**Loyiha nomi: "BookStore Management System"**

**1. Ma’lumotlar bazasi (SQL) plani**

1. **users**
   * **id, name, email, phone, created\_at**
2. **books**
   * **id, title, author, genre, stock\_qty, price, added\_at**
3. **orders**
   * **id, user\_id, total\_amount, status (pending, completed, cancelled), ordered\_at**
4. **order\_items**
   * **id, order\_id, book\_id, quantity, price**
5. **inventory\_logs**
   * **id, book\_id, change\_qty (+/−), reason, changed\_at**
6. **reviews**
   * **id, user\_id, book\_id, rating, comment, created\_at**

**2. Python orqali bajariladigan funksional mashqlar**

**🔹 Foydalanuvchilar:**

* Yangi foydalanuvchini ro‘yxatdan o‘tkazish
* **Foydalanuvchilar ro‘yxatini ko‘rish**
* **Muayyan foydalanuvchining buyurtma tarixini ko‘rish**

**🔹 Kitoblar:**

* Yangi kitob qo‘shish
* Kitob zaxirasini yangilash (sotuv yoki qo‘shish)
* Eng ko‘p sotilgan kitoblar ro‘yxatini chiqarish
* Mavjud kitoblar ro‘yxatini ko‘rish (filtr bilan)

**🔹 Buyurtmalar:**

* Buyurtma yaratish (bir nechta kitoblar bilan)
* Buyurtmani bekor qilish
* Buyurtmalar tarixini ko‘rish

**🔹 Inventar:**

* Har bir zaxira o‘zgarishiga log yozish
* Qaysi kitoblar zaxirasi kamligini aniqlash

**🔹 Hisobotlar:**

* Oylik savdo hisoboti
* Eng ko‘p buyurtma bergan foydalanuvchi
* Eng ko‘p baho olingan kitoblar ro‘yxati

**Advanced Functions:**

**✍️ 1. Register (Ro‘yxatdan o‘tish)**

**Foydalanuvchi quyidagi ma’lumotlarni kiritadi:**

* Ismi
* Username (yagona bo‘lishi kerak)
* Parol (2 marta kiritish)
* Email
* Telefon raqami

🔸 Python tekshiradi:

* Username allaqachon mavjudmi?
* Parollar bir xilmi?
* Har bir maydon to‘ldirilganmi?

🔸 Agar hammasi to‘g‘ri bo‘lsa:

* Ma’lumotlar users jadvaliga yoziladi
* Parol hashlib orqali hash qilinadi (MD5 yoki SHA256)

**🔐 2. Login (Tizimga kirish)**

**Foydalanuvchi:**

* Username (Name)
* Parol (Email)

🔸 Python:

* Username bo‘yicha foydalanuvchini qidiradi
* Parol hashlangan holatda mos keladimi — tekshiradi

✅ Kirish muvaffaqiyatli bo‘lsa: foydalanuvchi identifikatsiya qilinadi va tizimda faol bo‘ladi

**Sql Query:**

-- Ma'lumotlar bazasini yaratish

CREATE DATABASE BookStore;

GO

-- Ma'lumotlar bazasini tanlash

USE BookStore;

GO

-- Foydalanuvchilar jadvali

CREATE TABLE users (

id INT IDENTITY(1,1) PRIMARY KEY,

name NVARCHAR(100) NOT NULL,

email NVARCHAR(100) NOT NULL UNIQUE,

phone NVARCHAR(20) NOT NULL,

created\_at DATETIME DEFAULT GETDATE()

);

-- Kitoblar jadvali

CREATE TABLE books (

id INT IDENTITY(1,1) PRIMARY KEY,

title NVARCHAR(200) NOT NULL,

author NVARCHAR(100) NOT NULL,

genre NVARCHAR(50) NOT NULL,

stock\_qty INT NOT NULL,

price DECIMAL(10, 2) NOT NULL,

added\_at DATETIME DEFAULT GETDATE()

);

-- Buyurtmalar jadvali

CREATE TABLE orders (

id INT IDENTITY(1,1) PRIMARY KEY,

user\_id INT,

total\_amount DECIMAL(10, 2) NOT NULL,

status NVARCHAR(20) CHECK (status IN ('pending', 'completed', 'cancelled')) NOT NULL,

ordered\_at DATETIME DEFAULT GETDATE(),

FOREIGN KEY (user\_id) REFERENCES users(id)

);

-- Buyurtma elementlari jadvali

CREATE TABLE order\_items (

id INT IDENTITY(1,1) PRIMARY KEY,

order\_id INT,

book\_id INT,

quantity INT NOT NULL,

price DECIMAL(10, 2) NOT NULL,

FOREIGN KEY (order\_id) REFERENCES orders(id),

FOREIGN KEY (book\_id) REFERENCES books(id)

);

-- Inventar o'zgarishlar jadvali

CREATE TABLE inventory\_logs (

id INT IDENTITY(1,1) PRIMARY KEY,

book\_id INT,

change\_qty INT NOT NULL,

reason NVARCHAR(255) NOT NULL,

changed\_at DATETIME DEFAULT GETDATE(),

FOREIGN KEY (book\_id) REFERENCES books(id)

);

-- Foydalanuvchi sharhlari jadvali

CREATE TABLE reviews (

id INT IDENTITY(1,1) PRIMARY KEY,

user\_id INT,

book\_id INT,

rating INT CHECK (rating BETWEEN 1 AND 5),

comment NVARCHAR(255),

created\_at DATETIME DEFAULT GETDATE(),

FOREIGN KEY (user\_id) REFERENCES users(id),

FOREIGN KEY (book\_id) REFERENCES books(id)

);

-- Foydalanuvchilar jadvaliga ma'lumotlar kiritish

INSERT INTO users (name, email, phone) VALUES

('Ali Karimov', 'ali.karimov@mail.com', '998901234567'),

('Nodira Xusanova', 'nodira.xusanova@mail.com', '998912345678'),

('Javlon Tursunov', 'javlon.tursunov@mail.com', '998931234589');

-- Kitoblar jadvaliga ma'lumotlar kiritish

INSERT INTO books (title, author, genre, stock\_qty, price) VALUES

('Python for Beginners', 'John Doe', 'Programming', 100, 25.99),

('The Data Scientist Handbook', 'Jane Smith', 'Data Science', 50, 45.00),

('The Art of War', 'Sun Tzu', 'Philosophy', 200, 12.99);

-- Buyurtmalar jadvaliga ma'lumotlar kiritish

INSERT INTO orders (user\_id, total\_amount, status) VALUES

(1, 25.99, 'completed'),

(2, 91.99, 'pending'),

(3, 55.99, 'cancelled');

-- Buyurtma elementlari jadvaliga ma'lumotlar kiritish

INSERT INTO order\_items (order\_id, book\_id, quantity, price) VALUES

(1, 1, 1, 25.99),

(2, 1, 2, 25.99),

(2, 2, 1, 45.00),

(3, 2, 1, 45.00);

-- Inventar o'zgarishlar jadvaliga ma'lumotlar kiritish

INSERT INTO inventory\_logs (book\_id, change\_qty, reason) VALUES

(1, -1, 'Sale'),

(2, -3, 'Sale'),

(3, -5, 'Sale');

-- Foydalanuvchi sharhlari jadvaliga ma'lumotlar kiritish

INSERT INTO reviews (user\_id, book\_id, rating, comment) VALUES

(1, 1, 5, 'Excellent book for beginners!'),

(2, 2, 4, 'Very informative, but a bit difficult to follow.'),

(3, 3, 5, 'A timeless classic!');