Lab 1: Understanding ORM with a Retail Inventory System

Objective:

To understand Object-Relational Mapping (ORM) and how EF Core simplifies database operations by mapping C# objects to relational tables.

Key Points:

- ORM maps classes to database tables and properties to columns.
- It allows developers to interact with the database using object-oriented code instead of raw SQL.
- EF Core abstracts away complex SQL syntax, enabling easier maintenance.

Comparison of EF Core and EF Framework:

Feature	EF Core 8.0	EF Framework (EF6)
Platform Support	Cross-platform	Windows-only
Performance	Optimized with compiled models	Slower for large-scale workloads
Modern Features	LINQ, async queries, JSON mapping	Limited
Flexibility	Lightweight, modular	Monolithic

Tools and Setup:

- Initialized a .NET console application
- Installed EF Core packages:

```
dotnet new console -n RetailInventory
cd RetailInventory
dotnet add package Microsoft.EntityFrameworkCore.SqlServer
dotnet add package Microsoft.EntityFrameworkCore.Design
```