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Database Design & Development: Revision Questions 5

1. A database table is shown below:

Table: Staff					
StaffID	Forename	Surname	Department	HourlyRate	hoursWorked
1011	Amy	Black	Admin	17.99	35
1035	Stephanie	Clark	Finance	21.99	35
1067	Billy	McEwan	Admin	11.50	27
1023	Lauren	Wilson	Admin	21.00	20
1011	Fraser	Johnston	Finance	19.50	25
1056	Josh	Jones	Admin	11.75	27

Complete the table below showing the output from the following SQL statement.

2

```
SELECT department, MIN(HourlyRate) AS [Lowest Paid]
FROM Staff
GROUP BY department;
```

department	Lowest Paid

2. A database table is shown below:

Table: Members					
MemberID	Forename	Surname	Membership	Location	Joint Membership
3013	Steve	Smith	Full	Ayr	No
2045	Hannah	Gates	Full	Prestwick	Yes
3097	Amy	Connor	Gym Only	Troon	No
3033	Jack	Nicol	Full	Ayr	No
3101	Paul	Lindsay	Gym Only	Ayr	Yes
3109	Lucy	James	Swim Only	Prestwick	No

a) Complete the table below showing the output from the following SQL statement.

3

```
SELECT membership, count(*) AS [Number of Memberships]
FROM Members
GROUP BY membership;
```

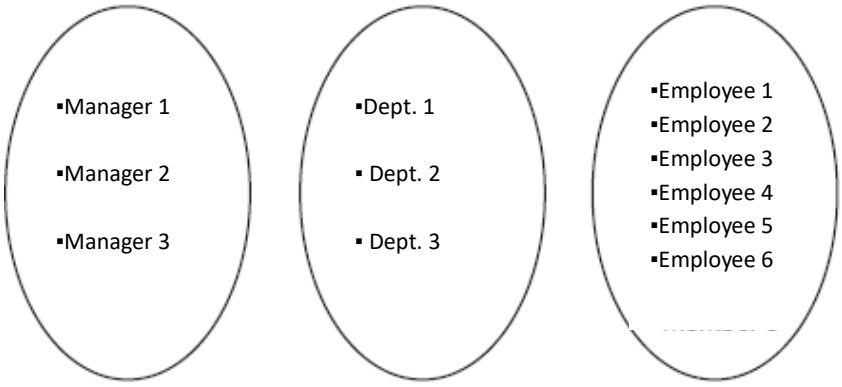

b) State the purpose of the GROUP BY line of the SQL statement.

1

3. An organisation has many employees. Each employee can only work within one department and each department has one manager.

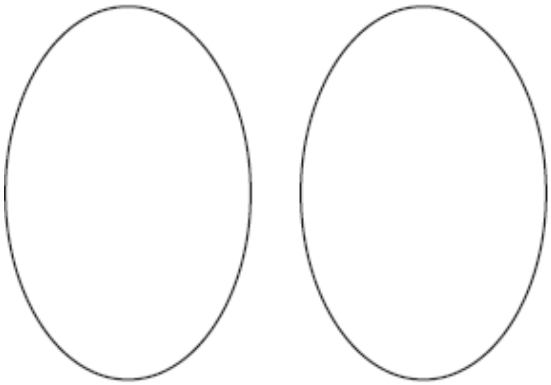
Complete the entity-occurrence diagram below to represent the relationship between managers, employees and departments.

2



4. Complete the entity-occurrence diagram for the following data.

School	Teacher
IC42	135
IC57	123
IC23	111
IC23	184
IC57	77
IC57	295
IC23	93

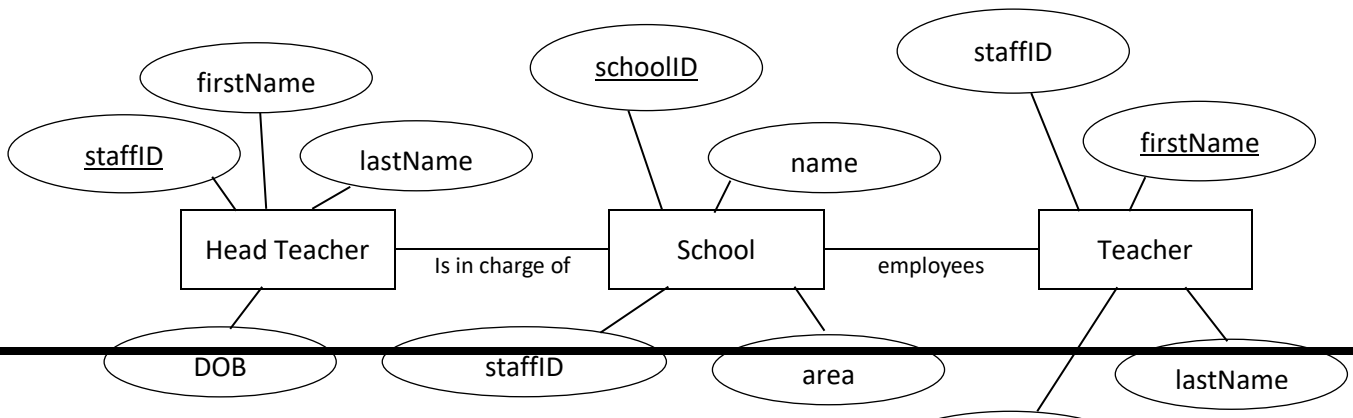


5. An SQL statement shown below will count the number of restaurants in different locations. The expected output is shown below. When the SQL statement was tested the actual output did not match the expected output. Identify two errors in the SQL statement.

```
SELECT location,
COUNT(venueName)

FROM Venue

WHERE venueType = 'Restaurant'

GROUP BY venueName;
```

Location	Number of Restaurants
Glasgow	67
Edinburgh	85
Dundee	47

6. The entity relationship diagram below shows information on head teachers, schools and teachers. There are errors in the design. Describe three errors in the below design.

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7. The holiday bookings table is shown below:

Table: Bookings					
Holiday Ref	Destination	Arrival Date	Departure Date	Package Holiday	Customer Ref
7895	Spain	1/7/2018	21/7/2018	Yes	111502
7541	Italy	23/8/2018	15/9/2018	Yes	132510
7962	France	19/4/2018	25/4/2018	Yes	189520
7456	Spain	23/7/2018	29/7/2018	No	144581
7122	Spain	21/10/2018	31/10/2018	Yes	147895
7563	Italy	26/9/2018	4/10/2018	No	123524

a) Design a query using wildcards, to find and display the destinations of all the holidays departing in October

Fields(s) and calculation(s)	
Tables(s)	
Search Criteria	
Grouping	
Sort Order	

b) Design a query to display the different destinations, together with the number of bookings for each of those destinations.

Fields(s) and calculation(s)	
Tables(s)	
Search Criteria	
Grouping	
Sort Order	

8. The assessment table is shown below:

Table: Assessment					
Pupil ID	Test Score 1	Test Score 2	Test Score 3	Test Score 4	Teacher ID
P124	89	78	91	79	T125
P458	45	51	43	59	T185
P253	67	55	68	71	T185
P112	54	67	43	55	T097
P278	37	45	37	49	T125
P896	10	35	23	41	T097

a) Write the SQL statement that would produce the following output:

Pupil ID	Total Test Score
P896	109

P278	168
P458	198
P112	219
P253	261
P124	337