```
sudo -u postgres psql
CREATE DATABASE dataNorm;
\q
sudo -u postgres psql dataNorm
CREATE EXTENSION postgis;

-- Create table for information about parks
CREATE TABLE Parks_Info (
    ID SERIAL PRIMARY KEY,
    ParkName VARCHAR(255),
    Facilities VARCHAR(255)
);

-- Insert park info
INSERT INTO Parks_Info (ParkName, Facilities) VALUES
('Central Park', 'Playground, Restroom, Picnic area'),
('Liberty Park', 'Restroom, Picnic area'),
('Riverside Park', 'Playground, Bike Path');

-- Normalizing to 1NF: Create parks table
CREATE TABLE Parks (
    ParkID SERIAL PRIMARY KEY,
    ParkName VARCHAR(255)
);

-- Populate parks table
INSERT INTO Parks (ParkName)
SELECT DISTINCT ParkName FROM Parks_Info;

-- Check table
SELECT DISTINCT parkname FROM parks;

-- Normalizing to 1NF: Create facilities table
CREATE TABLE Facilities (
    FacilityID SERIAL PRIMARY KEY,
    ParkID INT,
    FacilityName VARCHAR(255),
    FOREIGN KEY (ParkID) REFERENCES Parks(ParkID)
);

-- Assuming ParkID for Central Park is 1; adjust based on actual ID
INSERT INTO Facilities (ParkID, FacilityName) VALUES
(1, 'Playground'),
(1, 'Restroom'),
(1, 'Picnic area'),
(2, 'Restroom'),
(2, 'Picnis area'),
(3, 'Playground'),
(3, 'Bike Path');

-- Normalizing to 2NF: Create ParkFacilities table
CREATE TABLE ParkFacilities (
    FacilityID SERIAL PRIMARY KEY,
    FacilityName VARCHAR(255)
);

INSERT INTO ParkFacilities (FacilityName)
VALUES ('Playground'), ('Restroom'), ('Picnic area'), ('Bike Path');

-- Assuming 'Facilities' already exists without a proper foreign key setup
ALTER TABLE Facilities ADD COLUMN ParkFacilityID INT;
ALTER TABLE Facilities
```



```
ADD CONSTRAINT fk_parkfacilityid FOREIGN KEY (ParkFacilityID) REFERENCES
ParkFacilities(FacilityID);

-- Update facilities to reference parkfacilities
UPDATE Facilities
SET ParkFacilityID = (SELECT FacilityID FROM ParkFacilities WHERE FacilityName =
Facilities.FacilityName);

-- Cleanup redudant columns
ALTER TABLE Facilities DROP COLUMN FacilityName;
```