

M. Zakria Salem

Roll no. 14459

Q2 Perform Normalization upto 3rd Normal Form on the following table.

Std_Id	Std_Name	Std_Add	Crs_Id	Crs_Name	Grade
01	Fawad	Karachi	SE-01	AI	A
			SE-05	SQE	B
02	Waleed	Lahore	SE-02	DIP	C
03	Saiba	Peshawar	SE-03	DB	A
			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

We will convert the above table into 2nd normalization.

2nd Normalization:

In the 2nd Normalization table, we will make separate tables for each subject. Since there are 3 subjects Student, Course and Grade, we will make 3 separate tables.

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Student			Course	
Std ID	Std Name	Std Add	Course ID	Course Name
01	Fawad	Karachi	SE-01	AD
02	Waleed	Lahore	SE-02	DIP
03	Saina	Peshawar	SE-03	DB
04	Aiman	Karachi	SE-04	SRE
05	Daniyal	Lahore	SE-05	SQE
06	Emaan	Peshawar		

Grade			
Grade ID	Student ID	Course ID	Grade
1	01	SE-01	A
2	01	SE-05	B
3	02	SE-02	C
4	03	SE-03	A
5	03	SE-04	B
6	04	SE-03	C
7	05	SE-01	A
8	06	SE-01	B

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3rd Normal Form:

Student			Course	
Std_ID	Std_Name	Std_Add	Course_ID	Course_Name
/	/	/	/	/
/	/	/	/	/
/	/	/	/	/
/	/	/	/	/
/	/	/	/	/
/	/	/	/	/

Cgrade			
Grade_ID	Std_ID	Course_ID	Cgrade
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/

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Q2 Write SQL queries for the following DDL statements.

1. Create a Database by the name Gallery.

The query we are using.

```
Create database Gallery.
```

```
{  
}
```

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

```
Create table Movies
```

```
{
```

```
Id int not null, Primary key,  
Movie_Name varchar (25) not null,
```

```
Genre varchar (25),
```

```
Year int (2020),
```

```
Rating int (5),
```

```
}
```

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Q3

1. Write 2 SQL DML Queries to insert your data and your friend's data in this table.

1st query.

Insert into STD_Data values (14459, M. Zakria, 21, 2.8)

2nd query.

Insert into STD_Data values (14487, Shayan, 20, 3.2)

After inserting the data into the table we get.

Student id	Student_name	Age	CGPA
14459	M. Zakria	21	2.8
14487	Shayan	20	3.2

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2. Write SQL DML Query to delete all students record whose CGPA is greater than 3.

Delete from STD_Data where CGPA > 3

Select * from STD_Data.

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Q. 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 2019	2, Aug 2020	80 Rs
02	Lipton Tea bag	Not Junk	2, Jan 2019	2, Jan 2020	160 Rs
03	Kurkure	Junk	2, April 2019	2, April 2021	30 Rs
04	Shezan Juice	Junk	3, Aug 2019	3, Aug 2020	30 Rs
05	Chilli Milli	Junk	3, Jan, 2018	3, Jan 2021	5 Rs
06	Olders Milk	Not Junk	3, April 2018	3, April 2020	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/display product names and ids for products whose unit price is less than 50 Rs.

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Answer:

```
SELECT * from Product_Name, Product_ID  
from Canteen_table. Where Product_Price  
< 50;
```

From the above command we get:

Canteen table

Product Name	Product ID	Unit Price
Shezan Juice	04	30 Rs
Kurkure	03	30 Rs
Chilli Milli Jelly	05	5 Rs

2) Write SQL queries for displaying sorted names of products names with Alias names as Product_List_Sorted.

```
SELECT Product_Name as Product_List_Sorted  
Sorted from Canteen_table  
Where Product_List_Sorted
```


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3) Write output of the following query

```
SELECT Category, COUNT(Category)
FROM Canteen_table
GROUP BY Category
HAVING COUNT(Category) > 1;
```

From the above query we get:

Category	Count
Junk	4
Not Junk	2