NAME : MASOOD SAID

ID : 13723

BS (SE)   FINAL TERM

PAPER : DATABASE SYSTEMS

Instructor: Rimsha Khan

Q1: Perform Normalization upto 3rd Normal Form

ANS :   First normalization form \
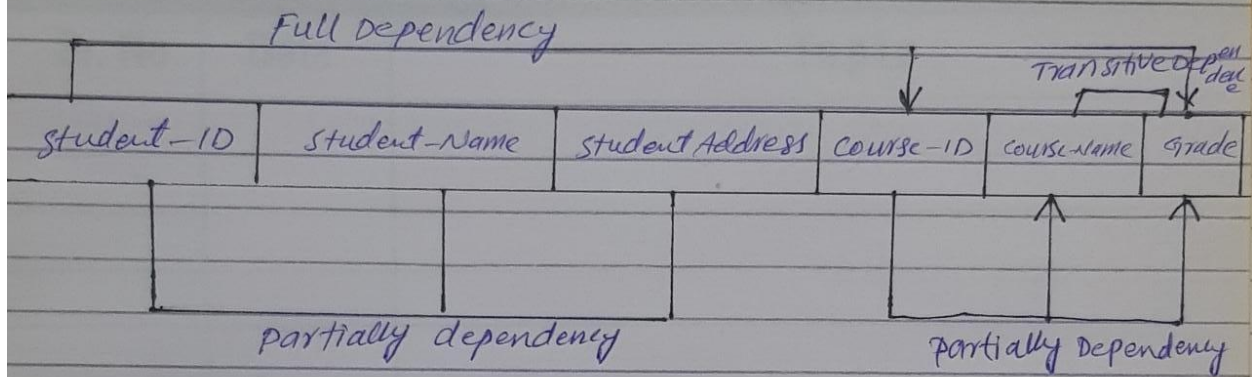
ID# 13723   page #1

Student ID	Student Name	Student Address	Course-ID	Course Name	Grade
01	Fawad	Karachi	SE-01	AI	A
01	Pawad	Karachi	SE-05	SQE	B
02	Waleed	Lahore	SE-02	DIP	C
03	Saira	Peshawar	SE-03	DB	A
03	Saira	Peshawar	SE-04	SRE	B
04	Aiman	Karachi	SE-03	DB	C
05	Danijal	Lahore	SE-01	AR	A
06	Emaan	Peshaware	SE-01	AL	B

2nd Normalization form

2nd form

Full Dependency

Transitive Dependence

Student-ID	Student-Name	Student Address	Course-ID	Course-Name	Grade

partially dependency   partially Dependency

prime key is student key
    Removing partially Dependency

Student ID	Course ID	Grade

Student ID	Student Name	Student Address

Course-ID	Course Name	Grade

Still Transitive
Dependence
Left.

3rd Normalization form

3rd Normalization form.

Student ID	Course ID	Grade

Student ID	Student Name	student Address

Course ID	Course Name	Grade

Transitive Dependency

Student ID	Course ID

Course ID	Course Name	Grade

Atfer Removed Transitive Dependency Course_ID, Course name, Grade

Q2: 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

Restrictions: ID should be the primary key. Student_Name should also be

NOT NULL. Maximum value of age should be 30 years.

ANS :

```
create table "Students"(

 ID INT PK_ID Primary Key NOT Null,

 Student_Name INT (100) NOT Null,

DOB DATE,

 Age Integer

 Select MAX(Age)

 From[year]

 Where Year (30)

CGPA Float

);
```

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

ANS :

insert into (Student_id, Student_name, Age,CGPA)

 values (13723,'Masood SAid,21,3.8)

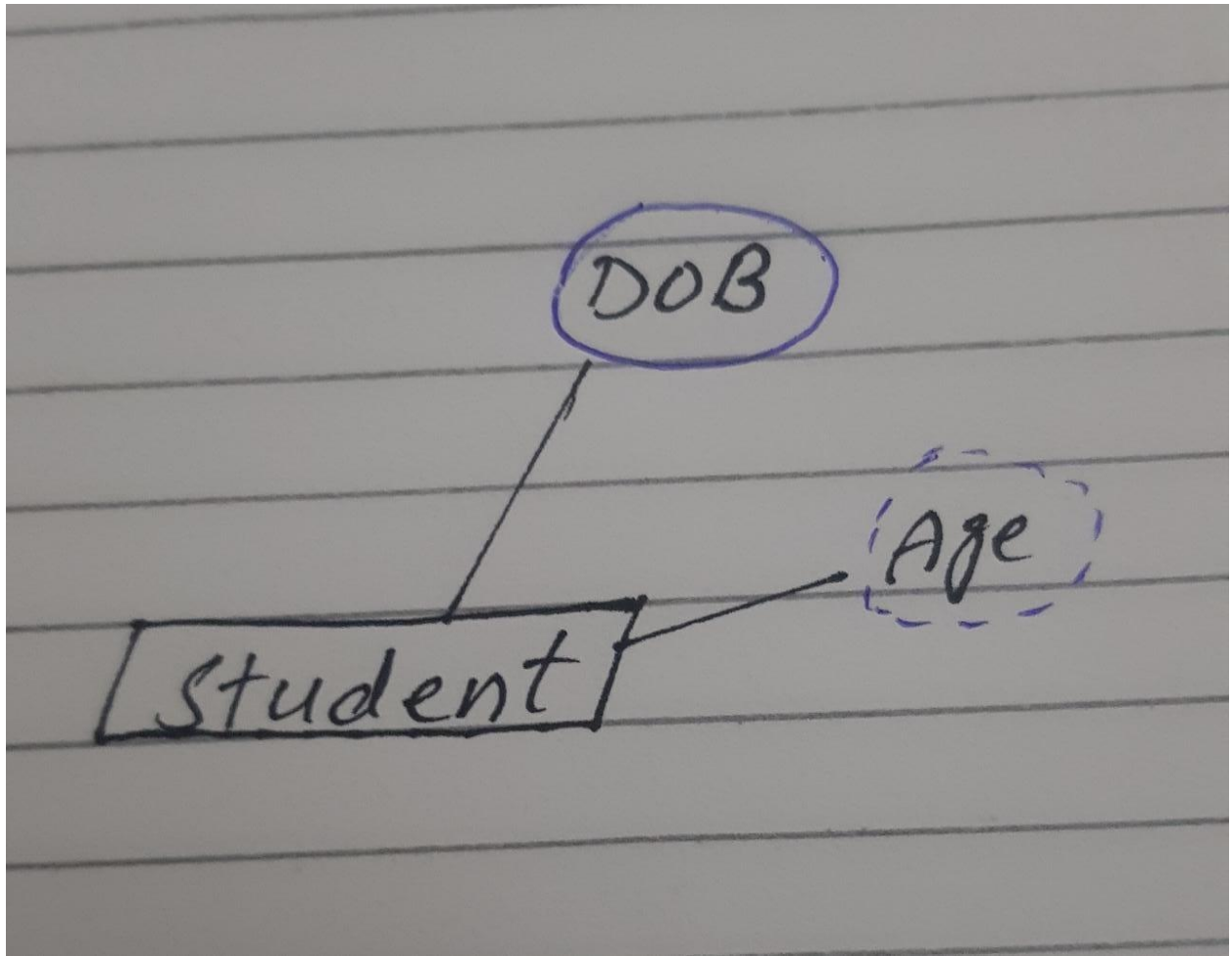insert into (Student_id,Student_name,Age,CGPA)

 values (16660,'Arman Khan',22,3.5)

3. Which of the given attributes is a derived attribute and from which attribute it can be derived?

ANS :   Derived Attributes-

Derived attributes are those attributes which can be derived from other attribute(s).

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

Q3: Consider you have the following 2 tables.

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

ANS :

Canteen table:

SELECT Product_name, Product_ID, UNIT_price

 FROM Canteen_Table

 WHERE _Unit_Price < 50

For Order:

SELECT ORDER_ID, Product_ID, UNIT PRICE

 FROM Canteen_Table

 WHERE _Unit_Price < 50

2. Write SQL Query for displaying sorted names of product names with Alias name as Product_List_Sorted.

ANS :

In Ascending: By default, the sort is performed in ascending order. Therefore,

there is no need to specify the ASC keyword.

SELECT ProductName AS [Product_Name]

FROM Canteen table;

3. Delete data from Order_Details whose quantity is less than 1.

ANS :

delete from Order_Details where quantity is<1,

4. Write SQL INNER JOIN query and its output on the given two tables.

ANS :

SELECT Canteen_Table.Product_ID, Canteen_Table.Product_Name,

Order,order_id, Order,order Quantity,

order.order_ID,order.order_quantity

FROM Canteen_Table

INNER JOIN Order_Details

ON Canteen_Table. order_id =order.order_id;

Canteen_Table.Product_ID	Canteen_Table.Product_Name	order_ID	order quantity
01	Diary Milk Chocolate	01	1
02	Lepton tea bags	01	1
03	Kurkure	02	2

THANK YOU