

Lab-1

Assignment

1. Create tables for - Student(student_id, first_name, last_name, dept, Date_of_birth, gender, religion), Employee, Product, Customer, and Account. Identify relevant attributes for each table make sure each table has at least four columns. Ensure each table has an ID column e.g. Employee should have EMPLOYEE_ID column, Student should have STUDENT_ID column etc.

```
1. Create tables for - Student(student_id, first_name, last_name,
dept, Date_of_birth, gender, religion), Employee, Product,
Customer, and Account. Identify relevant attributes for each
table make sure each table has at least four columns. Ensure each
table has an ID column e.g. Employee should have EMPLOYEE_ID
column, Student should have STUDENT_ID column etc
```

For Students Table

```
create table Students(
    Stud_id int primary key,
    fName varchar(50),
    lName varchar(50),
    dept varchar(100),
    Date_Of_Birth date,
    gender ENUM('Male', 'Female', 'Other') DEFAULT 'Other',
    religion varchar(20)
);
```

For Employee Table

```
create table Employee(
    Emp_id int primary key,
    fName varchar(50),
    lName varchar(50),
    dept varchar(100),
    Date_Of_Birth date,
    gender ENUM('Male', 'Female', 'Other') DEFAULT 'Other'
);
```

For Product Table

```
create table Product(
    Prod_id int primary key,
    Prod_Name varchar(50),
    Prod_Type varchar(100),
    MFD date
);
```

For Customer Table

```
create table Customer(
    fName varchar(50),
    lName varchar(50),
    mob_no int,
    price float
);
```

For Account Table

```
create table Account(
    fName varchar(50),
    lName varchar(50),
    mob_no int,
    dob date,
    Acc_No int
);
```

2. Describe each table.

```
mysql> desc students;
```

Field	Type	Null	Key	Default	Extra
Stud_id	int	NO	PRI	NULL	
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
dept	varchar(100)	YES		NULL	
Date_Of_Birth	date	YES		NULL	
gender	enum('Male','Female','Other')	YES		Other	
religion	varchar(20)	YES		NULL	

7 rows in set (0.00 sec)

```
mysql> desc product;
```

Field	Type	Null	Key	Default	Extra
Prod_id	int	NO	PRI	NULL	
Prod_Name	varchar(50)	YES		NULL	
Prod_Type	varchar(100)	YES		NULL	
MFD	date	YES		NULL	

4 rows in set (0.00 sec)

```
mysql> desc employee;
```

Field	Type	Null	Key	Default	Extra
Emp_id	int	NO	PRI	NULL	
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
dept	varchar(100)	YES		NULL	
Date_Of_Birth	date	YES		NULL	
gender	enum('Male','Female','Other')	YES		Other	

6 rows in set (0.00 sec)

```
mysql> desc customer;
```

Field	Type	Null	Key	Default	Extra
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
mob_no	bigint	YES		NULL	
price	float	YES		NULL	

4 rows in set (0.00 sec)

```
mysql> desc account;
```

Field	Type	Null	Key	Default	Extra
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
mob_no	bigint	YES		NULL	
dob	date	YES		NULL	
Acc_No	int	YES		NULL	

5 rows in set (0.00 sec)

3. Insert at least 5 distinct rows to each table.

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For Students Table

```
INSERT INTO Students (Stud_id, fName, lName, dept, Date_Of_Birth, gender, religion) VALUES (1, 'John', 'Doe', 'Computer Science', '2000-01-01', 'Male', 'Christian');
INSERT INTO Students (Stud_id, fName, lName, dept, Date_Of_Birth, religion) VALUES (2, 'Jane', 'Smith', 'Electrical Engineering', '2001-02-02', 'Muslim');
INSERT INTO Students (Stud_id, fName, lName, dept, Date_Of_Birth, gender, religion)
VALUES
(3, 'Michael', 'Johnson', 'Civil Engineering', '2002-03-03', 'Male', 'Hindu'),
(4, 'Emily', 'Brown', 'Mechanical Engineering', '2003-04-04', 'Female', 'Christian'),
(5, 'David', 'Lee', 'Chemical Engineering', '2004-05-05', 'Male', 'Buddhist');
INSERT INTO Students (Stud_id, fName, lName, dept, Date_Of_Birth, gender, religion) VALUES (6, 'Sarah', 'Kim', 'Industrial Engineering', '2005-06-06', 'Female', 'Taoist');
INSERT INTO Students (Stud_id, fName, lName, dept, Date_Of_Birth, gender, religion) VALUES (7, 'Alex', 'Chen', 'Biomedical Engineering', '2006-07-07', 'Other', 'Atheist');
```

For Employee Table

```
INSERT INTO Employee (Emp_id, fName, lName, dept, Date_Of_Birth, gender) VALUES (1, 'John', 'Doe', 'IT', '1990-01-15', 'Male');
INSERT INTO Employee (Emp_id, fName, lName, dept, Date_Of_Birth) VALUES (2, 'Jane', 'Smith', 'HR', '1992-03-20');
INSERT INTO Employee (Emp_id, fName, lName, dept, Date_Of_Birth, gender) VALUES (3, 'Michael', 'Johnson', 'Finance', '1988-07-10', 'Male');
INSERT INTO Employee (Emp_id, fName, lName, dept, Date_Of_Birth, gender) VALUES (4, 'Emily', 'Brown', 'Marketing', '1995-11-25', 'Female');
INSERT INTO Employee (Emp_id, fName, lName, dept, Date_Of_Birth) VALUES (5, 'David', 'Lee', 'Sales', '1989-09-05');
```

For Products Table

```
INSERT INTO Product (Prod_id, Prod_Name, Prod_Type, MFD) VALUES (1, 'Laptop', 'Electronics', '2023-11-22');
INSERT INTO Product (Prod_id, Prod_Name, Prod_Type, MFD) VALUES (2, 'Smartphone', 'Electronics', '2024-04-15');
INSERT INTO Product (Prod_id, Prod_Name, Prod_Type, MFD) VALUES (3, 'T-Shirt', 'Clothing', '2023-09-01');
INSERT INTO Product (Prod_id, Prod_Name, Prod_Type, MFD) VALUES (4, 'Jeans', 'Clothing', '2024-02-10');
INSERT INTO Product (Prod_id, Prod_Name, Prod_Type, MFD) VALUES (5, 'Book', 'Books', '2023-12-05');
```

For Customer Table

```
INSERT INTO Customer (fName, lName, mob_no, price) VALUES ('John', 'Doe', 1234567890, 120.50);
INSERT INTO Customer (fName, lName, mob_no, price) VALUES ('Jane', 'Smith', 9876543210, 250.00);
INSERT INTO Customer (fName, lName, mob_no, price) VALUES ('Alice', 'Johnson', 5551234567, 80.75);
INSERT INTO Customer (fName, lName, mob_no, price) VALUES ('Bob', 'Brown', 4449876543, 150.20);
INSERT INTO Customer (fName, lName, mob_no, price) VALUES ('Eve', 'Davis', 3332221111, 300.00);
```

For Account Table

```
INSERT INTO Account (fName, lName, mob_no, dob, Acc_No) VALUES ('John', 'Doe', 1234567890, '1990-05-15', 1001);
INSERT INTO Account (fName, lName, mob_no, dob, Acc_No) VALUES ('Jane', 'Smith', 9876543210, '1985-08-22', 1002);
INSERT INTO Account (fName, lName, mob_no, dob, Acc_No) VALUES ('Alice', 'Johnson', 1231231234, '1992-03-10', 1003);
INSERT INTO Account (fName, lName, mob_no, dob, Acc_No) VALUES ('Bob', 'Williams', 3213214321, '1980-12-05', 1004);
INSERT INTO Account (fName, lName, mob_no, dob, Acc_No) VALUES ('Emma', 'Brown', 4564564567, '1995-07-30', 1005);
```


4. Fetch all data from the respective tables.

```
mysql> select * from employee;
```

Emp_id	fName	lName	dept	Date_Of_Birth	gender
1	John	Doe	IT	1990-01-15	Male
2	Jane	Smith	HR	1992-03-20	Other
3	Michael	Johnson	Finance	1988-07-10	Male
4	Emily	Brown	Marketing	1995-11-25	Female
5	David	Lee	Sales	1989-09-05	Other

```
5 rows in set (0.03 sec)
```

```
mysql> select * from students;
```

Stud_id	fName	lName	dept	Date_Of_Birth	gender	religion
1	John	Doe	Computer Science	2000-01-01	Male	Christian
2	Jane	Smith	Electrical Engineering	2001-02-02	Other	Muslim
3	Michael	Johnson	Civil Engineering	2002-03-03	Male	Hindu
4	Emily	Brown	Mechanical Engineering	2003-04-04	Female	Christian
5	David	Lee	Chemical Engineering	2004-05-05	Male	Buddhist
6	Sarah	Kim	Industrial Engineering	2005-06-06	Female	Taoist
7	Alex	Chen	Biomedical Engineering	2006-07-07	Other	Atheist

```
7 rows in set (0.03 sec)
```

```
mysql> select * from product;
```

Prod_id	Prod_Name	Prod_Type	MFD
1	Laptop	Electronics	2023-11-22
2	Smartphone	Electronics	2024-04-15
3	T-Shirt	Clothing	2023-09-01
4	Jeans	Clothing	2024-02-10
5	Book	Books	2023-12-05

```
5 rows in set (0.02 sec)
```

```
mysql> select * from customer;
```

fName	lName	mob_no	price
John	Doe	1234567890	120.5
Jane	Smith	9876543210	250
Alice	Johnson	5551234567	80.75
Bob	Brown	4449876543	150.2
Eve	Davis	3332221111	300

```
5 rows in set (0.00 sec)
```

```
mysql> select * from account;
```

fName	lName	mob_no	dob	Acc_No
John	Doe	1234567890	1990-05-15	1001
Jane	Smith	9876543210	1985-08-22	1002
Alice	Johnson	1231231234	1992-03-10	1003
Bob	Williams	3213214321	1980-12-05	1004
Emma	Brown	4564564567	1995-07-30	1005

```
5 rows in set (0.00 sec)
```

5.Fetch Employee ids and their names from Employee table

```
mysql> select Emp_id,lName,fname from employee;
```

Emp_id	lName	fname
1	Doe	John
2	Smith	Jane
3	Johnson	Michael
4	Brown	Emily
5	Lee	David

5 rows in set (0.00 sec)

6. Create table YOUTH (f_name, l_name, sex, DOB) from the Student table.

```
mysql> create table Youth as select fName,lName,Date_Of_Birth,gender from students;  
Query OK, 7 rows affected (0.15 sec)  
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> select * from Youth;
```

fName	lName	Date_Of_Birth	gender
John	Doe	2000-01-01	Male
Jane	Smith	2001-02-02	Other
Michael	Johnson	2002-03-03	Male
Emily	Brown	2003-04-04	Female
David	Lee	2004-05-05	Male
Sarah	Kim	2005-06-06	Female
Alex	Chen	2006-07-07	Other

```
7 rows in set (0.00 sec)
```

7. Delete all data from the customer table.

```
mysql> truncate table customer;  
Query OK, 0 rows affected (0.06 sec)  
  
mysql> select * from customer;  
Empty set (0.00 sec)
```

8. Delete the Account table.

```
mysql> drop table account;  
Query OK, 0 rows affected (0.04 sec)  
  
mysql> desc account;  
ERROR 1146 (42S02): Table 'myresult.account' doesn't exist
```


9. Fetch the f_name and DOB from YOUTH table.

```
mysql> select fName, Date_Of_Birth from youth;
```

fName	Date_Of_Birth
John	2000-01-01
Jane	2001-02-02
Michael	2002-03-03
Emily	2003-04-04
David	2004-05-05
Sarah	2005-06-06
Alex	2006-07-07

```
7 rows in set (0.00 sec)
```

10. Insert a new record into the Youth table. And keep NULL value in the l_name column.

```
mysql> insert into youth values("Samir",NULL,'2005-02-15','Male');
Query OK, 1 row affected (0.01 sec)

mysql> select * from youth;
```

fName	lName	Date_Of_Birth	gender
John	Doe	2000-01-01	Male
Jane	Smith	2001-02-02	Other
Michael	Johnson	2002-03-03	Male
Emily	Brown	2003-04-04	Female
David	Lee	2004-05-05	Male
Sarah	Kim	2005-06-06	Female
Alex	Chen	2006-07-07	Other
Samir	NULL	2005-02-15	Male

```
8 rows in set (0.00 sec)
```

11. Insert a new record into the Employee table.
And keep NULL value in the employee_id column.

```
mysql> insert into employee values (null, 'Arghya', 'Patra', 'Developer', '2024-01-01', 'Male');  
Query OK, 1 row affected (0.02 sec)
```

```
mysql> select * from employee;
```

Emp_id	fName	lName	dept	Date_Of_Birth	gender
1	John	Doe	IT	1990-01-15	Male
2	Jane	Smith	HR	1992-03-20	Other
3	Michael	Johnson	Finance	1988-07-10	Male
4	Emily	Brown	Marketing	1995-11-25	Female
5	David	Lee	Sales	1989-09-05	Other
NULL	Arghya	Patra	Developer	2024-01-01	Male

```
6 rows in set (0.00 sec)
```

12. Change the name of the employee table to workers.

```
mysql> alter table employee rename to workers;  
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> show tables;
```

Tables_in_myresult
customer
marks
product
students
workers
youth

```
6 rows in set (0.00 sec)
```

13. Increase the size of the dept field in the student table by 10.

```
mysql> ALTER TABLE Students MODIFY dept VARCHAR(110);  
Query OK, 0 rows affected (0.03 sec)  
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> desc students;
```

Field	Type	Null	Key	Default	Extra
Stud_id	int	NO	PRI	NULL	
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
dept	varchar(110)	YES		NULL	
Date_Of_Birth	date	YES		NULL	
gender	enum('Male', 'Female', 'Other')	YES		Other	
religion	varchar(20)	YES		NULL	

7 rows in set (0.00 sec)

14. Add a column ph_no in the student table.

```
mysql> desc students;
```

Field	Type	Null	Key	Default	Extra
Stud_id	int	NO	PRI	NULL	
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
dept	varchar(110)	YES		NULL	
Date_Of_Birth	date	YES		NULL	
gender	enum('Male','Female','Other')	YES		Other	
religion	varchar(20)	YES		NULL	

```
7 rows in set (0.00 sec)
```

```
mysql> alter table students add column (ph_no bigint);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc students;
```

Field	Type	Null	Key	Default	Extra
Stud_id	int	NO	PRI	NULL	
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
dept	varchar(110)	YES		NULL	
Date_Of_Birth	date	YES		NULL	
gender	enum('Male','Female','Other')	YES		Other	
religion	varchar(20)	YES		NULL	
ph_no	bigint	YES		NULL	

```
8 rows in set (0.00 sec)
```


15. Drop the religion attribute from the student table.

```
mysql> desc students;
```

Field	Type	Null	Key	Default	Extra
Stud_id	int	NO	PRI	NULL	
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
dept	varchar(110)	YES		NULL	
Date_Of_Birth	date	YES		NULL	
gender	enum('Male','Female','Other')	YES		Other	
religion	varchar(20)	YES		NULL	
ph_no	bigint	YES		NULL	

```
8 rows in set (0.00 sec)
```

```
mysql> alter table students drop column religion;
```

Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

```
mysql> desc students;
```

Field	Type	Null	Key	Default	Extra
Stud_id	int	NO	PRI	NULL	
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
dept	varchar(110)	YES		NULL	
Date_Of_Birth	date	YES		NULL	
gender	enum('Male','Female','Other')	YES		Other	
ph_no	bigint	YES		NULL	

```
7 rows in set (0.00 sec)
```

16. Rename the student_id field to roll_no in the student table.

```
mysql> desc students;
```

Field	Type	Null	Key	Default	Extra
Stud_id	int	NO	PRI	NULL	
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
dept	varchar(110)	YES		NULL	
Date_Of_Birth	date	YES		NULL	
gender	enum('Male','Female','Other')	YES		Other	
ph_no	bigint	YES		NULL	

```
7 rows in set (0.00 sec)
```

```
mysql> alter table students rename column Stud_id to roll_no;
```

Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

```
mysql> desc students;
```

Field	Type	Null	Key	Default	Extra
roll_no	int	NO	PRI	NULL	
fName	varchar(50)	YES		NULL	
lName	varchar(50)	YES		NULL	
dept	varchar(110)	YES		NULL	
Date_Of_Birth	date	YES		NULL	
gender	enum('Male','Female','Other')	YES		Other	
ph_no	bigint	YES		NULL	

```
7 rows in set (0.00 sec)
```

17. Change the datatype and size of the product id column in the product table.

```
mysql> desc product;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Prod_id    | int           | YES  |     | NULL    |       |
| Prod_Name  | varchar(50)   | YES  |     | NULL    |       |
| Prod_Type  | varchar(100)  | YES  |     | NULL    |       |
| MFD        | date          | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> alter table product modify Prod_id varchar(20);
Query OK, 5 rows affected (0.10 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql>
mysql> desc product;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Prod_id    | varchar(20)   | YES  |     | NULL    |       |
| Prod_Name  | varchar(50)   | YES  |     | NULL    |       |
| Prod_Type  | varchar(100)  | YES  |     | NULL    |       |
| MFD        | date          | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

Thank You