**Lab 1: Understanding ORM with a Retail Inventory System  
  
What is ORM?**

ORM (Object-Relational Mapping) is a technique that maps C# classes to database tables.

How it works:

Each C# class = 1 Table

Each property = 1 Column

Each object instance = 1 Row

EF Core handles the translation between C# LINQ queries and SQL queries behind the scenes.

Benefits of ORM:

Productivity: You write C# instead of SQL.

Maintainability: Changes in your code reflect easily in DB.

**EF Core vs EF Framework**

| Feature | EF Core | EF Framework (EF6) |
| --- | --- | --- |
| Platform | Cross-platform (.NET Core, .NET 5+) | Windows only |
| Performance | Lightweight, modern | Heavier |
| Features | LINQ, Async, Compiled Queries | Mature, fewer modern features |
| Ideal for | New projects | Legacy apps |

**EF Core 8.0 Key Features**

JSON column mapping: Store and query JSON data inside SQL Server.

Compiled models: Faster startup and execution.

Interceptors: Hook into SQL commands (logging, auditing).

Bulk updates: Better performance when changing many rows.