**✅ 1) Product**

| **Attribute** | **Type** | | **Description** |
| --- | --- | --- | --- |
| id | int | | المعرّف الفريد للصنف |
| name | string | | اسم الصنف |
| barcode | string | | الباركود |
| price | double | | سعر البيع |
| cost\_price | double | | سعر الشراء |
| stock\_quantity | int | | الكمية في المخزون |
| min\_quantity | int | | الحد الأدنى للمخزون |
| category\_id | int | | مرجع إلى الفئة |
| **Method** | |
| addProduct() | |
| updateProduct() | |
| deleteProduct() | |
| checkStockLevel() | |

**✅ 2) Category**

| **Attribute** | **Type** |
| --- | --- |
| id | int |
| name | string |
| **Method** | | |
| addCategory() | | |
| updateCategory() | | |
| deleteCategory() | | |

**✅ 3) Sale**

| **Attribute** | **Type** | |
| --- | --- | --- |
| id | int | |
| date | datetime | |
| total\_amount | double | |
| discount | double | |
| cashier\_id | int | |
| customer\_id | int (nullable) | |
| **Method** | |
| createSale() | |
| cancelSale() | |
| printReceipt() | |

**✅ 4) SaleItem**

| **Attribute** | **Type** |
| --- | --- |
| id | int |
| sale\_id | int |
| product\_id | int |
| quantity | int |
| unit\_price | double |

**✅ 5) Purchase**

| **Attribute** | **Type** | |
| --- | --- | --- |
| id | int | |
| date | datetime | |
| supplier\_id | Int | |
| total\_amount | double | |
| Customer\_id | int null Available | |
| User\_id | int | |
| **Method** | |
| createPurchase() | |
| cancelPurchase() | |

**✅ 6) PurchaseItem**

| **Attribute** | **Type** |
| --- | --- |
| id | int |
| purchase\_id | int |
| product\_id | int |
| quantity | int |
| cost\_price | double |

**✅ 7) Customer**

| **Attribute** | **Type** |
| --- | --- |
| id | int |
| name | string |
| phone | string |
| address | string |
| balance | double |

**✅ 8) Supplier**

| **Attribute** | **Type** |
| --- | --- |
| Id | int |
| name | string |
| phone | string |
| address | string |
| balance | double |

**✅ 9) User (Cashier / Manager)**

| **Attribute** | **Type** |
| --- | --- |
| Id | int |
| username | string |
| password\_hash | string |
| role | string |

**✅ 10) Expense**

| **Attribute** | **Type** |
| --- | --- |
| id | int |
| date | datetime |
| description | string |
| amount | double |

**🔗 العلاقات (Relationships)**

* Category \*1 → \* Product
* Product \*1 → \* SaleItem
* Product \*1 → \* PurchaseItem
* Sale \*1 → \* SaleItem
* Purchase \*1 → \* PurchaseItem
* Customer \*1 → \* Sale (يمكن أن يكون nullable = البيع النقدي بدون زبون)
* Supplier \*1 → \* Purchase
* User \*1 → \* Sale
* يمكن إضافة علاقة User \*1 → \* Purchase لو المستخدم هو من يُدخل فاتورة الشراء