

①

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 Class :- BS (SE) 8th
 Subject :- Database Systems

Q1 :- Perform Normalization upto 3rd Normal Form on the following table.

Student ID	Name	Address	Course_ID	Course Name	Grade
01	Fawad	Karachi	SE-01-05	AI SQE	A B
02	Waleed	Lahore	SE-02-02	DIP	C
03	Saiba	Peshawar	SE-03-04	DB SRE	A B
04	Aiman	Karachi	SE-03	DB	C
05	Daniyal	Lahore	SE-01	AI	A
06	Emaan	Peshawar	SE-01	AI	B

ANSWER :- An above table is already in the 2nd FIRST NORMAL FORM :- normalization

Now we convert the 2nd table into the 3rd Normalization

STUDENT ID	STUDENT Name	STUDENT ADDRESS	Course ID	Course Name	Grade
01	Fawad	Karachi	SE-01	AI	A
01	Fawad	Karachi	SE-05	SQE	B
02	Waleed	Lahore	SE-02	DIP	C
03	Saiba	Peshawar	SE-03	DB	A
03	Saiba	Peshawar	SE-04	SRE	B
04	Aiman	Karachi	SE-03	DB	C
05	Daniyal	Lahore	SE-01	AI	A
06	Emaan	Peshawar	SE-01	AI	B

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2nd FORM OF NORMALIZATION

STUDENT

Student ID	Student Name	Student Address
01	Fawad	Karachi
01	Fawad	Karachi
02	Waleed	Lahore
03	Aamir ^{Saira}	Peshawar
04	Aiman	Karachi
05	Daniyal	Lahore
06	Emaan	Peshawar
03	Saira	Peshawar

COURSE

Course ID	Course Name	Course Grade
SE-01	AI	A
SE-05	SGG	B
SE-02	DIP	C
SE-03	DB	A
SE-04	SRE	B
SE-03	DB	C
SE-01	AI	A
SE-01	AI	B

GRADE

Student-Id	Course-Id	Grade
01	SE-01	A
01	SE-05	B
02	SE-02	C
03	SE-03	A
03	SE-04	B
04	SE-03	C
05	SE-01	A
06	SE-01	B

Thus Now it fulfill Convert into 3rd Normalization form.

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QUESTION # 2

Write SQL queries for the following DDL statements.

1. Create a database by the name Gallery.

ANSWER

Create database gallery

The Query we use:

```
Create database Gallery
```

```
{  
;  
}
```

2. Write a query to create a table by the name movies which should have the following columns and restrictions.

ANSWER

Create table Name

```
{
```

```
Id int not null, Primary Key  
Movie-Name varchar (25) not null,  
Genre varchar (25)  
Year int ;  
Rating int ;
```

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QUESTION # 3

If you have the following table.

Student ID	Student Name	Age	CGPA

① write 2 SQL DML queries to insert your data and your friend data in this table.

ANSWER:

We will give the name to table student. Insert keyword is always followed by INTO ^{table} keyword thus an INSERT starts with insert-INTO followed by the table name (student) in which you insert the row and then we have our list of columns enclosed in parenthesis. There after we have our keywords values followed by values of column which you want of insert enclosed in parenthesis.

Inserting data

DESC student

Query 1 -- Insert DATA into all the columns of student table

INSERT INTO

Student ID	Student Name	Age	CGPA
12990	Midrar	22	2.32
12999	Fahar	24	3.6

Query 2 -- Insert DATA into Selected Columns

INSERT INTO

STUDENT ID	STUDENT NAME	AGE
15958	Sameed	20

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(2) Write SQL, DML Query to delete all students records whose CGPA is greater than 3.

ANSWER :-

Student // Table name

Student ID	Name	Age	CGPA
12990	Midrar	22	2.32
12999	Fashan	24	3.6
15958	Sameed	20	3

Solvs `DELETE FROM table
[WHERE CONDITIONS]`

`DELETE FROM student
WHERE CGPA = 3`

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QUESTION # 4

Consider you have the following 2 Tables.

Canteen Table

Product ID	Product Name	Category	Mfg-Date	Exp-Date	Unit Price
01	Dairy Milk chocolate	Junk	2 Aug 19	2 Aug 20	80 Rs
02	lipton tea bags	Not Junk	2 Jun 19	2 Jan 20	160 Rs
03	Kurkure	Junk	2 April 19	2 April 21	30 Rs
04	shezan juice	Junk	2 Aug 19	3 Aug 20	30 Rs
05	chilli Milk Jelly	Junk	3 Jan 18	3 Jun 21	5 Rs
06	olpevs MILK	Not Junk	3 April 18	3 April 20	350 Rs

Order - Details

Order Id	Product ID	Unit Price	Quantity
01	02	160 Rs	1
01	06	350 Rs	1
02	01	80 Rs	2
02	03	30 Rs	2
02	05	5 Rs	2

① write SQL Query for finding/displaying product name and ids of products whose unit price is less than 50 Rs.

ANSWER:

Select Product name, Product ID
From Canteen table

Where product price < 50 Rs
ordered by Product ID, Product name;

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Q1) Write SQL Query for displaying sorted name of products name with Alias name as product_list sorted.

ANSWER

Pro ID	Product Name	Categories	Mfg Date	Expire Date	Prices
05	chilli milli Jelly	Junk	3 Jan 18	3 Jan 21	5 Rs
03	Kuskurda	Junk	2 April 19	2 April 21	30 Rs
04	Shezan Juice	Junk	3 Aug 19	3 Aug 21	30 Rs
01	Dairy Milk chocolate	Junk	2 Aug 17	2 Aug 20	80 Rs
02	Lipton Tea Bags	Not Junk	2 Jan 19	2 Jan 20	160 Rs
06	olpers milk	Not Junk	3 April 18	3 April 20	350 Rs

Q2) Write output of the following query

```
SELECT Category, COUNT (category)
FROM Canteen - Table
GROUP BY Category
HAVING COUNT (category) > 1;
```

ANSWER

category	My Count
Junk	4
Not Junk	2

Q3) Write SQL INNER JOIN Query and its output on the given two tables

ANSWER

```
SELECT Canteen-table. Product-ID, Product,
Name, Unit-Price FROM Canteen-table
INNER JOIN Order-Details ON Canteen-
Table. Product-ID = Order-Details.
Product ID
```

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Output

Product ID	Product Name	Order ID	Unit Price	Quantity
02	Lipton tea	01	160	1
06	Olper's Milk	01	350	1
01	Dairy Milk	02	80	2
03	Kurkure	02	30	2
05	Chilli Milli	02	5	2
		02		