

7. A car company uses a relational database to record details of their sales. A sample of data stored in each table of the database is shown below.

Car						
carReg	make	model	recommendedPrice	fuelType	colour	availability
S81CGD	CNX	Fincas	18566	Petrol	Black	Sold
HS75 TRF	River	Duke	24899	Electric	Blue	Pending
RV36 NJU	Goudi	E3	26399	Hybrid	Red	Available
...

Order						
orderID	customerID	carReg	salesID	salePrice	date	orderID
1002	556	TR78 NGP	3	15239	2023-08-24	1002
1003	32	WR75 BCZ	7	17889	2024-11-03	1003
...

Salesperson					
salesID	name	email	password	targetSales	
1	Brendan Anderson	banderson@rmail.com	!Brendan62	90000	
2	Marisa MacDonald	mmacdonal@rmail.com	MaR!\$a123	88000	
3	Andrew Partridge	apartridge@rmail.com	AP1994	105000	
4	Anthony Phillips	aphillips@rmail.com	Florida2025	65000	
...	

Customer			
customerID	name	phone	email
134	Caroline Wilson	07732953435	cw12312@kaloo.co.uk
135	Jude Brady	07478251489	jbrady1504@warmail.com
136	Aidan Abrol	07835294648	aab12345@ct.co.uk
...

- (a) The SQL query below is used to find the total sales made by each salesperson who did not meet their target in March 2025.

```

SELECT Salesperson.name, SUM(salePrice)
FROM Salesperson, Order
WHERE Salesperson.salesID = Order.salesID
AND _____
GROUP BY Salesperson.name
_____;

```

Using appropriate Advanced Higher operators, write the missing conditions needed to complete this query.

7. (continued)

- (b) The company is running a promotion for their sales team.

A salesperson who sells a car for a higher `salePrice` than the most expensive Goudi or CNX sold during April 2025 will receive a 5% bonus.

Below is the incomplete query used to identify sales staff who are due to receive a bonus.

```
SELECT Salesperson.name
FROM Salesperson, Order, Car
WHERE Salesperson.salesID = Order.salesID
AND Car.carReg = Order.carReg
AND _____ A _____ (
    SELECT MAX(salePrice)
    FROM Order, Car
    WHERE availability = "Sold"
    AND date LIKE "2025-04-%"
    AND _____ B _____
    GROUP BY make
);
```

Using appropriate Advanced Higher operators, write the SQL code needed to complete the missing conditions A and B.

2

- (c) The following query is used to identify customers who may be ready to purchase an environmentally friendly car.

```
SELECT Customer.name, date, make, model
FROM Customer, Order, Car
WHERE Customer.customerID = Order.customerID
AND Car.carReg = Order.carReg
AND NOT EXISTS (
    SELECT Customer.name
    FROM Customer
    WHERE (fuelType = "Hybrid" OR fuelType = "Electric")
    AND (date LIKE "2024-%-%" OR date LIKE "2023-%-%")
);
```

Explain how the subquery, with the use of `NOT EXISTS`, generates the required results.

2

7. (continued)

- (d) Orders are placed using an online database-driven website.

To access the ordering system, a salesperson must first login securely. The HTML form used for this purpose is shown below.

Email:

Password:

Submit

- (i) Below is the incomplete HTML form code.

```
<form action = "login.php" _____ A _____ >  
Email: <input type="text" id="email" name="email"  
size="50" required > <br>  
Password: <input type="text" id="password"  
name="password" size="20" required> <br>  
< _____ B _____ > <br>  
</form>
```

Write HTML code needed to complete the missing parts A and B.

2

- (ii) Explain the need for integrative testing when developing a database-driven website.
- (iii) Describe how end-user testing would be carried out on a database-driven website.

2

1