

Entity 1: Customers (Parent Entity)

Primary Key: CUSTOMER_ID

Attributes & Data Types:

- CUSTOMER_ID — INT (PK)
- FIRST_Name — VARCHAR(50)
- LAST_NAME — VARCHAR(50)
- DOB — DATE
- PHONE — VARCHAR(20)
- EMAIL — VARCHAR(100)
- ADDRESS — VARCHAR(150)

Related Entities & Relationship Classification

- Prescriptions — 1:M
Business Rule: Each patient may have multiple prescriptions; each prescription is linked to one patient.
- Orders — 1:M
Business Rule: Each patient may place many orders; each order belongs to exactly one patient.

Entity 2: Medications (Parent Entity)

Primary Key: MEDICATION_ID

Attributes & Data Types:

- MEDICATION_ID — INT (PK)
- BRAND_NAME — VARCHAR(100)
- GENERIC_NAME — VARCHAR(100)
- STRENGTH — VARCHAR(50)
- FORM — VARCHAR(50)
- PRICE — DECIMAL(10,2)

Related Entities & Relationship Classification

- Prescriptions — 1:M
Business Rule: One medication can be prescribed many times, but a prescription refers to only one medication.
- OrderItems — 1:M
Business Rule: A medication may appear in many order items, but each order item only includes one medication.

Entity 3: Prescriptions (Child Entity)

Primary Key: PRESCRIPTION_ID

Foreign Keys:

- CUSTOMER_ID → Customers
- MEDICATION_ID → Medications

Attributes & Data Types:

- PRESCRIPTION_ID — INT (PK)
- CUSTOMER_ID — INT (FK)
- MEDICATION_ID — INT (FK)
- PRESCRIBER_NAME — VARCHAR(100)
- DATE_PRESCRIBED — DATE
- QUANTITY — INT
- REFILLS_ALLOWED — INT
- REFILLS_USED — INT
- DIRECTIONS — VARCHAR(255)

Related Entities & Relationship Classification

- Customers — 1:M
- Medications — 1:M

Business Rule: Each prescription must be tied to one patient and one medication.

Entity 4: Orders (Child Entity)

Primary Key: ORDER_ID

Foreign Key:

- CUSTOMER_ID → Customers

Attributes & Data Types:

- ORDER_ID — INT (PK)
- CUSTOMER_ID — INT (FK)
- ORDER_DATE — DATE
- PAYMENT_METHOD — VARCHAR(20)
- TOTAL_AMOUNT — DECIMAL(10,2)

Related Entities & Relationship Classification

- OrderItems — 1:M

Business Rule: An order may contain multiple items; each order item belongs to exactly one order.

Entity 5: OrderItems (Child Entity)

Primary Key: ORDERITEM_ID

Foreign Keys:

- ORDER_ID → Orders
- MEDICATION_ID → Medications

Attributes & Data Types:

- ORDERITEM_ID — INT (PK)
- ORDER_ID — INT (FK)
- MEDICATION_ID — INT (FK)
- QUANTITY — INT
- UNIT_PRICE — DECIMAL(10,2)

Related Entities & Relationship Classification

- Orders — 1:M

Business Rule: Each order contains one or more order items.

- Medications — 1:M

Business Rule: A medication may appear in many order items.

