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ID: 14281

DEP: BS(SE)

SUBJECT: DATABASE

SUBMITTED TO: Rimsha Khan

QUESTION:01

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

(13marks)

Student_id	StudentName	Student Address	Course_ID	Course_Name	Grade
01	Fawad	Karachi	SE-01	AI	A
			SE-05	SQE	B
02	Waleed	Lahore	SE-02	DIP	C
03	Saira	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

ANSWER:

FIRST NORMALIZATION:

Stud_id	Stud_name	Stud_address	Course_id1	Course_name1	Grade_1	Course_id2	Course_name2	Grade_2
01	fawad	karachi	SE_01	AI	A	SE_05	SQE	B
02	waleed	lahore	SE_02	DIP	C	NULL	NULL	NULL
03	saira	peshawar	SE_03	DB	A	SE_04	SRE	B
04	aiman	karachi	SE_03	DB	C	NULL	NULL	NULL
05	daniyal	lahore	SE_01	AI	A	NULL	NULL	NULL
06	emaan	peshawar	SE_01	AI	B	NULL	NULL	NULL

SECOND NORMALIZATION:

STDN_ID	STUD_NAME	STUD_ADDRESS	COULOM1RECORD_ID	COLUM2RECORD_ID
01	Fawad	karachi	101	111
02	Waleed	lahore	102	Null
03	Saira	peshawar	103	113
04	Aiman	karachi	104	Null
05	Daniyal	lahore	105	Null
06	Emaan	peshawar	106	Null

Colum1 recod_id2	Course- id1	Course _name 1	Grade _1	Colum2_recor d_id2	Course _id2	Course_na me2	grade _2
101	SE_01	AI	A	111	SE_05	SQE	B
102	SE_02	DIP	C	NULL	NULL	NULL	NULL
103	SE_03	DB	A	113	SE_04	SRE	B

104	SE_03	DB	C	NULL	NULL	NULL	NULL
105	SE_01	AI	A	NULL	NULL	NULL	NULL
106	SE_01	AI	B	NULL	NULL	NULL	NULL

3RD NORMALIZATION:

Studn_id	Studn_name	Studn_adress
01	Fawad	Karachi
02	Waleed	Lahore
03	Saira	Peshawar
04	Aiman	Karachi
05	Daniyal	Lahore
06	Emaan	Peshawar

Studn_Id	Colim1_record_id	Colum2_record_id
01	101	111
02	102	null
03	103	113
04	104	null
05	105	null
06	106	null

QUESTION:02

Write SQL queries for the following DDL Statements

1. Write a query to create a table by the name Students which should have

the following columns and restrictions: (Marks 10)

Column Name: ID Type: integer

Column Name: Student_Name Type: varchar

Column Name: DOB Type: DATE

Column Name: Age Type: Integer

Column Name: CGPA Type: float

ANSWER:

ID	STUDENT_NAME	DOB	AGE	CGPA	
101	Ali	1999-12-05	21	3.1	
102	Umer	1997-03-08	23	2.7	
103	Raima	1996-08-03	24	3.6	
104	Qazi	1998-24-12	22	6.5	
105	Haider	2000-12-08	20	1.3	

Q2:Write 2 SQL DML Queries to insert your data and your friend's data in this

Table. (4 marks)

ANSWER:

1. Insert into student values (101,'AIL',21, 3.1, '1999-12-05' , 104, 'RAIMA',' 1996-08-03' , 24,3.6)

2. Insert into student

(ID,STUDENT_NAME,AGE,DOB,CGPA)values(101,'AIL',21, 3.1, '1999-12-05' , 104, 'RAIMA',' 1996-08-03' , 24,3.6)

Q3:Which of the given attributes is a derived attribute and from which

attribute it can be derived? (5 marks)

ANSWER:

Here, the attribute "Age" is a derived attribute as it can be derived from the attribute "DOB".

QUESTION:03

Q1. Write SQL Query for finding/displaying product names and ids of products whose unit price is less than 50 Rs. (4 Marks)

ANSWER:

Select product_names,product_ids,product_prices

From canteen_table

Where product_price <50 rs

Order_details product_price DESC, product_names

Q2. Write SQL Query for displaying sorted names of product names with Alias

name as Product_List_Sorted. (5 Marks)

ANSWER:

Select column list*from table_name ORDER BY ASC/DESC;

Select *from Alias ORDER BY product_names,

Q3. Delete data from Order_Details whose quantity is less than 1. (4 marks)

ANSWER:

Delete from order_details

Where quantity<1

Q4. Write SQL INNER JOIN query and its output on the given two tables. (5

marks)

ANSWER:

```
SELECT product items_name, product .item_unit  
Order_details. Order_id , order_details. product_id  
FROM Canteen_table  
INNER JOIN order_details  
ON canteen_table. product_id =order_details. order_id;
```