Internship Dynamics & Azure / Full Stack 2026

Problem 1

Sarah runs a popular coffee shop chain and wants to digitize her operations. Her coffee shops offer various types of beverages: Espresso, Latte, and Cappuccino - each available in three sizes (Small, Medium, Large) with different prices.

Customers can customize their drinks by adding extras such as extra shot of espresso, vanilla syrup, caramel syrup, or whipped cream. Each extra has an additional cost.

The shop also has a loyalty program where customers earn points for each purchase. Customers can be either Regular members (1 point per euro spent) or Gold members (2 points per euro spent). Points can be redeemed for free drinks.

Each coffee shop has multiple baristas who prepare the orders. The system tracks which barista prepared which order, along with the order timestamp and total price.

1.1 Please create a class diagram based on the above story. Include appropriate relationships, properties, and methods.

1.2 Please create a database diagram (ER diagram) based on the story. Show tables, columns, primary keys, and foreign key relationships.

Problem 2

SieMarket is an online electronics store that has been growing rapidly. The company receives hundreds of orders daily from customers across Europe. Each order is placed by a customer and contains one or more items. For every item in an order, the system records the product name, the quantity ordered, and the unit price at the time of purchase.

The company has a simple discount policy: if the total value of an order exceeds 500€, the customer receives a 10% discount on the entire order.

2.1 Create the necessary C# classes to represent orders and their items with appropriate properties and data types.

2.2 Implement a method that calculates the final price of an order, applying the discount rule when applicable.

2.3 Implement a method that finds and returns the name of the customer who has spent the most money on all their orders.

2.4 (Bonus) Implement a method that returns the popular products along with their total quantity sold.