**LAB 4: EF CORE 8.0 HOL**

**Aim:** Inserting Initial Data into the Database

**Scenario:** The store manager wants to add initial product categories and products to the system.

**Models\Product.cs:**

namespace RetailInventoryApp.Models;

public class Product

{

public int ProductId { get; set; }

public string Name { get; set; } = string.Empty;

public decimal Price { get; set; }

public int CategoryId { get; set; }

public Category Category { get; set; } = null!;

}

**Models\Category.cs:**

namespace RetailInventoryApp.Models;

public class Category

{

public int CategoryId { get; set; }

public string Name { get; set; } = string.Empty;

public ICollection<Product> Products { get; set; } = new List<Product>();

}

**Data\AppDbContext.cs:**

using Microsoft.EntityFrameworkCore;

using RetailInventoryApp.Models;

namespace RetailInventoryApp.Data;

public class AppDbContext : DbContext

{

public DbSet<Category> Categories { get; set; }

public DbSet<Product> Products { get; set; }

protected override void OnConfiguring(DbContextOptionsBuilder optionsBuilder)

{

optionsBuilder.UseSqlite("Data Source=RetailInventory.db");

}

protected override void OnModelCreating(ModelBuilder modelBuilder)

{

modelBuilder.Entity<Category>().Property(c => c.Name).IsRequired();

modelBuilder.Entity<Product>().Property(p => p.Name).IsRequired();

}

}

**Program.cs:**

using RetailInventoryApp.Data;

using RetailInventoryApp.Models;

using Microsoft.EntityFrameworkCore;

using var context = new AppDbContext();

await context.Database.EnsureCreatedAsync();

if (!context.Categories.Any())

{

var electronics = new Category { Name = "Electronics" };

var groceries = new Category { Name = "Groceries" };

await context.Categories.AddRangeAsync(electronics, groceries);

var product1 = new Product { Name = "Smartphone", Price = 20000m, Category = electronics };

var product2 = new Product { Name = "Washing Machine", Price = 18000m, Category = electronics };

var product3 = new Product { Name = "Wheat Flour", Price = 450m, Category = groceries };

var product4 = new Product { Name = "Sugar", Price = 60m, Category = groceries };

await context.Products.AddRangeAsync(product1, product2, product3, product4);

await context.SaveChangesAsync();

Console.WriteLine("Initial data inserted successfully.\n");

}

else

{

Console.WriteLine(" Data already exists. Skipping insert.\n");

}

Console.WriteLine(" Categories and Products:");

var categories = await context.Categories

.Include(c => c.Products)

.ToListAsync();

foreach (var category in categories)

{

Console.WriteLine($"\n Category: {category.Name}");

foreach (var product in category.Products)

{

Console.WriteLine($" Product: {product.Name} - ₹{product.Price}");

} }

**Output:**

