SQL Questions

Write SQL Queries for the following (answer to all questions are SQL queries only, no sentence/word/short answers).

Data in the tables are for representation of data format. Actual tables might contain many more rows of data.

MANUFACTURERS

ID	NAME	COUNTRY	ESTD
1	Volkswagen	Germany	1930
2	Suzuki	Japan	1970
3	Renault	France	1960
4	Mahindra	India	1990
5	Tata	India	1980
…	…	…	

Q.1 Write SQL command to create the table “MANUFACTURERS”

Q.2 Write 2 sample SQL queries to insert new manufacturers into the table

FACTORIES

ID	CITY	STATE	MANUF_ID	CAPACITY
1	Chennai	Tamil Nadu	4	100000
2	Gurgaon	Haryana	2	50000
3	Gurgaon	Haryana	8	60000
4	Surat	Gujarat	5	70000
…	…	…	…	…

Note: Each factory belongs to a manufacturer, the DB should represent that relationship
The capacity is the total no of cars that can be made in a year in that factory

Q.3 Write SQL command to create table FACTORIES (given MANUFACTURERS table already exists)

Q.4 Write 2 Sample SQL queries to insert two new factories into the table

Q.5 Find out statewise capacity of manufacturing cars in India. (Result should be 2 columns – state name, and state’s capacity, for all states of India).

Q.6 Which city can produce maximum cars in India?

CAR_MODELS

ID	NAME	MANUF_ID	FACT_ID	YEAR	TOTAL_MADE
1	Alto	2	6	2010	40000
2	Alto	2	5	2010	50000
3	City	7	8	2011	70000

4	Scorpio	4	11	2012	4000
…	…	…	…	…	…

Notes:

- Every car belongs to a manufacturer
- Every row represents a car being manufactured in a particular year in a particular factory
- A car might be made in 2 factories in a year, in which case there will be two separate entries showing how many were made in each factory
- A car being manufactured for 3 years, will have 3 rows each showing separate numbers of each year
- So, if a car is made in 3 factories, and is being made for 4 years, then that car will have 12 rows in the table.

Q.7 Write SQL query to create CAR_MODELS table, (given MANUFACTURER and FACTORIES already exist)

Q.8 Write sample SQL query to insert any 2 cars into the table.

Q.9 Find out the best-selling car, every year from year 2010 to 2018

Result should be 3 columns – Year, Car model, Total made

2010 City 20000
2011 Alto 30000
2012 City 25000
… and so on

Q.10 Find out how much capacity of each factory was utilized in 2018. (If factory can make 10000 cars, and only 8000 were made, then 80% utilized).

Result should be 3 columns – Manufacturer, City of Factory, Utilization

Renault Chennai 76%
Hyundai Chennai 80%
Suzuki Gurgaon 90%
… and so on

Q.11 Which car has sold for maximum number of years running ?

Q.12 Which car has sold maximum quantity, till date?

Q.13 Delete all car models that were made prior to 2010

Q.14 Some car models have same name, even though they are made by two different manufacturers, so it is confusing. Please update the car models table so that the manufacturers' name is prepended to the model name and year is appended. (City -> Honda City 2010)

SQL QUIZ (Total Time: 1 Hour) (20 Marks)

Q-1: Put the keywords Select, From, Order By, Group By, Where, Having in right order of usage in SQL queries. (1 Marks)

Q-2: We have one table (Name: Student) with 2 fields in it (StudentName, Marks) where StudentName is primary key. Write a query which will list down the name, marks of the student who has secured the highest marks. (2 Marks)

Q-3: Read the table structure given below with sample data. PID is the joining field between 2 tables. Write a query to list the total sales value for each category. (2 Marks)

Product

PID	ProductName	ProductCategory
1	Product 1	Category 1
2	Product 2	Category 2
3	Product 3	Category 1
4	Product 4	Category 2

Sales

SID	PID	SalesDate	SalesValue
1	1	1-Jan	100
2	2	12-Jan	130
3	3	15-Jan	50
4	1	5-Feb	30
5	2	10-Feb	60
6	4	20-Feb	90

Q-4: We have one table (Name: Student) with 2 fields in it (StudentName, Marks) where StudentName is primary key. Write the SQL queries for following requirements (5X1 Marks)

a. Number of students where marks are greater than 75
b. List them in descending order
c. List all students with name starting with 'R'
d. Insert one record with Values as Name="studentABC" & Marks = 87
e. Assuming, the table don't have primary key, identify all names which are duplicate.

Q-5: For the given table and sample data, provide the outcome of the following queries (3X2 Marks)

Host

HostID	HostName
1	Host 1
2	Host 2
3	Host 3

HostMAC

HostID	HostMAC
1	MAC 1
3	MAC 31
3	MAC 32
4	MAC 4

(A)

```
SELECT    Host.HostName, HostMAC.HostMAC
FROM      Host FULL OUTER JOIN HostMAC ON Host.HostID = HostMAC.HostID
```

Output:

HostName	HostMAC

(B)

```
SELECT    Host.HostName, HostMAC.HostMAC
FROM      Host Inner JOIN HostMAC ON Host.HostID = HostMAC.HostID
```

Output:

HostName	HostMAC

(C)

```
SELECT    Host.HostName, HostMAC.HostMAC
FROM      Host , HostMAC  where Host.HostID >HostMAC.HostID
```

Output:

HostName	HostMAC

Q-6: Given the following tables, Write SQL statement to generate the output to list down the products which has no sale in the month of July 2012. Write queries in 2 different ways. One of the ways should be using left join. (4 Marks)