

Name Hilal Ahmad
 Id 14728
 Class bs (se) 4th semester
 Section B
 Paper Database Final term
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 Instructor Rimsha khan

Question. 1 : Perform Normalization up to 3rd Normal Form on the following table.

Student_id	Student Name	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 1

Third Normal Form (3NF)

2NF PLUS no transitive dependencies (functional dependencies on non-primary-key attributes) • Note: This is called transitive, because the primary key is a determinant for another attribute, which in turn is a determinant for a third • Solution: Non-key determinant with transitive dependencies go into a new table; non-key determinant becomes primary key in the new table and stays as foreign key in the old table

Third Normal Form is an upgrade to Second Normal Form. When a table is in the Second Normal Form and has no transitive dependency, then it is in the Third Normal Form.

1 student table

Student_id	Student Name	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

3rd Normal Form (3NF)

Third normal form is a database schema design approach for relational databases which uses normalizing principles to reduce the duplication of data, avoid data anomalies, ensure referential integrity, and simplify data management

Students

Student_id	Student Name
01	Fawad
02	Waleed
03	Saira
04	Aiman
05	Daniyal
06	Emaan

Student address

Student Address
Karachi
Lahore
Peshawar
Lahore

Student course id

Course_ID
SE-01
SE-05
SE-02
SE-04
SE-03

Student course name

Course_Name
AI
SQE
DIP
DB
SRE

Grade
A
B
C

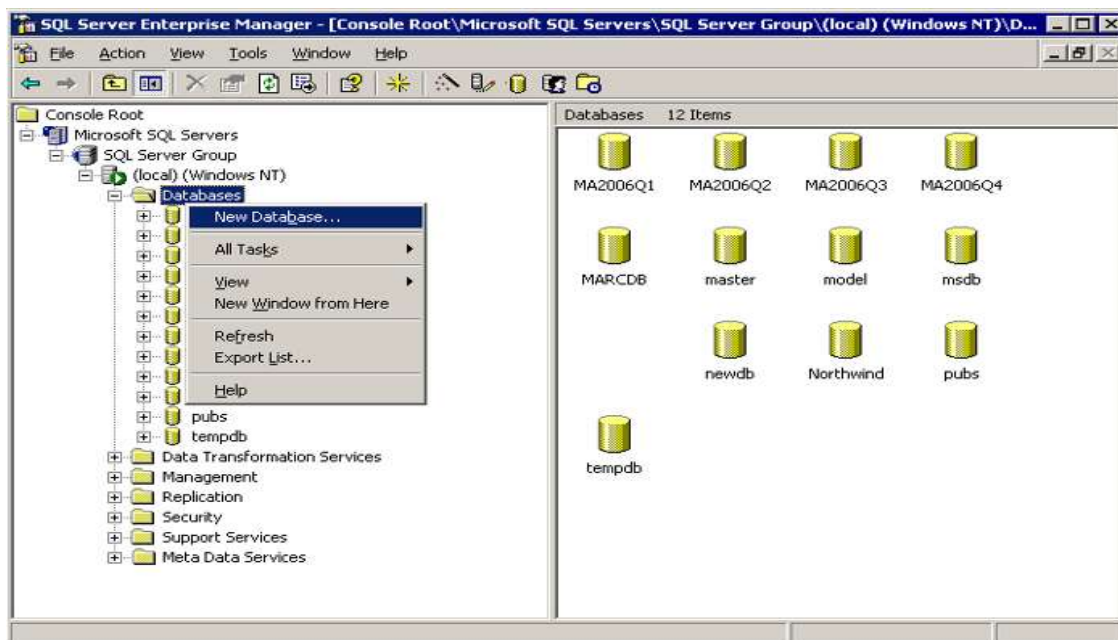
Q2: Write SQL queries for the following DDL Statements

1. Create a Database by the name Gallery (Marks 2) 2.

2 Write a query to create a table by the name Movies which should have the following columns and restrictions: (Marks 10) Column Name: ID Type: integer Column Name: Movie_Name Type: varchar Column Name: Genre Type: varchar Column Name: Year Type: integer Column Name: Rating Type: integer.

Answer 2

1 Create a Database by the name Gallery



1

```
2 create database galllry;
```

2

```
1 create table moveise(
2 ID integer not null,
3 Movie_Name varchar not null,
4 Genre varchar,
5 CYear integer(2020 ),
6 Rating integer(5),
7 );
```

Q3: 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's data in this Table. (4 marks)
2. Write SQL DML Query to delete all students' record whose CGPA is greater 3 (2 marks)

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

```
1 create table student(  
2 student-id int not null;  
3 student name varchar(10),  
4 student age int(20),  
5 student cgpa float(3.9),  
6 )  
7 INSERT INTO student  
8 VALUES(id,name,age,cgpa)
```

2) Write SQL DML Query to delete all students' record whose CGPA is greater 3

```
4 student age int(20),  
5 student cgpa float(3.9),  
6 )  
7 delete from student where cgpa>3  
8  
9  
10  
11  
12  
13  
14  
15
```