Q1
Answer:

Q1) Answer:

1NF :-
- Each table cell should contain a single value
- Each records need to be unique The Student ID and course ID together makes each record unique in the table.

01	Fawad	karachi	SE-01	AI	A
02	Waleed	Lahore	SE-05	DIP	C
03	Saira	Peshawar	SE-03	DB	A
03	Saira	Peshawar	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

2NF:

A Relation that is first normal form and every non-primary key is attribute is fully functionall dependent on the primary key then the reduction is second normal form.

In Student table Student_Id is unique and it is primary key for the table. The Student Name, Student address are fully functionally dependent on the primary key.

- Student (((Student_id [PK][FK], Student Name, Student address)
- Course ((ouse_ID[PK][F-K], Course_Name)
- Student-Course (Studen-Id, Cource_ID[PK],Grade)

In Student table, Student-id is the primary key and foreign key to the Student-Course table. In the course table, Course ID is the primary key and foreign key to the Student-Course table.

3NF:-

If there is no transitive dependency for non-prime attributes as well as it is in second form.

If $A \to B$, $B \to C$ are two FDs then $A \to C$ is called transitive dependency. These tables are in 3F, because there is no transitive dependency.

Q2

Part (1);

```
CREATE TABLE Students (

 ID int NOT NULL PRIMARY KEY,

  Student_Name varchar NOT NULL,

  DOB DATE,

  Age int ,

CGPA float,

   check (Year between 1 and 30),

);
```

Part (2);

```
INSERT INTO Students (ID,
Student_Name,
DOB,
Age,
CGPA)

(13033, 'Muhammad Safeer, '08-03-1996', 24, 2.2);

INSERT INTO Students
```

```
(ID,
Student_Name
,DOB,
Age,
CGPA)
 VALUES
(12280, 'Yahya Riaz, '06-03-1997', 23, 2.7 );
```

Part (3);

Age is the derived attribute of the given attributes and it can be derived from DOB attribute.

Age int AS (year(CURRENT_TIMESTAMP) - year(DOB))

Q3

Part (1);

Select Product_name, Product_id from Canteen_Table where
Cast (rtrim (Unit_Price,'Rs') as int) < 50;

Since we have unit price like 160 Rs, we need to get the price separately to nd the products which are below the unit price 50 rs.
We used rtrim(Unit_Price, 'Rs') which we get as the price value.

Part (2);

Select Product_Name as Product_List_Sorted from Canteen_Table order by Product_Name asc;

Part (3);

DELETE FROM Order_Details WHERE Quantity<1;

Part (4);

Lets nd the Product name Mfg Date Exp Date and sold quantity for the products which are sold.

select Product_Name, Mfg_Date, Exp_Date , Quantity from Canteen_Table C inner join Order_Details O on O.Product_ID = C.Product_ID;