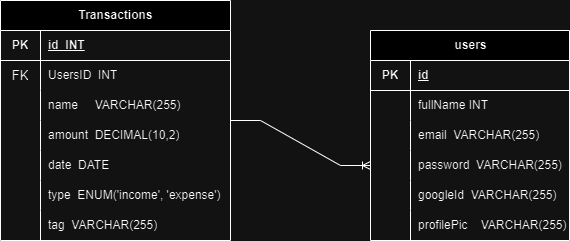
**Part 2: Database Design ERD:**

Design an ERD for your project, including entities relevant to your SDG problem. Schema:

Write SQL statements to create the database schema based on your ERD.

Sample Data: Populate the database with relevant sample data.

1. **ERD diagram**

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1. **Schema:**

**CREATE TABLE Users** (

id INT PRIMARY KEY AUTO\_INCREMENT,

fullName VARCHAR(255) NOT NULL,

email VARCHAR(255) UNIQUE NOT NULL,

password VARCHAR(255) NOT NULL,

googleId VARCHAR(255) UNIQUE,

profilePicture VARCHAR(255)

);

**CREATE TABLE Transactions** (

id INT PRIMARY KEY AUTO\_INCREMENT,

UserId INT,

name VARCHAR(255) NOT NULL,

amount DECIMAL(10, 2) NOT NULL,

date DATE NOT NULL,

type ENUM('income', 'expense') NOT NULL,

tag VARCHAR(255) NOT NULL,

FOREIGN KEY (UserId) REFERENCES Users(id)

);

**3. SAMPLE DATA**

**INSERT INTO Users** (fullName, email, password, googleId, profilePicture) VALUES

('John Doe', 'john.doe@example.com', 'hashed\_password\_1', NULL, NULL),

('Jane Smith', 'jane.smith@example.com', 'hashed\_password\_2', NULL, NULL),

('Bob Johnson', 'bob.johnson@example.com', 'hashed\_password\_3', NULL, NULL),

('Alice Brown', 'alice.brown@example.com', 'hashed\_password\_4', NULL, NULL),

('Charlie Davis', 'charlie.davis@example.com', 'hashed\_password\_5', NULL, NULL);

**INSERT INTO Transactions** (UserId, name, amount, date, type, tag) VALUES

-- John Doe's transactions

(1, 'Salary', 3000.00, '2023-09-01', 'income', 'salary'),

(1, 'Rent', 1000.00, '2023-09-05', 'expense', 'housing'),

(1, 'Groceries', 200.00, '2023-09-10', 'expense', 'food'),

(1, 'Internet Bill', 50.00, '2023-09-15', 'expense', 'utilities'),

(1, 'Freelance Work', 500.00, '2023-09-20', 'income', 'freelance'),

(1, 'Restaurant Dinner', 80.00, '2023-09-25', 'expense', 'dining out'),

-- Jane Smith's transactions

(2, 'Salary', 3500.00, '2023-09-01', 'income', 'salary'),

(2, 'Mortgage', 1200.00, '2023-09-05', 'expense', 'housing'),

(2, 'Electricity Bill', 100.00, '2023-09-10', 'expense', 'utilities'),

(2, 'Supermarket', 150.00, '2023-09-15', 'expense', 'food'),

(2, 'Bonus', 1000.00, '2023-09-20', 'income', 'bonus'),

(2, 'New Laptop', 1200.00, '2023-09-25', 'expense', 'electronics'),

-- Bob Johnson's transactions

(3, 'Salary', 4000.00, '2023-09-01', 'income', 'salary'),

(3, 'Rent', 1500.00, '2023-09-05', 'expense', 'housing'),

(3, 'Car Payment', 300.00, '2023-09-10', 'expense', 'transportation'),

(3, 'Groceries', 250.00, '2023-09-15', 'expense', 'food'),

(3, 'Gym Membership', 50.00, '2023-09-20', 'expense', 'fitness'),

(3, 'Freelance Project', 800.00, '2023-09-25', 'income', 'freelance'),

-- Alice Brown's transactions

(4, 'Salary', 3200.00, '2023-09-01', 'income', 'salary'),

(4, 'Rent', 900.00, '2023-09-05', 'expense', 'housing'),

(4, 'Phone Bill', 60.00, '2023-09-10', 'expense', 'utilities'),

(4, 'Grocery Shopping', 180.00, '2023-09-15', 'expense', 'food'),

(4, 'Online Course', 200.00, '2023-09-20', 'expense', 'education'),

(4, 'Part-time Job', 600.00, '2023-09-25', 'income', 'part-time'),

-- Charlie Davis's transactions

(5, 'Salary', 4500.00, '2023-09-01', 'income', 'salary'),

(5, 'Mortgage', 1400.00, '2023-09-05', 'expense', 'housing'),

(5, 'Car Insurance', 120.00, '2023-09-10', 'expense', 'insurance'),

(5, 'Supermarket', 300.00, '2023-09-15', 'expense', 'food'),

(5, 'Investment Dividend', 200.00, '2023-09-20', 'income', 'investment'),

(5, 'Home Repairs', 500.00, '2023-09-25', 'expense', 'maintenance');

-- Additional transactions for October

-- John Doe

(1, 'Salary', 3000.00, '2023-10-01', 'income', 'salary'),

(1, 'Rent', 1000.00, '2023-10-05', 'expense', 'housing'),

(1, 'Groceries', 220.00, '2023-10-10', 'expense', 'food'),

(1, 'Internet Bill', 50.00, '2023-10-15', 'expense', 'utilities'),

(1, 'Freelance Work', 600.00, '2023-10-20', 'income', 'freelance'),

(1, 'Movie Night', 40.00, '2023-10-25', 'expense', 'entertainment'),

-- Jane Smith

(2, 'Salary', 3500.00, '2023-10-01', 'income', 'salary'),

(2, 'Mortgage', 1200.00, '2023-10-05', 'expense', 'housing'),

(2, 'Electricity Bill', 110.00, '2023-10-10', 'expense', 'utilities'),

(2, 'Supermarket', 180.00, '2023-10-15', 'expense', 'food'),

(2, 'Side Gig', 500.00, '2023-10-20', 'income', 'freelance'),

(2, 'New Phone', 800.00, '2023-10-25', 'expense', 'electronics');