

Final Paper Summer 2020

Course Title: Database Systems

Instructor: Rimsha Khan

Total Marks: 50

NOTE: Understanding the paper is part of solving the paper so no questions will be entertained.

INSTRUCTIONS:

1. Write your names and IDs at top of each paper.
2. Write queries on MS Word. No tool required.
3. Convert word to pdf after uploading.

NAME : IBRAHIM JAN

ID : 6838

PROGRAM : BS(SE)

Q1: Perform Normalization upto 3rd Normal Form on the following table. (13marks)

| 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 |

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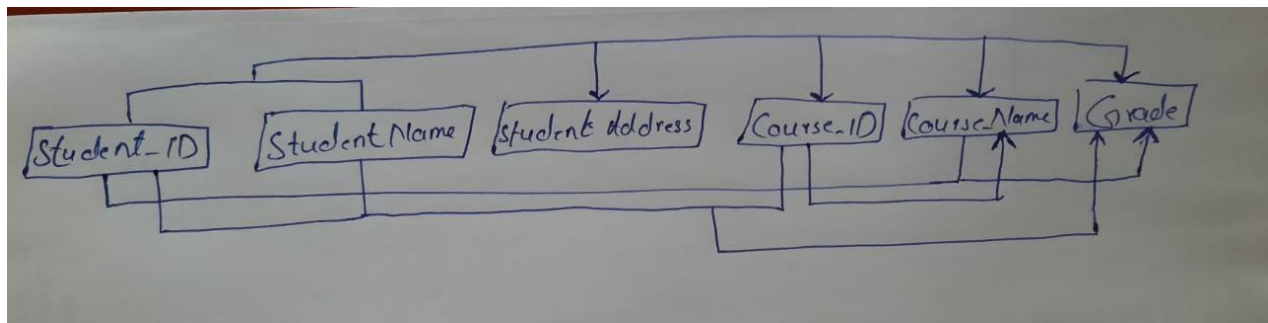
ANS:

Student(student id,studentName,studentAdress)

| Student_id | Student Name | Student Address |
|------------|--------------|-----------------|
| 01 | Fawad | Karachi |
| 02 | Waleed | Lahore |
| 03 | Saira | Peshawar |
| 04 | Aiman | Karachi |
| 05 | Daniyal | Lahore |
| 06 | Emaan | Peshawar |

Course(Student ID, Course ID, Grade)

| Student_ID | Course_ID | Grade |
|------------|-----------|-------|
| 01 | Fawad | A |
| 02 | Waleed | B |
| 03 | Saira | C |
| 04 | Aiman | A |
| 05 | Daniyal | B |
| 06 | Emaan | C |



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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 PRIMARY KEY NOT NULL, Student_Name
VARCHAR( 32 ) NOT NULL ,
DOB DATE,
Age INT
check(Age <= 30),
CGPA FLOAT)
```

- 2. Write 2 SQL DML Queries to insert your data and your friend's data in this Table. (4 marks)**

ANS:

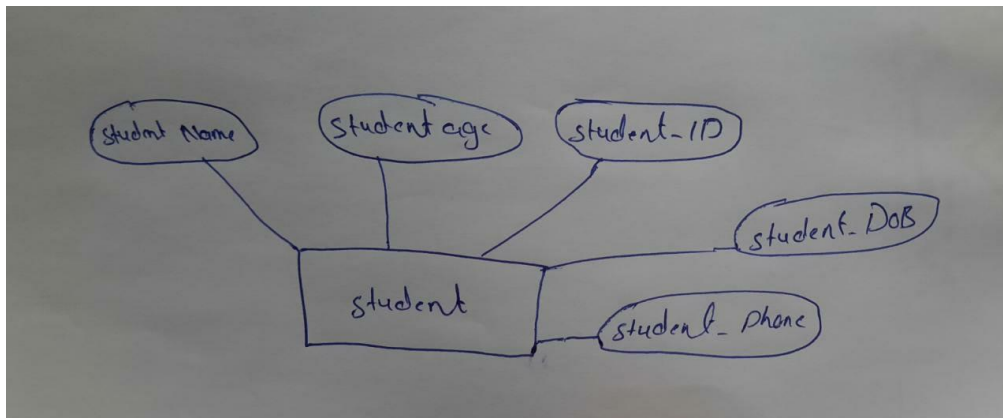
```
INSERT DATA (Name,Id,DOB,Sex,Hight,Address)
VALUE ('ibrahim','6838','24-02-1997','Male','5.5','Peshawar'),
VALUE ('jawad','4838','24-05-1998','Male','4.5','Kohat');
```

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3. Which of the given attributes is a derived attribute and from which attribute it can be derived? (5 marks)

ANS: Derived attributes are those attributes which can be derived from other attribute.



Q3: 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 bags | 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 Jelly | Junk | 3 Jan 2018 | 3 Jan 2021 | 5 Rs |
| 06 | Olpers 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/displaying product names and ids of products whose unit price is less than 50 Rs. (4 Marks)**

ANS:

```
SELECT Product_Name, ID 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. (5 Marks)**

ANS:

```
select * from Canteen_Table order by Product_Name ASC
```

- 3. Delete data from Order_Details whose quantity is less than 1. (4 marks)**

ANS:

```
delete FROM Order_Details WHERE Quantity < 1
```

- 4. Write SQL INNER JOIN query and its output on the given two tables. (5 marks)**

ANS:

```
select * from Canteen_Table ct  
inner join Order_Details od on  
ct.Product_ID = od.Product_ID
```

