ASSIGNMENT NO. 03:

i) Create the Employee table using following schema

Employee (Employee_id, First_name, Last_name, Salary, Joining_date, Department)

create table Employee1 (Employee_id int(10), First_name varchar(20), Last_name varchar(20), Salary int(20), Joining_date Date, Department varchar(20));

```
mysql> describe employee1;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| Employee_id  | int         | YES  |     | NULL    |       |
| First_name   | varchar(20) | YES  |     | NULL    |       |
| Last_name    | varchar(20) | YES  |     | NULL    |       |
| Salary       | int         | YES  |     | NULL    |       |
| Joining_date | date        | YES  |     | NULL    |       |
| Department   | varchar(20) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
```

1. Insert 10 to 15 appropriate records in the Employee table.

   mysql> insert into employee1 values(1,'rushali','sarak',90000,'2022-11-20','developer');
   mysql> insert into employee1 values(2,'mayu','sarak',90000,'2022-11-20','developer');
   Query OK, 1 row affected (0.04 sec)

```
mysql> select *from employee1;
+-------------+------------+-----------+--------+--------------+------------+
| Employee_id | First_name | Last_name | Salary | Joining_date | Department |
+-------------+------------+-----------+--------+--------------+------------+
|           1 | rushali    | sarak     |  90000 | 2022-11-20   | developer  |
|           2 | mayu       | sarak     |  70000 | 2022-11-20   | developer  |
|           3 | sakshi     | shaikh    |  40000 | 2022-11-20   | testerr    |
|           4 | roshni     | waghmode  |  50000 | 2022-11-20   | testerr    |
|           5 | deepti     | waghmode  |  44000 | 2022-01-09   | designer   |
|           6 | swarupa    | waghmode  |  90000 | 2022-01-09   | designer   |
|           7 | swati      | shinde    |  20000 | 2022-01-09   | designer   |
|           8 | shahin     | mulani    |  55000 | 2022-01-09   | designer   |
|           9 | asha       | sarak     |  90000 | 2022-01-09   | developer  |
|          10 | arohi      | wadile    |  90000 | 2022-08-09   | developer  |
+-------------+------------+-----------+--------+--------------+------------+
10 rows in set (0.00 sec)
```

2. Get First_Name,Last_Name from employee table

   select first_name,last_name from employee1;

```
mysql> select first_name,last_name from employee1;
+------------+-----------+
| first_name | last_name |
+------------+-----------+
| rushali    | sarak     |
| mayu       | sarak     |
| sakshi     | shaikh    |
| roshni     | waghmode  |
| deepti     | waghmode  |
| swarupa    | waghmode  |
| swati      | shinde    |
| shahin     | mulani    |
| asha       | sarak     |
| arohi      | wadile    |
+------------+-----------+
10 rows in set (0.00 sec)
```

3. Get unique DEPARTMENT from employee table

   mysql> select distinct(department) from employee1;

```
+------------+
| department |
+------------+
| developer  |
| testerr    |
| designer   |
+------------+
3 rows in set (0.00 sec)
```

4. Get FIRST_NAME ,Joiningyear,Joining Month and Joining Date from employee table

   select first_name,Joining_date from employee1;

```
mysql> select first_name,Joining_date from employee1;
+------------+--------------+
| first_name | Joining_date |
+------------+--------------+
| rushali    | 2022-11-20   |
| mayu       | 2022-11-20   |
| sakshi     | 2022-11-20   |
| roshni     | 2022-11-20   |
| deepti     | 2022-01-09   |
| swarupa    | 2022-01-09   |
| swati      | 2022-01-09   |
| shahin     | 2022-01-09   |
| asha       | 2022-01-09   |
| arohi      | 2022-08-09   |
+------------+--------------+
10 rows in set (0.00 sec)
```

5. Get all employee details from the employee table order by Salary Ascending

   select * from employee1 order by salary;

```
mysql> select * from employee1 order by salary;
+-------------+------------+-----------+--------+--------------+------------+
| Employee_id | First_name | Last_name | Salary | Joining_date | Department |
+-------------+------------+-----------+--------+--------------+------------+
|           7 | swati      | shinde    |  20000 | 2022-01-09   | designer   |
|           3 | sakshi     | shaikh    |  40000 | 2022-11-20   | testerr    |
|           5 | deepti     | waghmode  |  44000 | 2022-01-09   | designer   |
|           4 | roshni     | waghmode  |  50000 | 2022-11-20   | testerr    |
|           8 | shahin     | mulani    |  55000 | 2022-01-09   | designer   |
|           2 | mayu       | sarak     |  70000 | 2022-11-20   | developer  |
|           1 | rushali    | sarak     |  90000 | 2022-11-20   | developer  |
|           6 | swarupa    | waghmode  |  90000 | 2022-01-09   | designer   |
|           9 | asha       | sarak     |  90000 | 2022-01-09   | developer  |
|          10 | arohi      | wadile    |  90000 | 2022-08-09   | developer  |
+-------------+------------+-----------+--------+--------------+------------+
10 rows in set (0.00 sec)
```

6. Get all employee details from the employee table whose First_Namestarts with A.

select * from employee1 where first_name like 'a%';

```
mysql> select * from employee1 where first_name like 'a%';
+-------------+------------+-----------+--------+--------------+------------+
| Employee_id | First_name | Last_name | Salary | Joining_date | Department |
+-------------+------------+-----------+--------+--------------+------------+
|           9 | asha       | sarak     |  90000 | 2022-01-09   | developer  |
|          10 | arohi      | wadile    |  90000 | 2022-08-09   | developer  |
+-------------+------------+-----------+--------+--------------+------------+
2 rows in set (0.05 sec)
```

7. Update the Salary column by incrementing salary of all employees having salary less than

20000 by 5000.

update employee1 set salary=salary+5000 where salary<30000;

```
|           7 | swati      | shinde    |  25000 | 2022-01-09   | designer   |
```

8.Delete the department of employee no 004.

delete from employee1 where employee_id=4;

9.Find department wise minimum salary

SELECT Department, MIN(Salary) AS Min_Salary FROM Employee1 GROUP BY Department;

```
+------------+------------+
| Department | Min_Salary |
+------------+------------+
| developer  |      70000 |
| testerr    |      40000 |
| designer   |      25000 |
+------------+------------+
3 rows in set (0.01 sec)
```

10. Find department wise Average salary in ascending order.

SELECT department, AVG(salary) AS avg_salary FROM employees GROUP BY department ORDER BY avg_salary ASC;

```
+------------+------------+
| department | avg_salary |
+------------+------------+
| testerr    | 40000.0000 |
| designer   | 53500.0000 |
| developer  | 85000.0000 |
+------------+------------+
```

Consider Following Schema

Employee(employee_id, employee_name, City, Company_Name, Salary)

```
mysql> select * from employees;
+-------------+---------------+---------+--------------+--------+
| employee_id | employee_name | City    | Company_Name | Salary |
+-------------+---------------+---------+--------------+--------+
|           1 | rushali       | mumbai  | IBM          |  40000 |
|           2 | rishi         | pune    | IBM          |  40000 |
|           3 | asha          | solapur | Infosys      |  50000 |
|           4 | gauri         | solapur | oracle       |  70000 |
|           5 | neha          | pune    | infosys      |  20000 |
|           6 | deva          | pune    | IBM          |  40000 |
+-------------+---------------+---------+--------------+--------+
```

11. Find details of all employees who work for company “IBM” and live in city “Pune”.

select * from employees where city='pune' and company_name='IBM';

```
mysql> select * from employees where city='pune' and company_name='IBM';
+-------------+---------------+------+--------------+--------+
| employee_id | employee_name | City | Company_Name | Salary |
+-------------+---------------+------+--------------+--------+
|           2 | rishi         | pune | IBM          |  40000 |
|           6 | deva          | pune | IBM          |  40000 |
+-------------+---------------+------+--------------+--------+
```

12. Find names, and cities of all employees who work for “Infosys” or earn more than 30000.

select * from employees where salary>30000 and company_name='Infosys';

```
mysql> select * from employees where salary>30000 and company_name='Infosys';
+-------------+---------------+---------+--------------+--------+
| employee_id | employee_name | City    | Company_Name | Salary |
+-------------+---------------+---------+--------------+--------+
|           3 | asha          | solapur | infosys      |  50000 |
+-------------+---------------+---------+--------------+--------+
```

13. Find all employees who are employees of “IBM” and not living in city “Mumbai”

select * from employees where city!='mumbai' and company_name='IBM';

```
mysql> select * from employees where city!='mumbai' and company_name='IBM';
+-------------+---------------+------+--------------+--------+
| employee_id | employee_name | City | Company_Name | Salary |
+-------------+---------------+------+--------------+--------+
|           2 | rishi         | pune | IBM          |  40000 |
|           6 | deva          | pune | IBM          |  40000 |
+-------------+---------------+------+--------------+--------+
```

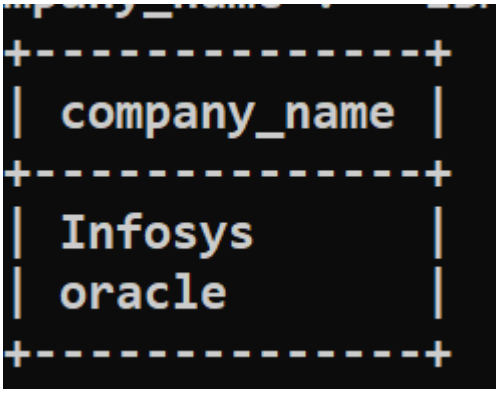
14. Find company wise maximum salary.

SELECT company_name, max(Salary) AS Max_Salary FROM Employees GROUP BY company_name;

```
+--------------+------------+
| company_name | Max_Salary |
+--------------+------------+
| IBM          |      40000 |
| Infosys      |      50000 |
| oracle       |      70000 |
+--------------+------------+
```

15. Find those companies whose employees earn higher salary, than average salary at “IBM”.

SELECT DISTINCT company_name FROM employees WHERE salary > (SELECT AVG(salary) FROM employees WHERE company_name = 'IBM') AND company_name != 'IBM';



```
+--------------+
| company_name |
+--------------+
| Infosys      |
| oracle       |
+--------------+
```

ii) Create the tables using following schema:

Patient (pid, pname, age,Bloodgrp,city,gender,email)

Doctor(Did, Dname, Specialization, salary, workexp)

Treats(Did, pid, illness, fees)

Admitted(pid,Wardtype, No_of_days)

1) In treats table for foreign key did set option on delete cascade and on update cascade and

for pid on delete set null.

```
mysql> ALTER TABLE Treats
    -> ADD CONSTRAINT fk_Did
    -> FOREIGN KEY (Did)
    -> REFERENCES Doctor(Did)
    -> ON DELETE CASCADE
    -> ON UPDATE CASCADE,
```

-> ADD CONSTRAINT fk_pid

-> FOREIGN KEY (pid)

-> REFERENCES Patient(pid)

-> ON DELETE SET NULL;

Query OK, 5 rows affected (0.17 sec)

2.) a.) Display name of doctors and patients in a single column

select pname as name from patient union select dname as name from doctor;

```
+--------------------+
| name               |
+--------------------+
| Rajesh             |
| Sunita             |
| Amit               |
| Priya              |
| Sanjay             |
| arti               |
| Dr. Anjali Mishra  |
| Dr. Rajesh Khanna  |
| Dr. Priya Gupta    |
| Dr. Ravi Kumar     |
| Dr. Suresh Verma   |
+--------------------+
11 rows in set (0.00 sec)
```

b.) Let duplicate names appear as many no of times as they are in the table.

select pname as name from patient union all select dname as name from doctor;

```
+--------------------+
| name               |
+--------------------+
| Rajesh             |
| Sunita             |
| Amit               |
| Priya              |
| Sanjay             |
| arti               |
| arti               |
| Dr. Anjali Mishra  |
| Dr. Rajesh Khanna  |
| Dr. Priya Gupta    |
| Dr. Ravi Kumar     |
| Dr. Suresh Verma   |
+--------------------+
12 rows in set (0.00 sec)
```

3.) Display age of oldest patient.

SELECT MAX(age) AS OldestAge FROM Patient;

```
+-----------+
| OldestAge |
+-----------+
|        50 |
+-----------+
1 row in set (0.04 sec)
```

4.) What is least salary drawn by any doctor.

SELECT Min(salary) AS minsalary FROM doctor;

```
mysql> SELECT Min(salary) AS minsalary FROM doctor;
+-----------+
| minsalary |
+-----------+
|     90000 |
+-----------+
1 row in set (0.00 sec)
```

5.) How many patients are registered in the hospital.

SELECT count(pid) FROM patient;

```
mysql> SELECT count(pid)  FROM patient;
+------------+
| count(pid) |
+------------+
|          6 |
+------------+
1 row in set (0.05 sec)
```

6.) What is the total money collected so far from treatment of patients.

SELECT sum(fees) FROM treats;

```
mysql> SELECT sum(fees)  FROM treats;
+-----------+
| sum(fees) |
+-----------+
|     22000 |
+-----------+
1 row in set (0.00 sec)
```

7.) Display patients name ending with ta.

select * from patient where pname like '%ta';

```
mysql> select * from patient where pname like '%ta';
+-----+--------+------+----------+-------+--------+------------------+
| pid | pname  | age  | Bloodgrp | city  | gender | email            |
+-----+--------+------+----------+-------+--------+------------------+
|   2 | Sunita |   28 | O-       | Delhi | Female | sunita@gmail.com |
+-----+--------+------+----------+-------+--------+------------------+
1 row in set (0.11 sec)
```

8.) Display doctors name starting with s having exactly 8 characters in all.

select * from doctor where dname like 's_____';

9.) Find avg salary of each dept along with specialization.

select avg(salary),specialization from doctor group by specialization;

```
+-------------+--------------------+
| avg(salary) | specialization     |
+-------------+--------------------+
|  90000.0000 | brain              |
| 120000.0000 | Cardiologist       |
| 150000.0000 | Orthopedic Surgeon |
|  90000.0000 | Pediatrician       |
| 110000.0000 | Dermatologist      |
| 130000.0000 | Neurologist        |
+-------------+--------------------+
6 rows in set (0.00 sec)
```

10.) Display deptname whose avg workexp of doctors is above 10 years.

select specialization from doctor group by specialization having avg(workexp)>10;

```
mysql> select specialization from doctor group by specialization having avg(workexp)>10;
+--------------------+
| specialization     |
+--------------------+
| Cardiologist       |
| Orthopedic Surgeon |
| Neurologist        |
+--------------------+
```

11.) Display patients name and their blood group who have age in range of 16 to40.

Select pname,bloodgrp from patient where age between 16 and 40;

```
mysql> Select pname,bloodgrp from patient where age between 16 and 40;
+--------+----------+
| pname  | bloodgrp |
+--------+----------+
| Rajesh | B+       |
| Sunita | O-       |
| Priya  | AB-      |
+--------+----------+
```

12.) Display doctors name ,salary who is a cardiologist.

select dname,salary from doctor where specialization='cardiologist';

```
mysql> select dname,salary from doctor where specialization='cardiologist';
+-------------------+--------+
| dname             | salary |
+-------------------+--------+
| Dr. Anjali Mishra | 120000 |
+-------------------+--------+
1 row in set (0.00 sec)
```

13.) Display patient name and gender suffering from eyestrain.

select pname,gender from patient where pid in(select pid from treats where illness='eyestrain');

```
mysql> select pname,gender from patient where pid in(select pid from treats where illness='eyestrain');
+--------+--------+
| pname  | gender |
+--------+--------+
| Rajesh | Male   |
+--------+--------+
1 row in set (0.12 sec)
```

14.) Display eyestrain patient name and her doctors name.

SELECT P.pname AS PatientName, D.Dname AS DoctorName FROM Patient P INNER JOIN Treats T ON P.pid = T.pid INNER JOIN Doctor D ON T.Did = D.Did WHERE T.illness = 'eyestrain';

```
+-------------+-----------------+
| PatientName | DoctorName      |
+-------------+-----------------+
| Rajesh      | Dr. Priya Gupta |
+-------------+-----------------+
1 row in set (0.00 sec)
```

15.) Remove records of doctor James and see effect on treats table.

Treats Table Before Delete

```
mysql> select * from treats;
+------+------+--------------+------+
| Did  | pid  | illness      | fees |
+------+------+--------------+------+
|  101 |    1 | Heart Disease | 5000 |
|  102 |    4 | Fractured Leg | 8000 |
|  103 |    2 | Common Cold   | 2000 |
|  104 |    5 | Skin Allergy  | 3000 |
|  105 |    3 | Migraine      | 4000 |
|  103 |    1 | eyestrain     | 5000 |
+------+------+--------------+------+
6 rows in set (0.00 sec)
```

DELETE FROM Doctor WHERE Dname = 'James';

Treats Table After Delete

```
mysql> select * from treats;
+------+------+--------------+------+
| Did  | pid  | illness      | fees |
+------+------+--------------+------+
|  101 |    1 | Heart Disease | 5000 |
|  102 |    4 | Fractured Leg | 8000 |
|  103 |    2 | Common Cold   | 2000 |
|  105 |    3 | Migraine      | 4000 |
|  103 |    1 | eyestrain     | 5000 |
+------+------+--------------+------+
5 rows in set (0.00 sec)
```

16.) Remove records for a certain patient and see effect in treats table.

DELETE FROM Patient WHERE pid = 3;

ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key constraint fails (`rushali`.`admitted`, CONSTRAINT `admitted_ibfk_1` FOREIGN KEY (`pid`) REFERENCES `patient` (`pid`))

17.)Change salary of Dr arti by 50,000/-

update doctor set salary= salary+50000 where dname='arti';

```
+-----+------------------+--------------------+--------+---------+
| Did | Dname            | Specialization     | salary | workexp |
+-----+------------------+--------------------+--------+---------+
|   1 | arti             | brain              | 100000 |      10 |
+-----+------------------+--------------------+--------+---------+
```

18.) While displaying contents of treat table change the following-if the illness is attack

change to heart attack if eyestrain change to cornea and rest keep it as it is.

SELECT Did, pid, CASE WHEN illness = 'attack' THEN 'heart attack' WHEN illness = 'eyestrain' THEN 'cornea' ELSE illness END AS ModifiedIllness, fees FROM Treats;

```
mysql> select * from treats;
+------+------+---------------+------+
| Did  | pid  | illness       | fees |
+------+------+---------------+------+
|  101 |    1 | heart attack  | 5000 |
|  102 |    4 | Fractured Leg | 8000 |
|  103 |    2 | Common Cold   | 2000 |
|  105 |    3 | Migraine      | 4000 |
|  103 |    1 | eyestrain     | 5000 |
+------+------+---------------+------+
5 rows in set (0.00 sec)
```

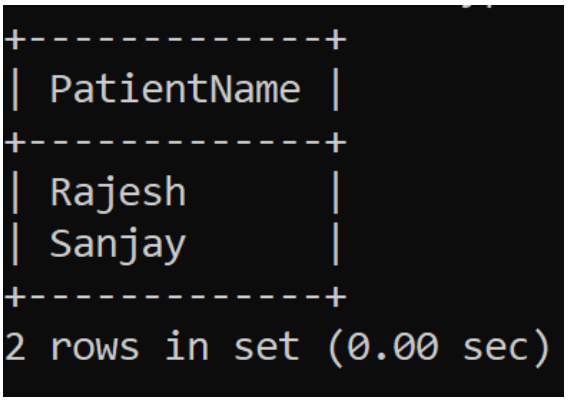
19.) Give 5% rise to doctor's salary if their salary is<80,000/- and 2% otherwise.

UPDATE Doctor SET salary = CASE WHEN salary < 80000 THEN salary * 1.05 -- 5% increase ELSE salary * 1.02 -- 2% increase END;

```
+-----+------------------+--------------------+--------+---------+
| Did | Dname            | Specialization     | salary | workexp |
+-----+------------------+--------------------+--------+---------+
|   1 | arti             | brain              | 104040 |      10 |
| 101 | Dr. Anjali Mishra | Cardiologist       | 124848 |      12 |
| 102 | Dr. Rajesh Khanna | Orthopedic Surgeon | 156060 |      15 |
| 103 | Dr. Priya Gupta   | Pediatrician       |  93636 |       8 |
| 105 | Dr. Suresh Verma  | Neurologist        | 135252 |      14 |
+-----+------------------+--------------------+--------+---------+
5 rows in set (0.00 sec)
```

20.) Print general ward patients name.

SELECT P.pname AS PatientName FROM Patient P INNER JOIN Admitted A ON P.pid = A.pid WHERE A.Wardtype = 'General';



```
+-------------+
| PatientName |
+-------------+
| Rajesh      |
| Sanjay      |
+-------------+
2 rows in set (0.00 sec)
```

21.)Change admitted table into room

ALTER TABLE Admitted RENAME TO Room;

22.) Print the patient name and bg who donot have emailids.

mysql> SELECT pname AS PatientName, Bloodgrp FROM Patient WHERE email IS NULL;

Empty set (0.00 sec)

23.) update doctor table field and see its effect on treats table.

UPDATE Doctor SET did = 110 WHERE did = 101;

ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails (`rushali`.`treats`, CONSTRAINT `treats_ibfk_1` FOREIGN KEY (`Did`) REFERENCES `doctor` (`Did`))