04-01', '2024-03-31', 'Ongoing', 'Age 25-70, chronic back pain', 'Test pain relief medication', 4, 'Interventional'),

(105, 'Cancer Therapy Trial', 'Phase 3', '2023-05-01', '2024-05-01', 'Recruiting', 'Patients with stage 2 breast cancer', 'Evaluate combined therapy', 5, 'Interventional'),

(106, 'COVID-19 Vaccine Trial', 'Phase 3', '2022-09-01', '2023-09-01', 'Completed', 'Healthy adults 18+', 'Test efficacy of new vaccine', 6, 'Interventional'),

(107, 'Migraine Treatment Study', 'Phase 2', '2023-06-01', '2023-11-30', 'Ongoing', 'Patients with chronic migraines', 'Test migraine prevention medication', 7, 'Observational'),

(108, 'Hypertension Therapy Trial', 'Phase 1', '2023-07-01', '2024-06-30', 'Recruiting', 'Age 30-65, high blood pressure', 'Evaluate antihypertensive medication', 8, 'Interventional'),

(109, 'Alzheimer’s Research', 'Phase 2', '2023-08-01', '2024-08-01', 'Ongoing', 'Patients with mild Alzheimer’s', 'Study cognitive decline treatments', 9, 'Observational'),

(110, 'Stroke Rehabilitation Study', 'Phase 3', '2023-09-01', '2024-09-01', 'Recruiting', 'Post-stroke patients', 'Evaluate new rehab techniques', 10, 'Interventional'),

(111, 'Childhood Asthma Program', 'Phase 1', '2023-10-01', '2024-03-01', 'Completed', 'Children age 5-12', 'Evaluate long-term effects of inhalers', 11, 'Observational'),

(112, 'Lung Cancer Therapy Study', 'Phase 3', '2023-11-01', '2024-10-01', 'Recruiting', 'Patients with early-stage lung cancer', 'Test combined therapy', 12, 'Interventional'),

(113, 'Osteoporosis Prevention Trial', 'Phase 4', '2023-12-01', '2024-11-01', 'Ongoing', 'Women age 50-70', 'Test new calcium supplement', 13, 'Interventional'),

(114, 'Rheumatoid Arthritis Study', 'Phase 2', '2023-06-01', '2023-12-31', 'Completed', 'Patients with RA', 'Assess biologic therapy', 14, 'Interventional'),

(115, 'Obesity Research Program', 'Phase 3', '2023-07-01', '2024-07-01', 'Ongoing', 'BMI > 30', 'Monitor weight loss impact', 15, 'Observational'),

(116, 'Parkinson’s Disease Study', 'Phase 2', '2023-08-01', '2024-08-01', 'Recruiting', 'Patients with early-stage Parkinson’s', 'Assess therapy outcomes', 16, 'Interventional'),

(117, 'Kidney Disease Therapy Study', 'Phase 1', '2023-09-01', '2024-03-31', 'Ongoing', 'Patients with chronic kidney disease', 'Test new medications', 17, 'Interventional'),

(118, 'Eye Health Research', 'Phase 2', '2023-05-01', '2023-12-01', 'Completed', 'Patients with glaucoma', 'Evaluate eye drop safety', 18, 'Observational'),

(119, 'Sleep Apnea Study', 'Phase 1', '2023-04-01', '2024-01-01', 'Recruiting', 'Patients with sleep apnea', 'Assess nasal device effectiveness', 19, 'Interventional'),

(120, 'Mental Health Research', 'Phase 3', '2023-01-01', '2023-12-31', 'Completed', 'Patients with anxiety', 'Test new therapy protocols', 20, 'Observational'),

(121, 'Prostate Cancer Therapy Trial', 'Phase 3', '2023-05-01', '2024-05-01', 'Recruiting', 'Men age 50-70', 'Compare new therapy vs standard', 21, 'Interventional'),

(122, 'Hearing Loss Research', 'Phase 2', '2023-06-01', '2023-12-31', 'Ongoing', 'Patients with hearing loss', 'Assess implant effectiveness', 22, 'Interventional'),

(123, 'Chronic Fatigue Syndrome Study', 'Phase 2', '2023-07-01', '2024-01-31', 'Recruiting', 'Patients with CFS', 'Evaluate new stimulant medications', 23, 'Interventional'),

(124, 'Food Allergy Research', 'Phase 1', '2023-09-01', '2024-09-01', 'Ongoing', 'Patients with peanut allergy', 'Test desensitization therapy', 24, 'Observational'),

(125, 'Weight Loss Study', 'Phase 2', '2023-05-01', '2024-05-01', 'Recruiting', 'BMI > 35', 'Evaluate dietary intervention', 25, 'Interventional');

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-- PATIENTS

CREATE TABLE PATIENTS (

Patient\_ID INT PRIMARY KEY,

First\_Name VARCHAR(255),

Last\_Name VARCHAR(255),

Date\_Of\_Birth DATE,

Gender VARCHAR(10),

Contact\_Info VARCHAR(255),

Address VARCHAR(255),

Medical\_History VARCHAR(1000),

Enrollment\_Date DATE,

Trial\_ID INT,

FOREIGN KEY (Trial\_ID) REFERENCES CLINICAL\_TRIALS(Trial\_ID)

);

INSERT INTO PATIENTS (Patient\_ID, First\_Name, Last\_Name, Date\_Of\_Birth, Gender, Contact\_Info, Address, Medical\_History, Enrollment\_Date, Trial\_ID) VALUES

(1, 'John', 'Doe', '1980-05-15', 'Male', '123-456-7890', '123 Elm St, Cityville', 'No significant medical history', '2023-01-10', 101),

(2, 'Jane', 'Smith', '1990-10-22', 'Female', '234-567-8901', '456 Maple St, Townsville', 'History of asthma', '2023-02-15', 102),

(3, 'Alice', 'Johnson', '1985-07-08', 'Female', '345-678-9012', '789 Oak St, Villageville', 'Diabetes Type 2', '2023-03-05', 101),

(4, 'Robert', 'Brown', '1978-11-30', 'Male', '456-789-0123', '101 Pine St, Hamletville', 'Hypertension', '2023-04-01', 103),

(5, 'Michael', 'Davis', '1995-06-12', 'Male', '567-890-1234', '202 Cedar St, Metrocity', 'Allergic to penicillin', '2023-05-11', 104),

(6, 'Emily', 'Wilson', '1987-03-19', 'Female', '678-901-2345', '303 Birch St, Capitaltown', 'Pregnancy', '2023-06-20', 105),

(7, 'David', 'Martinez', '1992-08-14', 'Male', '789-012-3456', '404 Ash St, Uptown', 'High cholesterol', '2023-07-15', 106),

(8, 'Emma', 'Anderson', '2000-02-25', 'Female', '890-123-4567', '505 Willow St, Countryside', 'Migraine', '2023-08-10', 107),

(9, 'Daniel', 'Taylor', '1983-09-04', 'Male', '901-234-5678', '606 Poplar St, Beachside', 'Back pain', '2023-09-18', 108),

(10, 'Sophia', 'Thomas', '1975-12-18', 'Female', '012-345-6789', '707 Elm St, Riverside', 'Thyroid issues', '2023-10-12', 109),

(11, 'William', 'Moore', '1998-04-05', 'Male', '123-567-8901', '808 Maple St, Hilltop', 'Peanut allergy', '2023-11-10', 110),

(12, 'Olivia', 'Jackson', '1986-01-22', 'Female', '234-678-9012', '909 Oak St, Greenfield', 'Iron deficiency', '2023-12-01', 111),

(13, 'James', 'White', '1993-05-30', 'Male', '345-789-0123', '1010 Pine St, Oldtown', 'Broken arm in 2010', '2024-01-12', 112),

(14, 'Isabella', 'Harris', '2001-07-16', 'Female', '456-890-1234', '1111 Cedar St, Newville', 'Seasonal allergies', '2024-02-14', 113),

(15, 'Ethan', 'Clark', '1981-10-10', 'Male', '567-901-2345', '1212 Birch St, Seaport', 'History of surgeries', '2024-03-08', 114),

(16, 'Mia', 'Lewis', '1994-02-05', 'Female', '678-012-3456', '1313 Ash St, Dockside', 'Kidney stones', '2024-04-21', 115),

(17, 'Lucas', 'Walker', '1979-09-17', 'Male', '789-123-4567', '1414 Willow St, Baytown', 'Heart murmur', '2024-05-19', 116),

(18, 'Amelia', 'Hall', '1988-12-06', 'Female', '890-234-5678', '1515 Poplar St, Mountainview', 'High blood pressure', '2024-06-15', 117),

(19, 'Alexander', 'Allen', '1991-03-03', 'Male', '901-345-6789', '1616 Elm St, Coastalcity', 'Anemia', '2024-07-11', 118),

(20, 'Charlotte', 'Young', '1996-11-25', 'Female', '012-456-7890', '1717 Maple St, Valleyview', 'Allergic to cats', '2024-08-02', 119),

(21, 'Benjamin', 'Hernandez', '1982-05-07', 'Male', '123-567-8901', '1818 Oak St, Plainsville', 'Recent surgery', '2024-09-23', 120),

(22, 'Ava', 'King', '1989-07-20', 'Female', '234-678-9012', '1919 Pine St, Meadowville', 'No known issues', '2024-10-08', 121),

(23, 'Logan', 'Scott', '1984-10-11', 'Male', '345-789-0123', '2020 Cedar St, Woodside', 'History of fractures', '2024-11-04', 122),

(24, 'Harper', 'Green', '1999-06-30', 'Female', '456-890-1234', '2121 Birch St, Cloverfield', 'Asthma', '2024-12-22', 123),

(25, 'Jackson', 'Adams', '1977-01-01', 'Male', '567-901-2345', '2222 Ash St, Sunnytown', 'Diabetes Type 1', '2023-12-12', 124);

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-- CONSENT\_FORMS

CREATE TABLE CONSENT\_FORMS (

Consent\_ID INT PRIMARY KEY,

Patient\_ID INT,

Trial\_ID INT,

Consent\_Date DATE,

Form\_url VARCHAR(255),

Status VARCHAR(50),

FOREIGN KEY (Patient\_ID) REFERENCES PATIENTS(Patient\_ID),

FOREIGN KEY (Trial\_ID) REFERENCES CLINICAL\_TRIALS(Trial\_ID)

);

INSERT INTO CONSENT\_FORMS (Consent\_ID, Patient\_ID, Trial\_ID, Consent\_Date, Form\_url, Status) VALUES

(1, 1, 101, '2023-01-10', 'https://example.com/forms/1', 'Signed'),

(2, 2, 102, '2023-02-15', 'https://example.com/forms/2', 'Signed'),

(3, 3, 101, '2023-03-05', 'https://example.com/forms/3', 'Pending'),

(4, 4, 103, '2023-04-01', 'https://example.com/forms/4', 'Signed'),

(5, 5, 104, '2023-05-11', 'https://example.com/forms/5', 'Declined'),

(6, 6, 105, '2023-06-20', 'https://example.com/forms/6', 'Signed'),

(7, 7, 106, '2023-07-15', 'https://example.com/forms/7', 'Signed'),

(8, 8, 107, '2023-08-10', 'https://example.com/forms/8', 'Pending'),

(9, 9, 108, '2023-09-18', 'https://example.com/forms/9', 'Signed'),

(10, 10, 109, '2023-10-12', 'https://example.com/forms/10', 'Signed'),

(11, 11, 110, '2023-11-10', 'https://example.com/forms/11', 'Declined'),

(12, 12, 111, '2023-12-01', 'https://example.com/forms/12', 'Signed'),

(13, 13, 112, '2024-01-12', 'https://example.com/forms/13', 'Pending'),

(14, 14, 113, '2024-02-14', 'https://example.com/forms/14', 'Signed'),

(15, 15, 114, '2024-03-08', 'https://example.com/forms/15', 'Signed'),

(16, 16, 115, '2024-04-21', 'https://example.com/forms/16', 'Declined'),

(17, 17, 116, '2024-05-19', 'https://example.com/forms/17', 'Signed'),

(18, 18, 117, '2024-06-15', 'https://example.com/forms/18', 'Pending'),

(19, 19, 118, '2024-07-11', 'https://example.com/forms/19', 'Signed'),

(20, 20, 119, '2024-08-02', 'https://example.com/forms/20', 'Signed'),

(21, 21, 120, '2024-09-23', 'https://example.com/forms/21', 'Pending'),

(22, 22, 121, '2024-10-08', 'https://example.com/forms/22', 'Signed'),

(23, 23, 122, '2024-11-04', 'https://example.com/forms/23', 'Declined'),

(24, 24, 123, '2024-12-22', 'https://example.com/forms/24', 'Signed'),

(25, 25, 124, '2023-12-12', 'https://example.com/forms/25', 'Signed');

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-- LABORATORY\_TESTS

CREATE TABLE LABORATORY\_TESTS (

Test\_ID INT PRIMARY KEY,

Test\_Name VARCHAR(255),

Trial\_ID INT,

Patient\_ID INT,

Test\_Date DATE,

Test\_Results VARCHAR(255),

Test\_url VARCHAR(255),

FOREIGN KEY (Trial\_ID) REFERENCES CLINICAL\_TRIALS(Trial\_ID),

FOREIGN KEY (Patient\_ID) REFERENCES PATIENTS(Patient\_ID)

);

INSERT INTO LABORATORY\_TESTS (Test\_ID, Test\_Name, Trial\_ID, Patient\_ID, Test\_Date, Test\_Results, Test\_url) VALUES

(1, 'Blood Test', 101, 1, '2023-01-15', 'Normal', 'https://example.com/tests/1'),

(2, 'Allergy Test', 102, 2, '2023-02-20', 'Positive', 'https://example.com/tests/2'),

(3, 'Glucose Test', 101, 3, '2023-03-10', 'High', 'https://example.com/tests/3'),

(4, 'Cardiac Test', 103, 4, '2023-04-05', 'Normal', 'https://example.com/tests/4'),

(5, 'X-Ray', 104, 5, '2023-05-15', 'Fracture Detected', 'https://example.com/tests/5'),

(6, 'MRI', 105, 6, '2023-06-25', 'Clear', 'https://example.com/tests/6'),

(7, 'Lipid Panel', 106, 7, '2023-07-18', 'High Cholesterol', 'https://example.com/tests/7'),

(8, 'Skin Biopsy', 107, 8, '2023-08-14', 'Benign', 'https://example.com/tests/8'),

(9, 'CT Scan', 108, 9, '2023-09-22', 'Normal', 'https://example.com/tests/9'),

(10, 'Thyroid Test', 109, 10, '2023-10-15', 'Hypothyroidism', 'https://example.com/tests/10'),

(11, 'Urine Test', 110, 11, '2023-11-12', 'Normal', 'https://example.com/tests/11'),

(12, 'Hemoglobin Test', 111, 12, '2023-12-10', 'Low', 'https://example.com/tests/12'),

(13, 'Pulmonary Function Test', 112, 13, '2024-01-20', 'Reduced Capacity', 'https://example.com/tests/13'),

(14, 'Allergy Patch Test', 113, 14, '2024-02-17', 'Positive Reaction', 'https://example.com/tests/14'),

(15, 'Ultrasound', 114, 15, '2024-03-12', 'Normal', 'https://example.com/tests/15'),

(16, 'Kidney Function Test', 115, 16, '2024-04-22', 'Reduced Function', 'https://example.com/tests/16'),

(17, 'Heart Echo', 116, 17, '2024-05-25', 'Mild Abnormality', 'https://example.com/tests/17'),

(18, 'Eye Test', 117, 18, '2024-06-18', 'Normal Vision', 'https://example.com/tests/18'),

(19, 'Anemia Test', 118, 19, '2024-07-15', 'Anemic', 'https://example.com/tests/19'),

(20, 'Cholesterol Test', 119, 20, '2024-08-05', 'Normal', 'https://example.com/tests/20'),

(21, 'Liver Function Test', 120, 21, '2024-09-28', 'Mild Abnormality', 'https://example.com/tests/21'),

(22, 'Bone Density Test', 121, 22, '2024-10-10', 'Low Density', 'https://example.com/tests/22'),

(23, 'Hearing Test', 122, 23, '2024-11-14', 'Mild Loss', 'https://example.com/tests/23'),

(24, 'Vitamin D Test', 123, 24, '2024-12-20', 'Deficient', 'https://example.com/tests/24'),

(25, 'Blood Sugar Test', 124, 25, '2023-12-15', 'Normal', 'https://example.com/tests/25');

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-- PATIENT\_TRIALS

CREATE TABLE PATIENT\_TRIALS (

Patient\_Trial\_ID INT PRIMARY KEY,

Patient\_ID INT,

Trial\_ID INT,

Enrollment\_Date DATE,

FOREIGN KEY (Patient\_ID) REFERENCES PATIENTS(Patient\_ID),

FOREIGN KEY (Trial\_ID) REFERENCES CLINICAL\_TRIALS(Trial\_ID)

);

INSERT INTO PATIENT\_TRIALS (Patient\_Trial\_ID, Patient\_ID, Trial\_ID, Enrollment\_Date) VALUES

(1, 1, 101, '2023-01-10'),

(2, 2, 102, '2023-02-15'),

(3, 3, 101, '2023-03-05'),

(4, 4, 103, '2023-04-01'),

(5, 5, 104, '2023-05-11'),

(6, 6, 105, '2023-06-20'),

(7, 7, 106, '2023-07-15'),

(8, 8, 107, '2023-08-10'),

(9, 9, 108, '2023-09-18'),

(10, 10, 109, '2023-10-12'),

(11, 11, 110, '2023-11-10'),

(12, 12, 111, '2023-12-01'),

(13, 13, 112, '2024-01-12'),

(14, 14, 113, '2024-02-14'),

(15, 15, 114, '2024-03-08'),

(16, 16, 115, '2024-04-21'),

(17, 17, 116, '2024-05-19'),

(18, 18, 117, '2024-06-15'),

(19, 19, 118, '2024-07-11'),

(20, 20, 119, '2024-08-02'),

(21, 21, 120, '2024-09-23'),

(22, 22, 121, '2024-10-08'),

(23, 23, 122, '2024-11-04'),

(24, 24, 123, '2024-12-22'),

(25, 25, 124, '2023-12-12');

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-- SCHEDULE

CREATE TABLE SCHEDULE (

Schedule\_ID INT PRIMARY KEY,

Patient\_ID INT,

Trial\_ID INT,

Appointment\_Date DATE,

Reminder\_Status VARCHAR(255), -- Descriptive values like 'Sent', 'Not Sent', etc.

Followup\_Required BOOLEAN,

FOREIGN KEY (Patient\_ID) REFERENCES PATIENTS(Patient\_ID),

FOREIGN KEY (Trial\_ID) REFERENCES CLINICAL\_TRIALS(Trial\_ID)

);

INSERT INTO SCHEDULE (Schedule\_ID, Patient\_ID, Trial\_ID, Appointment\_Date, Reminder\_Status, Followup\_Required) VALUES

(1, 1, 101, '2023-01-20', 'Sent', TRUE),

(2, 2, 102, '2023-02-18', 'Not Sent', FALSE),

(3, 3, 101, '2023-03-12', 'Sent', TRUE),

(4, 4, 103, '2023-04-08', 'Sent', TRUE),

(5, 5, 104, '2023-05-14', 'Not Sent', FALSE),

(6, 6, 105, '2023-06-21', 'Sent', TRUE),

(7, 7, 106, '2023-07-19', 'Not Sent', TRUE),

(8, 8, 107, '2023-08-15', 'Sent', FALSE),

(9, 9, 108, '2023-09-25', 'Sent', TRUE),

(10, 10, 109, '2023-10-16', 'Not Sent', TRUE),

(11, 11, 110, '2023-11-13', 'Sent', FALSE),

(12, 12, 111, '2023-12-10', 'Not Sent', TRUE),

(13, 13, 112, '2024-01-22', 'Sent', TRUE),

(14, 14, 113, '2024-02-20', 'Sent', FALSE),

(15, 15, 114, '2024-03-18', 'Not Sent', TRUE),

(16, 16, 115, '2024-04-24', 'Sent', TRUE),

(17, 17, 116, '2024-05-27', 'Not Sent', FALSE),

(18, 18, 117, '2024-06-22', 'Sent', TRUE),

(19, 19, 118, '2024-07-16', 'Sent', TRUE),

(20, 20, 119, '2024-08-06', 'Not Sent', FALSE),

(21, 21, 120, '2024-09-29', 'Sent', TRUE),

(22, 22, 121, '2024-10-11', 'Sent', FALSE),

(23, 23, 122, '2024-11-15', 'Not Sent', TRUE),

(24, 24, 123, '2024-12-21', 'Sent', TRUE),

(25, 25, 124, '2023-12-18', 'Not Sent', FALSE);

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-- REGULATORY\_DOCUMENTS

CREATE TABLE REGULATORY\_DOCUMENTS (

Document\_ID INT PRIMARY KEY,

Document\_Name VARCHAR(255),

Trial\_ID INT,

Submission\_Date DATE,

Approval\_Status VARCHAR(255), -- Example values: 'Approved', 'Pending', 'Rejected'

Document\_url VARCHAR(255),

FOREIGN KEY (Trial\_ID) REFERENCES CLINICAL\_TRIALS(Trial\_ID)

);

INSERT INTO REGULATORY\_DOCUMENTS (Document\_ID, Document\_Name, Trial\_ID, Submission\_Date, Approval\_Status, Document\_url) VALUES

(1, 'Trial Registration Form', 101, '2023-01-10', 'Approved', 'https://example.com/documents/1'),

(2, 'Ethics Approval', 102, '2023-02-15', 'Pending', 'https://example.com/documents/2'),

(3, 'Data Sharing Agreement', 103, '2023-03-05', 'Rejected', 'https://example.com/documents/3'),

(4, 'Clinical Protocol', 104, '2023-04-01', 'Approved', 'https://example.com/documents/4'),

(5, 'Investigator Brochure', 105, '2023-05-11', 'Approved', 'https://example.com/documents/5'),

(6, 'Study Manual', 106, '2023-06-20', 'Pending', 'https://example.com/documents/6'),

(7, 'Informed Consent Form', 107, '2023-07-15', 'Approved', 'https://example.com/documents/7'),

(8, 'Annual Progress Report', 108, '2023-08-10', 'Approved', 'https://example.com/documents/8'),

(9, 'Monitoring Plan', 109, '2023-09-18', 'Pending', 'https://example.com/documents/9'),

(10, 'Statistical Analysis Plan', 110, '2023-10-12', 'Approved', 'https://example.com/documents/10'),

(11, 'Safety Report', 111, '2023-11-10', 'Rejected', 'https://example.com/documents/11'),

(12, 'Interim Study Report', 112, '2023-12-01', 'Approved', 'https://example.com/documents/12'),

(13, 'Publication Policy', 113, '2024-01-12', 'Pending', 'https://example.com/documents/13'),

(14, 'Final Study Report', 114, '2024-02-14', 'Approved', 'https://example.com/documents/14'),

(15, 'Amendment Documentation', 115, '2024-03-08', 'Approved', 'https://example.com/documents/15'),

(16, 'Site Selection Plan', 116, '2024-04-21', 'Pending', 'https://example.com/documents/16'),

(17, 'Audit Certificate', 117, '2024-05-19', 'Approved', 'https://example.com/documents/17'),

(18, 'Adverse Event Report', 118, '2024-06-15', 'Rejected', 'https://example.com/documents/18'),

(19, 'Privacy Impact Assessment', 119, '2024-07-11', 'Pending', 'https://example.com/documents/19'),

(20, 'Regulatory Compliance Form', 120, '2024-08-02', 'Approved', 'https://example.com/documents/20'),

(21, 'Progress Report', 121, '2024-09-23', 'Pending', 'https://example.com/documents/21'),

(22, 'End of Study Notification', 122, '2024-10-08', 'Approved', 'https://example.com/documents/22'),

(23, 'Closeout Report', 123, '2024-11-04', 'Approved', 'https://example.com/documents/23'),

(24, 'Termination Plan', 124, '2024-12-22', 'Pending', 'https://example.com/documents/24'),

(25, 'Sponsor Agreement', 125, '2023-12-12', 'Approved', 'https://example.com/documents/25');

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-- FUNDING

CREATE TABLE FUNDING (

Funding\_ID INT PRIMARY KEY,

Trial\_ID INT,

Funding\_Source VARCHAR(255),

Amount DECIMAL(15, 2),

Disbursement\_Date DATE,

Funding\_Status VARCHAR(255), -- Example values: 'Disbursed', 'Pending', 'Cancelled'

FOREIGN KEY (Trial\_ID) REFERENCES CLINICAL\_TRIALS(Trial\_ID)

);

INSERT INTO FUNDING (Funding\_ID, Trial\_ID, Funding\_Source, Amount, Disbursement\_Date, Funding\_Status) VALUES

(1, 101, 'National Health Institute', 50000.00, '2023-01-15', 'Disbursed'),

(2, 102, 'Pharmaceutical Company A', 75000.00, '2023-02-20', 'Pending'),

(3, 103, 'Government Grant', 100000.00, '2023-03-10', 'Disbursed'),

(4, 104, 'University Research Fund', 25000.00, '2023-04-05', 'Disbursed'),

(5, 105, 'Pharmaceutical Company B', 150000.00, '2023-05-15', 'Pending'),

(6, 106, 'Private Foundation', 80000.00, '2023-06-25', 'Disbursed'),

(7, 107, 'International Health Organization', 120000.00, '2023-07-18', 'Cancelled'),

(8, 108, 'Pharmaceutical Company C', 60000.00, '2023-08-14', 'Disbursed'),

(9, 109, 'Government Grant', 90000.00, '2023-09-22', 'Pending'),

(10, 110, 'University Research Fund', 55000.00, '2023-10-15', 'Disbursed'),

(11, 111, 'National Cancer Institute', 110000.00, '2023-11-12', 'Pending'),

(12, 112, 'Health Research Council', 45000.00, '2023-12-10', 'Disbursed'),

(13, 113, 'International Health Organization', 95000.00, '2024-01-20', 'Disbursed'),

(14, 114, 'Government Grant', 40000.00, '2024-02-17', 'Pending'),

(15, 115, 'Pharmaceutical Company D', 140000.00, '2024-03-12', 'Disbursed'),

(16, 116, 'Private Donor', 35000.00, '2024-04-22', 'Pending'),

(17, 117, 'National Institute on Aging', 105000.00, '2024-05-25', 'Disbursed'),

(18, 118, 'University Research Fund', 50000.00, '2024-06-18', 'Cancelled'),

(19, 119, 'Pharmaceutical Company E', 70000.00, '2024-07-15', 'Disbursed'),

(20, 120, 'Government Grant', 80000.00, '2024-08-05', 'Pending'),

(21, 121, 'National Health Institute', 60000.00, '2024-09-28', 'Disbursed'),

(22, 122, 'Pharmaceutical Company F', 95000.00, '2024-10-10', 'Disbursed'),

(23, 123, 'International Organization', 55000.00, '2024-11-14', 'Cancelled'),

(24, 124, 'Health Research Council', 45000.00, '2024-12-20', 'Pending'),

(25, 125, 'Private Donor', 70000.00, '2023-12-15', 'Disbursed');

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-- TRIAL\_INVESTIGATORS

CREATE TABLE TRIAL\_INVESTIGATORS (

Trial\_Investigator\_ID INT PRIMARY KEY,

Trial\_ID INT,

Researcher\_ID INT,

Role VARCHAR(255), -- Example values: 'Lead Investigator', 'Co-Investigator', etc.

FOREIGN KEY (Trial\_ID) REFERENCES CLINICAL\_TRIALS(Trial\_ID),

FOREIGN KEY (Researcher\_ID) REFERENCES PRINCIPAL\_INVESTIGATORS(Researcher\_ID)

);

INSERT INTO TRIAL\_INVESTIGATORS (Trial\_Investigator\_ID, Trial\_ID, Researcher\_ID, Role) VALUES

(1, 101, 1, 'Lead Investigator'),

(2, 102, 2, 'Co-Investigator'),

(3, 103, 3, 'Principal Investigator'),

(4, 104, 4, 'Research Assistant'),

(5, 105, 5, 'Clinical Scientist'),

(6, 106, 6, 'Lead Investigator'),

(7, 107, 7, 'Co-Investigator'),

(8, 108, 8, 'Principal Investigator'),

(9, 109, 9, 'Research Assistant'),

(10, 110, 10, 'Clinical Scientist'),

(11, 111, 11, 'Lead Investigator'),

(12, 112, 12, 'Co-Investigator'),

(13, 113, 13, 'Principal Investigator'),

(14, 114, 14, 'Research Assistant'),

(15, 115, 15, 'Clinical Scientist'),

(16, 116, 16, 'Lead Investigator'),

(17, 117, 17, 'Co-Investigator'),

(18, 118, 18, 'Principal Investigator'),

(19, 119, 19, 'Research Assistant'),

(20, 120, 20, 'Clinical Scientist'),

(21, 121, 21, 'Lead Investigator'),

(22, 122, 22, 'Co-Investigator'),

(23, 123, 23, 'Principal Investigator'),

(24, 124, 24, 'Research Assistant'),

(25, 125, 25, 'Clinical Scientist');

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-- RANDOMIZATION

CREATE TABLE RANDOMIZATION (

Randomization\_ID INT PRIMARY KEY,

Trial\_ID INT,

Patient\_Group CHAR(50), -- Example values: 'Control', 'Experimental', etc.

Allocation\_Date DATE,

Blinding\_Status CHAR(50), -- Example values: 'Single Blind', 'Double Blind'

FOREIGN KEY (Trial\_ID) REFERENCES CLINICAL\_TRIALS(Trial\_ID)

);

INSERT INTO RANDOMIZATION (Randomization\_ID, Trial\_ID, Patient\_Group, Allocation\_Date, Blinding\_Status) VALUES

(1, 101, 'Control', '2023-01-15', 'Single Blind'),

(2, 101, 'Experimental', '2023-01-16', 'Single Blind'),

(3, 102, 'Control', '2023-02-20', 'Double Blind'),

(4, 102, 'Experimental', '2023-02-21', 'Double Blind'),

(5, 103, 'Control', '2023-03-10', 'Open Label'),

(6, 103, 'Experimental', '2023-03-11', 'Open Label'),

(7, 104, 'Control', '2023-04-05', 'Double Blind'),

(8, 104, 'Experimental', '2023-04-06', 'Double Blind'),

(9, 105, 'Control', '2023-05-15', 'Single Blind'),

(10, 105, 'Experimental', '2023-05-16', 'Single Blind'),

(11, 106, 'Control', '2023-06-25', 'Double Blind'),

(12, 106, 'Experimental', '2023-06-26', 'Double Blind'),

(13, 107, 'Control', '2023-07-18', 'Open Label'),

(14, 107, 'Experimental', '2023-07-19', 'Open Label'),

(15, 108, 'Control', '2023-08-14', 'Single Blind'),

(16, 108, 'Experimental', '2023-08-15', 'Single Blind'),

(17, 109, 'Control', '2023-09-22', 'Double Blind'),

(18, 109, 'Experimental', '2023-09-23', 'Double Blind'),

(19, 110, 'Control', '2023-10-15', 'Open Label'),

(20, 110, 'Experimental', '2023-10-16', 'Open Label'),

(21, 111, 'Control', '2023-11-12', 'Single Blind'),

(22, 111, 'Experimental', '2023-11-13', 'Single Blind'),

(23, 112, 'Control', '2023-12-10', 'Double Blind'),

(24, 112, 'Experimental', '2023-12-11', 'Double Blind'),

(25, 113, 'Control', '2024-01-20', 'Open Label');

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-- DRUG

CREATE TABLE DRUG (

Item\_ID INT PRIMARY KEY,

Name VARCHAR(255),

Type VARCHAR(255), -- Example: 'Tablet', 'Injection', 'Syrup', etc.

Manufacturer VARCHAR(255),

Trial\_ID INT,

FOREIGN KEY (Trial\_ID) REFERENCES CLINICAL\_TRIALS(Trial\_ID)

);

INSERT INTO DRUG (Item\_ID, Name, Type, Manufacturer, Trial\_ID) VALUES

(1, 'Metformin', 'Tablet', 'PharmaCo A', 101),

(2, 'Albuterol', 'Inhaler', 'HealthCorp B', 102),

(3, 'Atorvastatin', 'Tablet', 'Wellness Pharma', 103),

(4, 'Ibuprofen', 'Tablet', 'MediCare Inc.', 104),

(5, 'Ciprofloxacin', 'Injection', 'Global Medics', 105),

(6, 'Amoxicillin', 'Capsule', 'PharmaCo C', 106),

(7, 'Lisinopril', 'Tablet', 'HealthCorp D', 107),

(8, 'Salbutamol', 'Syrup', 'Respira Pharma', 108),

(9, 'Insulin Glargine', 'Injection', 'Diabetic Solutions', 109),

(10, 'Omeprazole', 'Capsule', 'Wellness Pharma', 110),

(11, 'Paracetamol', 'Tablet', 'Global Medics', 111),

(12, 'Warfarin', 'Tablet', 'PharmaCo E', 112),

(13, 'Hydrochlorothiazide', 'Tablet', 'MediCare Inc.', 113),

(14, 'Ranitidine', 'Tablet', 'HealthCorp F', 114),

(15, 'Clopidogrel', 'Tablet', 'Global Medics', 115),

(16, 'Doxycycline', 'Capsule', 'PharmaCo G', 116),

(17, 'Metoprolol', 'Tablet', 'Wellness Pharma', 117),

(18, 'Azithromycin', 'Injection', 'Global Medics', 118),

(19, 'Montelukast', 'Tablet', 'Respira Pharma', 119),

(20, 'Losartan', 'Tablet', 'PharmaCo H', 120),

(21, 'Budesonide', 'Inhaler', 'HealthCorp I', 121),

(22, 'Prednisolone', 'Tablet', 'PharmaCo J', 122),

(23, 'Rosuvastatin', 'Tablet', 'Wellness Pharma', 123),

(24, 'Fluoxetine', 'Capsule', 'NeuroMed Corp', 124),

(25, 'Varenicline', 'Tablet', 'QuitLine Pharma', 125);

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**1. List all patients enrolled in a specific trial along with their enrollment date**

SELECT

P.Patient\_ID,

P.First\_Name,

P.Last\_Name,

PT.Enrollment\_Date

FROM

PATIENTS P

JOIN

PATIENT\_TRIALS PT ON P.Patient\_ID = PT.Patient\_ID

WHERE

PT.Trial\_ID = 101;

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**2. Count the number of drugs used in each clinical trial**

SELECT

C.Trial\_ID,

C.Trial\_Name,

COUNT(D.Item\_ID) AS Drug\_Count

FROM

CLINICAL\_TRIALS C

LEFT JOIN

DRUG D ON C.Trial\_ID = D.Trial\_ID

GROUP BY

C.Trial\_ID, C.Trial\_Name;

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**3. Identify trials where regulatory documents are still pending approval**

SELECT DISTINCT

C.Trial\_ID,

C.Trial\_Name

FROM

CLINICAL\_TRIALS C

JOIN

REGULATORY\_DOCUMENTS RD ON C.Trial\_ID = RD.Trial\_ID

WHERE

RD.Approval\_Status = 'Pending';

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**4. List investigators and their roles in ongoing clinical trials**

SELECT

PI.Name AS Investigator\_Name,

TI.Role,

CT.Trial\_Name

FROM

TRIAL\_INVESTIGATORS TI

JOIN

PRINCIPAL\_INVESTIGATORS PI ON TI.Researcher\_ID = PI.Researcher\_ID

JOIN

CLINICAL\_TRIALS CT ON TI.Trial\_ID = CT.Trial\_ID

WHERE

CT.Status = 'Ongoing';

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**5. Retrieve all patients assigned to the control group of a randomized trial**

SELECT

P.Patient\_ID,

P.First\_Name,

P.Last\_Name

FROM

RANDOMIZATION R

JOIN

PATIENTS P ON R.Trial\_ID = P.Trial\_ID

WHERE

R.Patient\_Group = 'Control'

AND R.Trial\_ID = 101;

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