PART 1 : SDG Selection: SDG 16: Peace, Justice, and Strong Institutions

Problem Definition:

Community disengagement and lack of transparency in local governance. Many communities struggle with accessing information about local services, engaging with community leaders, and participating in local governance.

PART 2 : DATABSE DESIGN AND SAMPLE DATA INSERTION

ERD (Entity-Relationship Diagram):

- **Entities:**
  - Community Members: MemberID, Name, Email, Address, Phone
  - Community Leaders: LeaderID, Name, Email, Role, ContactInfo
  - Local Facilities: FacilityID, Name, Type, Location, ContactInfo
  - Educational Institutions: InstitutionID, Name, Type, Location, ContactInfo
  - Engagement Records: RecordID, MemberID, LeaderID, FacilityID, InstitutionID, Date, EngagementType, Notes

Database Design and Schema:

- Creating tables for CommunityMembers, CommunityLeaders, LocalFacilities, EducationalInstitutions, EngagementRecords, and `Users`.
- Included authentication and user management with `AuthTokens` and `Users` tables.

Sample Data Insertion:

- Added sample data to `Users` and `EngagementRecords`.

– Step 1 : Create the database GovernDB

-- CREATE DATABASE GovernDB;

-- STEP 2: uSE THE NEWLY CREATED DB --
-- USE governdb;

-- Step 3: Create the Auth and User Management Tables;

-- Tabel to store use accounts

```
CREATE TABLE Users(
UserID INT auto_increment PRIMARY KEY,
Name VARCHAR(100) NOT NULL,
Email VARCHAR(100) UNIQUE NOT NULL,
PasswordHash VARCHAR(255) NOT NULL, -- Stores a hashed password
Role VARCHAR(20) DEFAULT 'Member', -- Roles like 'Member or Admin'
DateCreated TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

-- Table to store authentication token (for session or JWT)

```
CREATE TABLE AuthTokens (
    TokenID INT AUTO_INCREMENT PRIMARY KEY,
    UserID INT,
    Token VARCHAR(255),
    ExpiryDate TIMESTAMP,
    FOREIGN KEY (UserID) REFERENCES Users(UserID)
);
```

-- step 4 : Create Community Engagement Tables

```
-- Table for community members
CREATE TABLE CommunityMembers (
MemberID INT auto_increment PRIMARY KEY,
UserID INT, -- Reference to Users Table
Name VARCHAR(100),
Email VARCHAR(100),
Address VARCHAR(255),
Phone VARCHAR(15),
FOREIGN KEY (UserID) REFERENCES Users(UserID)
);
```

-- Table for community leaders

```
CREATE TABLE CommunityLeaders (
   LeaderID INT AUTO_INCREMENT PRIMARY KEY,
   Name VARCHAR(100),
   Email VARCHAR(100),
   Role VARCHAR(50),
   ContactInfo VARCHAR(255)
);
```

-- TABLE for local facilities

```
CREATE TABLE localFacilities (
FacilityID INT auto_increment PRIMARY KEY,
Name VARCHAR(100),
Type VARCHAR(50),
Location VARCHAR(255),
ContactInfo VARCHAR(255)
);
```

-- TABLE FOR EDUCTATIONAL Institutions

```
CREATE TABLE EducationalInstitutions (
InstitutionID INT auto_increment PRIMARY KEY,
Name VARCHAR(100),
Type VARCHAR(50),
Location VARCHAR(255),
ContactInfo VARCHAR(255)
);
```

-- Table for engagementRecords

```
CREATE TABLE EngagementRecords (
Records INT auto_increment primary KEY ,
MemeberID INT,
LeaderID INT,
FacilityID INT,
InstitutionID INT,
Date DATE,
EngagementType VARCHAR(50),
Notes TEXT,
FOREIGN KEY (MemberID) REFERENCES CommunityMembers(MemberID),
FOREIGN KEY (LeaderID) references CommunityLeaders(LeaderID),
FOREIGN KEY (FacilityID) references LocalFacilities(FacilityID),
FOREIGN KEY (InstitutionID) references EducationalInstitutions(InstitutionID)
);
```

Queries to insert dummy data in the tables :

1. **User table**

INSERT INTO Users (Name, Email, PasswordHash, Role, DateCreated) VALUES

('john_doe', 'john.doe@example.com', 'hashedpassword1', 'member', NOW()),
('jane_smith', 'jane.smith@example.com', 'hashedpassword2', 'leader', NOW());

2. **CommunityMembers Table**

INSERT INTO CommunityMembers (MemberID, Name, Email, Address, Phone) VALUES

(1, 'Alice Johnson', 'alice.johnson@example.com', '123 Elm Street', '123-456-7890'),
(2, 'Bob Brown', 'bob.brown@example.com', '456 Oak Avenue', '234-567-8901');

3. **CommunityLeaders Table**

INSERT INTO CommunityLeaders (LeaderID, Name, Email, Role, ContactInfo) VALUES

(1, 'Sarah Green', 'sarah.green@example.com', 'Community Organizer', '789-012-3456'),
(2, 'David White', 'david.white@example.com', 'Local Councillor', '890-123-4567');

4. **LocalFacilities Table**

INSERT INTO LocalFacilities (FacilityID, Name, Type, Location, ContactInfo) VALUES

(1, 'Community Center', 'Recreation', '789 Maple Street', '123-456-7890'),
(2, 'Public Library', 'Education', '101 Pine Road', '234-567-8901');

5. **EducationalInstitutions Table**

INSERT INTO EducationalInstitutions (InstitutionID, Name, Type, Location, ContactInfo) VALUES

(1, 'Midrand High School', 'High School', '123 School Lane', '345-678-9012'),
(2, 'Midrand University', 'University', '456 University Drive', '456-789-0123');

6. . **EngagementRecords Table**

INSERT INTO EngagementRecords (RecordID, MemberID, LeaderID, FacilityID, InstitutionID, Date, EngagementType, Notes) VALUES

(1, 1, 1, 1, 1, NOW(), 'Volunteer Work', 'Participated in community cleanup event'),
(2, 2, 2, 2, 2, NOW(), 'Meeting', 'Attended local council meeting');

7. **AuthTokens Table**

INSERT INTO AuthTokens (UserID, Token, ExpiryDate) VALUES

(1, 'token1234567890', DATE_ADD(NOW(), INTERVAL 1 DAY)),
(2, 'token0987654321', DATE_ADD(NOW(), INTERVAL 1 DAY));