TISHK INTERNATIONAL UNIVERSITY

Faculty of Applied Science – Question Bank
Department of Information Technology
Course **Code:** **IT 215**
Semester: Fall

Q: Fill the blanks with appropriate words.

A. Data in the …… **Database** ……..are typically stored electronically in a computer system.

B. Redundant data do not present in ……..**DBMS**…….

C. Relationship type between Student and Course tables is ……..**many-to-many**…..

Q: Choose one correct choice among the others for each of the followings:

A. Typically stored electronically in a computer system.
(**Database**, DBMS, Relation)

B. Redundant data do not present in:
(**DBMS**, File System)

C. Relationship type between Student and Course tables should be:
(one-to-one, one-to-many, **many-to-many**)

D. Which one is not an Aggregate function:
(**Add**, Avg, Max)

Q: Write purpose of using the followings:

a. Database Schema: Shows the logical view of the entire database.

b. Relational Model: Stores data in a structured format, using fields and records.

c. DBMS: Is a software for creating and managing databases.

Q: Answer the followings.

A. What is the purpose of using Data Model?

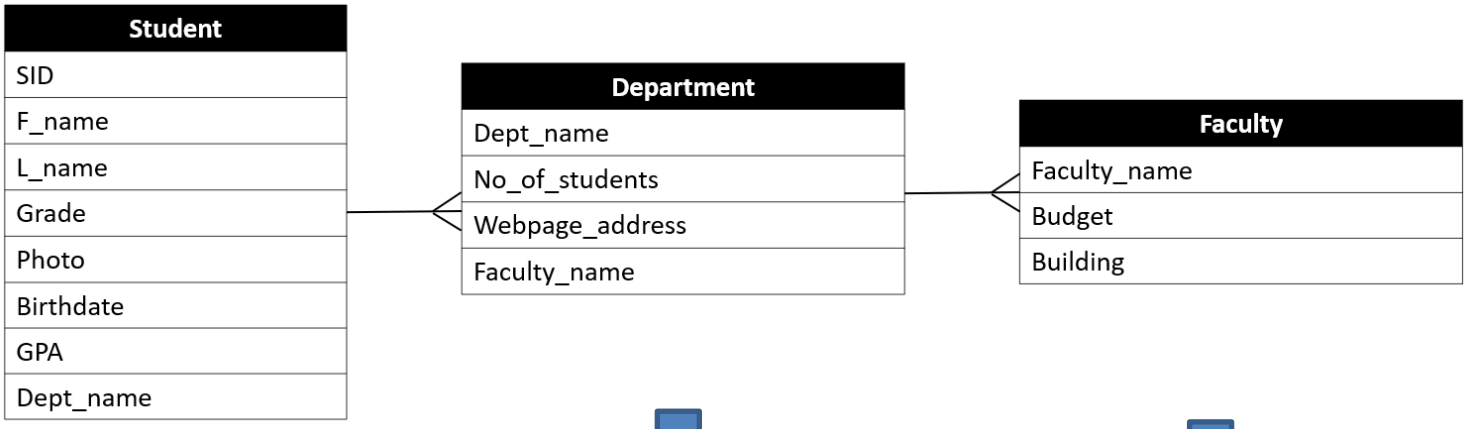
is used to show how data in the systems are:

- **Stored**
- **Connected**
- **Accessed**
- **updated.**

B. Write 4 advantages of using DBMS.

- There is no redundant data.
- It provides backup and recovery of data even if it is lost.
- There is efficient query processing
- It has more security mechanisms as compared to file system.

Q: Write the possible data types next to the field names.



SID	**- Autonumber**
F_name	**- Short text**
L_name	**- Short text**
Grade	**- Number**
Photo	**- Attachment**
Birthdate	**- Date**
GPA	**- Number**
Dept_name	**- Short text**

Dept_name	**- Short text**
No_of_students	**- Number**
Webpage_address	**- Hyperlink**
Faculty_name	**- Short text**

Faculty_name	**- Short text**
Budget	**- Number**
Building	**- Short text**

Q: Answer the followings according to the given tables.

PID	F_name	L_name	Phone	Bought_product_id
1	Azad	Kawa	081 4444444	232
2	Ali	Ahmed	081 444 5555	137
3	Karzan	Omer	081 444 6666	232

Customer

PID	Product	Price	Quantity
005	Pen	2 $	150
127	Pencil	1 $	200
232	Notebook	4 $	50

Product

A. Which relationship type should be used between these two tables?

Many-to many

B. Write a query to insert a new product to the product table with (009, Book, 10, 100).

```
insert into product
values (009, 'Book', 10, 100);

or

insert into product (id, product, price, quantity)
values (009, 'Book', 10, 100);
```

C. Write a query to retrieve number of customers according to their bought products.

```
select count(f_name) // or count(PID, L_name, Phone or Bought_product_id)
from customer
group by Bought_product_id;
```

D. Write a query to delete all the products with quantity is lesser than 170.

```
delete from product
where quantity < 170;
```

E. Write a query to update price of pencil from 1$ to 3$.

```
update product
set price = 3
where product = 'pencil';
```

Q: Answer the followings according to the given table:

SID	F_name	L_name	Mark	Dept
1	Dara	Azad	75	IT
2	Zara	Nawzad	90	IT
3	Ali	Omer	80	IT
4	Nasrin	Dana	100	Civil
5	Aras	Zana	78	IT

Student

a. Write a query to rretrieve information of only top 2 students (highest 2 marks) according to the following table.

Step 1:
```
SELECT *
FROM  Student
ORDER BY Mark DESC;
```

Step 2:
```
SELECT  TOP 2 *
FROM  Student_Order_Query;
```

b. Retrieve only those department names that have more than 3 students.

```
SELECT COUNT(SID) as Student_no, Dept
FROM Student
GROUP BY Dept
HAVING COUNT(SID) > 3;
```

Q: Write a query to find if a market according to the given tables has enough income to provide salary to its employees or not.

OID	Product	Price	Quantity
1	Sprite	2 $	150
2	Pop cake	2 $	100
3	Water	1 $	400
4	Kinder	5 $	60
5	Biskrem	3 $	100

Orders

Step 1:

```
SELECT SUM(Salary) as Total_Salary
FROM Employee;
```

Step 2:

```
SELECT Product, Price, Quantity, Price * Quantity as Total_Price
FROM Orders;
```

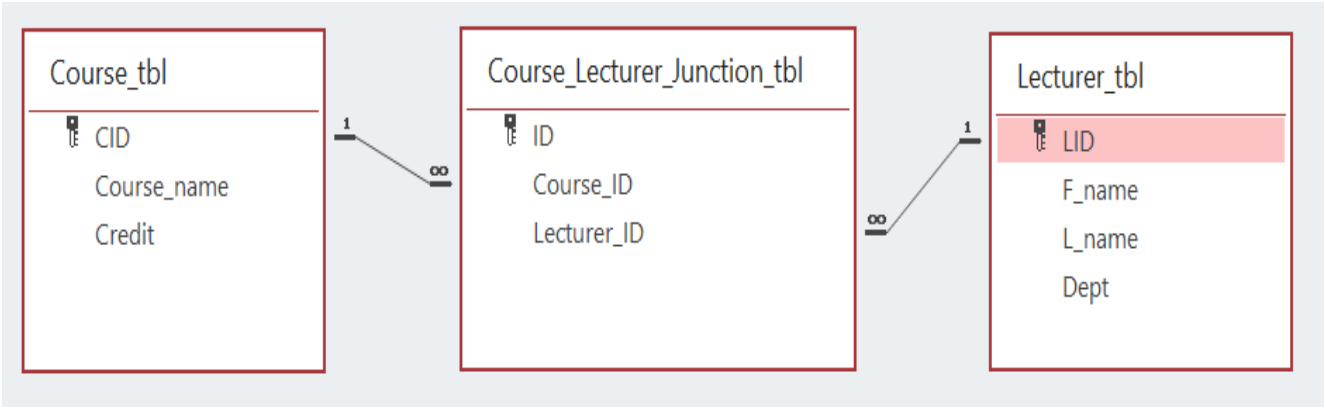
Step 3:

```
SELECT SUM(Total_Price) As Total_Income
FROM Total_Prices_Table;
```

Step 4:

```
SELECT iif(Total_Income_Table.Total_Income > Total_Salary_Table. Total_Salary,
Enough', 'Not Enough') as Status
FROM Total_Income_Table, Total_Salary_Table;
```

Q: Answer the followings according to the given design.



1. What is the relationship type between Course and Lecturer tables?
2. Write a query to retrieve number of Courses taken by each Lecturer ID.
3. Write a query to show output according to the below given conditions:
   - Course ID is smaller than 10; then output '1st grade course'.
   - Course ID is greater than 10; then output 'Not 1st grade course'.
4. Draw Entity Relationship (ER) diagram for the above design.