MySQL class problem

**UC1 :**

**Query to create database**

mysql> create database payroll\_service;

Query OK, 1 row affected (0.01 sec)

**Query to show database**

mysql> show databases;

+--------------------+

| Database |

+--------------------+

| information\_schema |

| mysql |

| payroll\_service |

| performance\_schema |

| sakila |

| sys |

| world |

+--------------------+

**Query to use payroll\_service database**

mysql> use payroll\_service;

Database changed

**Query to see current database**

mysql> SELECT DATABASE();

+-----------------+

| DATABASE() |

+-----------------+

| payroll\_service |

+-----------------+

**UC2 :**

**Query to create table in employee\_service**

mysql> CREATE TABLE employee\_payroll

-> (

-> id INT unsigned NOT NULL AUTO\_INCREMENT,

-> name VARCHAR(150) NOT NULL,

-> salary Double NOT NULL,

-> start DATE NOT NULL,

-> PRIMARY KEY (id)

-> );

Query OK, 0 rows affected (0.05 sec)

**UC3:**

**Query to insert data into database**

mysql> INSERT INTO employee\_payroll (name, salary, start) VALUES

-> ( 'Bill', 1000000.00, '2018-01-03'),

-> ( 'Terisa', 2000000.00, '2019-11-13'),

-> ( 'Charlie', 3000000.00, '2020-05-21');

Query OK, 3 rows affected (0.01 sec)

Records: 3 Duplicates: 0 Warnings: 0

**UC4:**

**Query to retrieve all data from database payroll\_service**

mysql> SELECT \* FROM employee\_payroll;

+----+---------+---------+------------+

| id | name | salary | start |

+----+---------+---------+------------+

| 1 | Bill | 1000000 | 2018-01-03 |

| 2 | Terisa | 2000000 | 2019-11-13 |

| 3 | Charlie | 3000000 | 2020-05-21 |

+----+---------+---------+------------+

3 rows in set (0.00 sec)

**UC5:**

**Query to retrieve salary data for a particular employee**

mysql> SELECT salary FROM employee\_payroll WHERE name = 'Bill';

+---------+

| salary |

+---------+

| 1000000 |

+---------+

1 row in set (0.00 sec)

mysql> SELECT \* FROM employee\_payroll WHERE start BETWEEN CAST('2018-01-01' AS DATE) AND DATE(NOW());

+----+---------+---------+------------+

| id | name | salary | start |

+----+---------+---------+------------+

| 1 | Bill | 1000000 | 2018-01-03 |

| 2 | Terisa | 2000000 | 2019-11-13 |

| 3 | Charlie | 3000000 | 2020-05-21 |

+----+---------+---------+------------+

3 rows in set (0.01 sec)

**UC6:**

**Query to add gender to employee\_payroll table**

ALTER TABLE employee\_payroll ADD gender CHAR(1) AFTER name;

Query OK, 0 rows affected (0.14 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> update employee\_payroll set gender = 'F' where name = 'Terisa';

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> update employee\_payroll set gender = 'M' where name = 'Bill' or name = 'Charlie';

Query OK, 2 rows affected (0.01 sec)

Rows matched: 2 Changed: 2 Warnings: 0

mysql> update employee\_payroll set salary = 3000000.00 where name = 'Terisa';

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT \* FROM employee\_payroll;

+----+---------+--------+---------+------------+

| id | name | gender | salary | start |

+----+---------+--------+---------+------------+

| 1 | Bill | M | 1000000 | 2018-01-03 |

| 2 | Terisa | F | 3000000 | 2019-11-13 |

| 3 | Charlie | M | 3000000 | 2020-05-21 |

+----+---------+--------+---------+------------+

3 rows in set (0.00 sec)

**UC7:**

**Query to find sum, average, min, max and no. of male and female employees from employee\_payroll table**

mysql> SELECT SUM(salary) FROM employee\_payroll WHERE gender = 'F' GROUP BY gender;

+-------------+

| SUM(salary) |

+-------------+

| 3000000 |

+-------------+

1 row in set (0.01 sec)

mysql> SELECT SUM(salary) FROM employee\_payroll WHERE gender = 'M' GROUP BY gender;

+-------------+

| SUM(salary) |

+-------------+

| 4000000 |

+-------------+

1 row in set (0.00 sec)

mysql> SELECT AVG(salary) FROM employee\_payroll WHERE gender = 'M' GROUP BY gender;

+-------------+

| AVG(salary) |

+-------------+

| 2000000 |

+-------------+

1 row in set (0.00 sec)

mysql> SELECT AVG(salary) FROM employee\_payroll WHERE gender = 'F' GROUP BY gender;

+-------------+

| AVG(salary) |

+-------------+

| 3000000 |

+-------------+

1 row in set (0.00 sec)

mysql> SELECT MIN(salary) FROM employee\_payroll WHERE gender = 'F' GROUP BY gender;

+-------------+

| MIN(salary) |

+-------------+

| 3000000 |

+-------------+

1 row in set (0.00 sec)

mysql> SELECT MIN(salary) FROM employee\_payroll WHERE gender = 'M' GROUP BY gender;

+-------------+

| MIN(salary) |

+-------------+

| 1000000 |

+-------------+

1 row in set (0.00 sec)

mysql> SELECT MAX(salary) FROM employee\_payroll WHERE gender = 'M' GROUP BY gender;

+-------------+

| MAX(salary) |

+-------------+

| 3000000 |

+-------------+

1 row in set (0.00 sec)

mysql> SELECT MAX(salary) FROM employee\_payroll WHERE gender = 'F' GROUP BY gender;

+-------------+

| MAX(salary) |

+-------------+

| 3000000 |

+-------------+

1 row in set (0.00 sec)

mysql> SELECT COUNT(salary) FROM employee\_payroll WHERE gender = 'M' GROUP BY gender;

+---------------+

| COUNT(salary) |

+---------------+

| 2 |

+---------------+

1 row in set (0.00 sec)

mysql> SELECT COUNT(salary) FROM employee\_payroll WHERE gender = 'F' GROUP BY gender;

+---------------+

| COUNT(salary) |

+---------------+

| 1 |

+---------------+

1 row in set (0.00 sec)

**UC8:**

**Query to extend database employee\_payroll to store employee phone, address and department**

mysql> ALTER TABLE employee\_payroll ADD phoneNumber INT AFTER name;

Query OK, 0 rows affected (0.09 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE employee\_payroll ADD address VARCHAR(150) AFTER phoneNumber;

Query OK, 0 rows affected (0.11 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE employee\_payroll ADD department VARCHAR(150) NOT NULL AFTER address;

Query OK, 0 rows affected (0.09 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> Describe employee\_payroll;

+-------------+--------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-------------+--------------+------+-----+---------+----------------+

| id | int unsigned | NO | PRI | NULL | auto\_increment |

| name | varchar(150) | NO | | NULL | |

| phoneNumber | int | YES | | NULL | |

| address | varchar(150) | YES | | NULL | |

| department | varchar(150) | NO | | NULL | |

| gender | char(1) | YES | | NULL | |

| salary | double | NO | | NULL | |

| start | date | NO | | NULL | |

+-------------+--------------+------+-----+---------+----------------+

8 rows in set (0.01 sec)

**UC9:**

**Query to extend employee\_payroll table to have basic pay, deductions, taxable pay, income tax, net pay.**

mysql> ALTER TABLE employee\_payroll ADD basicPay INT AFTER gender;

Query OK, 0 rows affected (0.09 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE employee\_payroll ADD deductions Double AFTER basicPay;

Query OK, 0 rows affected (0.07 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE employee\_payroll ADD taxablePay Double AFTER deductions;

Query OK, 0 rows affected (0.08 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE employee\_payroll ADD incomeTax Double AFTER taxablePay;

Query OK, 0 rows affected (0.08 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE employee\_payroll ADD netPay Double AFTER incomeTax;

Query OK, 0 rows affected (0.07 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> Describe employee\_payroll;

+-------------+--------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-------------+--------------+------+-----+---------+----------------+

| id | int unsigned | NO | PRI | NULL | auto\_increment |

| name | varchar(150) | NO | | NULL | |

| phoneNumber | int | YES | | NULL | |

| address | varchar(150) | YES | | NULL | |

| department | varchar(150) | NO | | NULL | |

| gender | char(1) | YES | | NULL | |

| basicPay | int | YES | | NULL | |

| deductions | double | YES | | NULL | |

| taxablePay | double | YES | | NULL | |

| incomeTax | double | YES | | NULL | |

| netPay | double | YES | | NULL | |

| salary | double | NO | | NULL | |

| start | date | NO | | NULL | |

+-------------+--------------+------+-----+---------+----------------+

13 rows in set (0.01 sec)

mysql>

**UC10:**

**Query to insert department for terissa making two different entries for two different department.**

mysql> update employee\_payroll set department = 'Marketing' where name = 'Terisa';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> Insert INTO employee\_payroll(name, address, department, gender, salary, start) VALUES

-> ('Terisa', 'Dellas', 'Sales', 'F', 3000000.00, '2019-11-13');

Query OK, 1 row affected (0.00 sec)

mysql> SELECT \* FROM employee\_payroll;

+----+---------+-------------+---------+------------+--------+----------+------------+------------+-----------+--------+---------+------------+

| id | name | phoneNumber | address | department | gender | basicPay | deductions | taxablePay | incomeTax | netPay | salary | start |

+----+---------+-------------+---------+------------+--------+----------+------------+------------+-----------+--------+---------+------------+

| 1 | Bill | NULL | NULL | | M | NULL | NULL | NULL | NULL | NULL | 1000000 | 2018-01-03 |

| 2 | Terisa | NULL | NULL | Marketing | F | NULL | NULL | NULL | NULL | NULL | 3000000 | 2019-11-13 |

| 3 | Charlie | NULL | NULL | | M | NULL | NULL | NULL | NULL | NULL | 3000000 | 2020-05-21 |

| 5 | Terisa | NULL | Dellas | Sales | F | NULL | NULL | NULL | NULL | NULL | 3000000 | 2019-11-13 |

+----+---------+-------------+---------+------------+--------+----------+------------+------------+-----------+--------+---------+------------+

4 rows in set (0.00 sec)

mysql> update employee\_payroll set salary = 5000000.00 where name = 'Terisa';

Query OK, 2 rows affected (0.01 sec)

Rows matched: 2 Changed: 2 Warnings: 0

mysql> SELECT \* FROM employee\_payroll;

+----+---------+-------------+---------+------------+--------+----------+------------+------------+-----------+--------+---------+------------+

| id | name | phoneNumber | address | department | gender | basicPay | deductions | taxablePay | incomeTax | netPay | salary | start |

+----+---------+-------------+---------+------------+--------+----------+------------+------------+-----------+--------+---------+------------+

| 1 | Bill | NULL | NULL | | M | NULL | NULL | NULL | NULL | NULL | 1000000 | 2018-01-03 |

| 2 | Terisa | NULL | NULL | Marketing | F | NULL | NULL | NULL | NULL | NULL | 5000000 | 2019-11-13 |

| 3 | Charlie | NULL | NULL | | M | NULL | NULL | NULL | NULL | NULL | 3000000 | 2020-05-21 |

| 5 | Terisa | NULL | Dellas | Sales | F | NULL | NULL | NULL | NULL | NULL | 5000000 | 2019-11-13 |

+----+---------+-------------+---------+------------+--------+----------+------------+------------+-----------+--------+---------+------------+

4 rows in set (0.00 sec)

**UC11:**

**ER Diagram**



**UC 12:**

**Implementation of ER Diagram into Payroll Service DB**