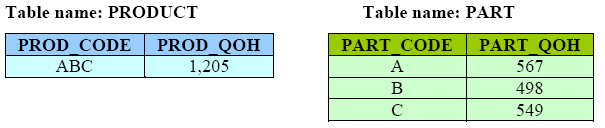
1-

**Suppose that you are a manufacturer of product ABC, which is composed of parts A, B, and C. Each time a new product is created, it must be added to the product inventory, using the PROD\_QOH in a table named PRODUCT. And each time the product ABC is created, the parts inventory, using PART\_QOH in a table named PART, must be reduced by one each of parts A, B, and C. The sample database contents are shown in Table P1**

Table P1 The Database for Problem 1



**Given this information, answer questions a-e.**

**a. How many database requests can you identify for an inventory update for both PRODUCT and PART?**

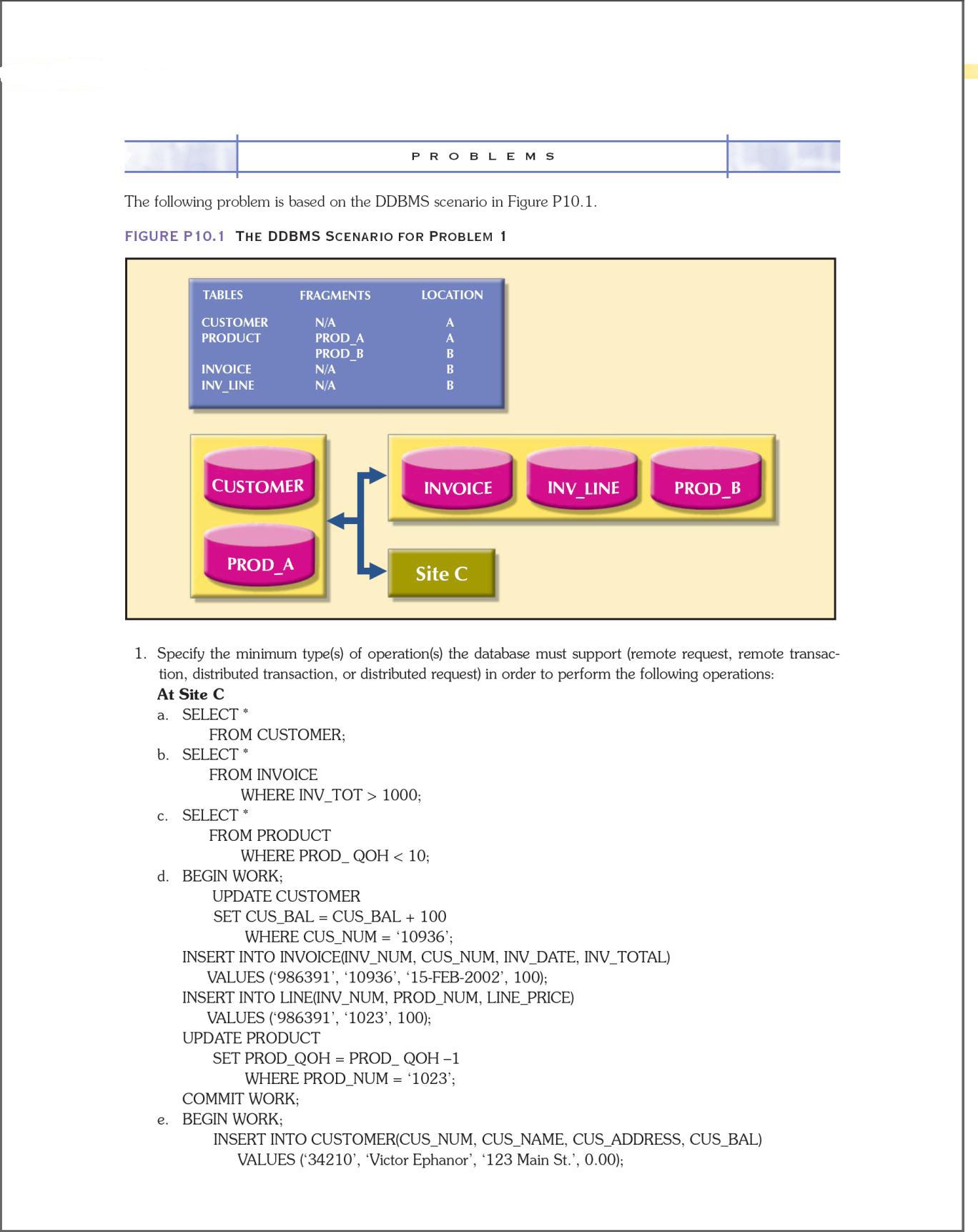
**b. Using SQL, write each database request you have identified in Step a.**

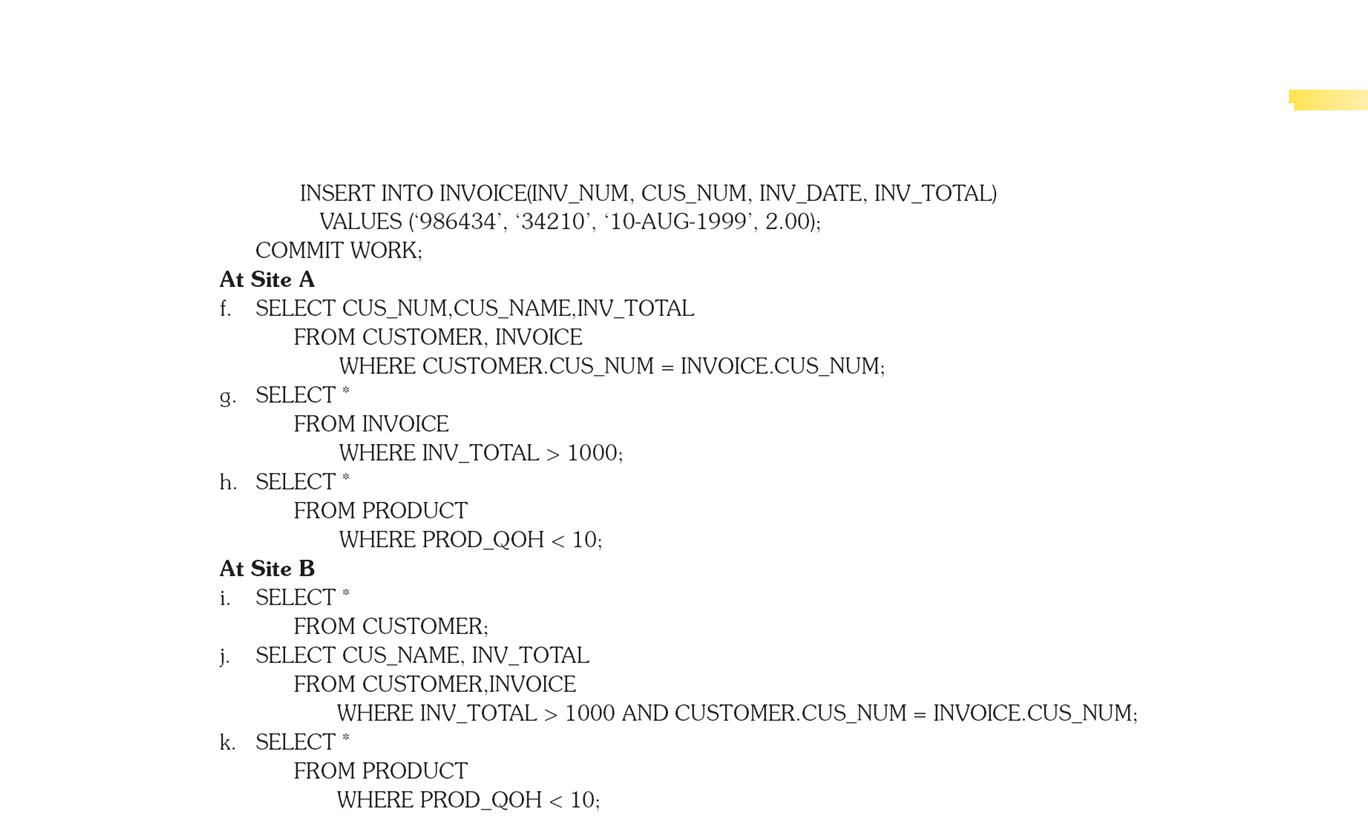
**c. Write the complete transaction(s).**

**d. Write the transaction log, using Table 10.1 as your template.**

**e. Using the transaction log you created in Step d, trace its use in database recovery.**

**2-**





3- What are the different types of query optimization algorithms?

4- Describe three data fragmentation strategies. Give some examples of each.

5- What is data replication, and what are the three replication strategies?