

6 A shop sells pens to customers. Customers place an order with the shop and collect the items the next day. The shop uses a database to store the information about the orders.

The database contains the following tables:

CUSTOMER(CustomerID, CustomerName, Email)

ORDER(OrderID, CustomerID, Date, Collected)

ORDER\_PRODUCT(OrderID, ProductID, Quantity)

PRODUCT(ProductID, ProductName, QuantityInBox, Cost, SupplierID)

SUPPLIER(SupplierID, SupplierName, SupplierEmail)

The primary keys are underlined.

(b) A new product needs to be entered into the database. The product has the ID 002323, the product name 'Blue ball point 2mm', there are 50 in a box, the product costs \$5.00 and the supplier has the ID SFX223.

Write a Structured Query Language (SQL) script to enter the new product into the table PRODUCT.

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(c) The attribute Collected in the table ORDER stores the Boolean value TRUE if the order has been collected and FALSE if the order has not been collected.

Write an SQL script to return the customer name for each customer that has orders they have not collected. Include the number of orders each customer has not collected with an appropriate title.

An example output might be:

CustomerName	NotCollected
Jack Wright	2
Lin Cho	1
Santaya Yui	1

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(d) The shop uses a Database Management System (DBMS).

(i) One feature provided by a DBMS is a data dictionary.

The data dictionary stores the attribute names, table names, foreign keys and primary keys in the database.

Identify **three** other items stored in a data dictionary.

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(ii) The DBMS provides a developer interface.

Explain how a database designer can make use of the developer interface.

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