Name : Adarsh Kumar Pandey

Roll No. – 25MCMC29

## Exercise: 4

## 1. Consider the following employee database.

# employee (ID, emp\_name, age, street, city)

# works (ID, company\_name, salary)

# company (company\_name, city)

## Give an expression each in the relational algebra to express the following queries.

## a. Find the name of each employee whose salary is greater than Rs. 1000000. (1 point)

πemp\_name(σsalary>1000000 (σworks.ID = employee.ID (employee X works))

**b. Find the name of each employee who lives in the city “Hyderabad” and whose salary less than 1000000**

πemp\_name(σworks .ID = employee.ID ^ works.salary< 1000000(works X employee))

**c. Find the ID and name of each employee who does not work for “University of Hyderabad”. (1 point)**

πID , emp\_name (σworks.ID = employee.ID ^ works.company\_name <> ‘University of Hyderabad’(works X employee))

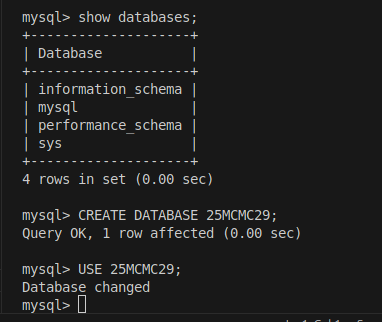
## d. Find the ID and name of each employee who earns at least as much as every

## employee in the database.

πID,emp\_name(σE1.salary<E2.salary(ρE1(employeeXworks)XρE2(employeeXworks)))

# 2 . Create Data base "create database 25MCMCXX”

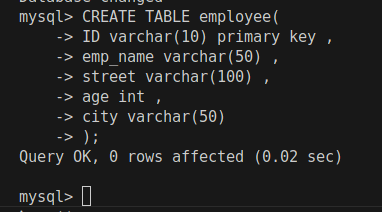
## Create Database



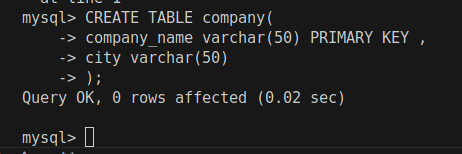
# 3. Now create the employee database tables in your database.

# a. Ensure all the primary key and foreign key relations while creating the tables.

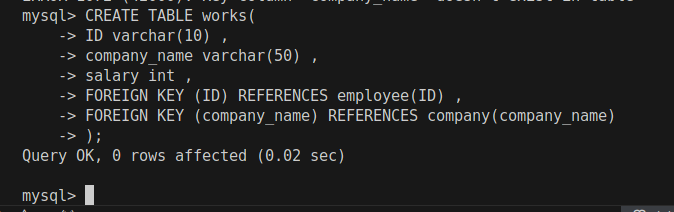
## Creating table employee



## Creating table company

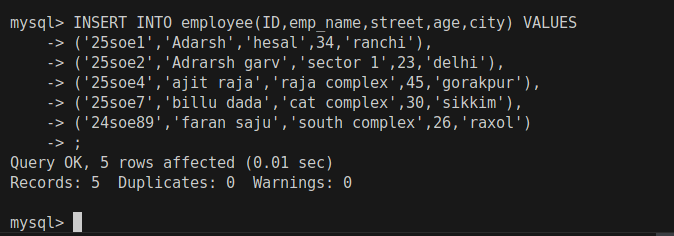


## creating table works

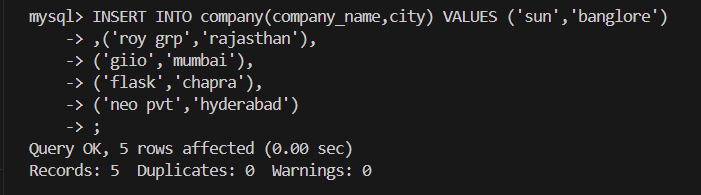


# b . Populate the tables with at least 5 entries per table.

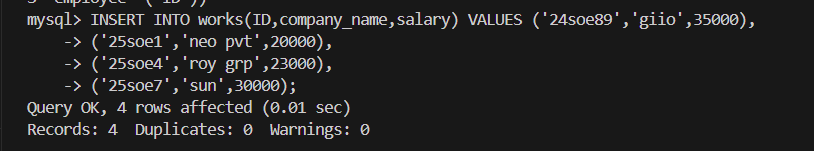
## Inserting data in employee



## Inserting data into employee

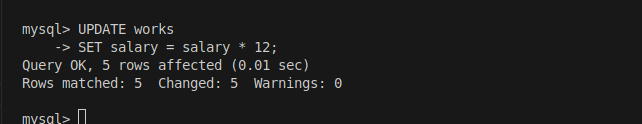


## Inserting data in works

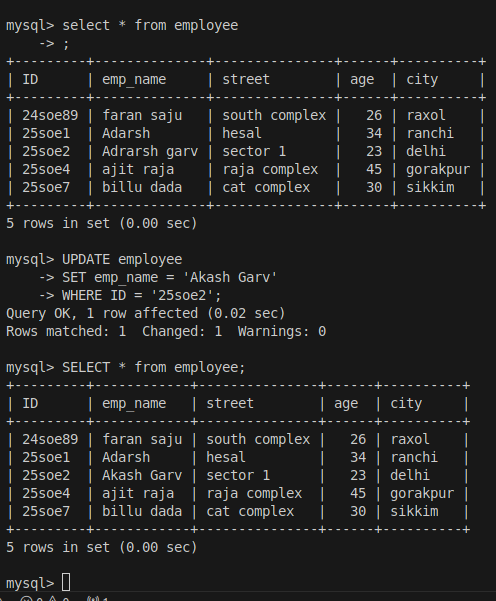


# 4. all the SQL commands discussed/demonstrated in the slides

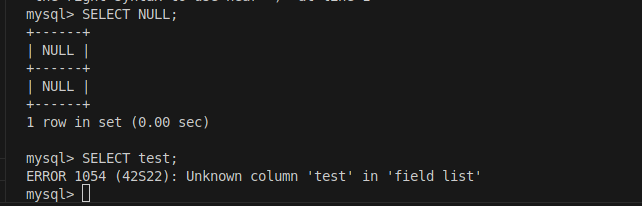
# Updating works table works



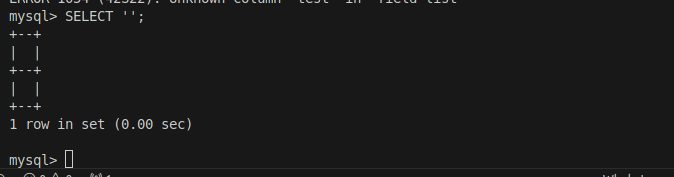
## Updating specific detail of the employee



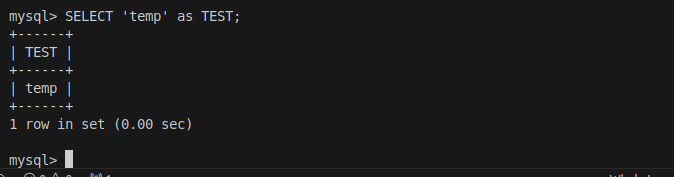
## Projection of NULL



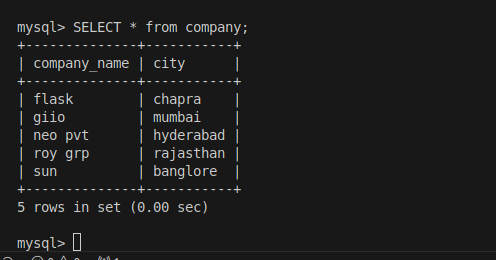
## Projection of empty string



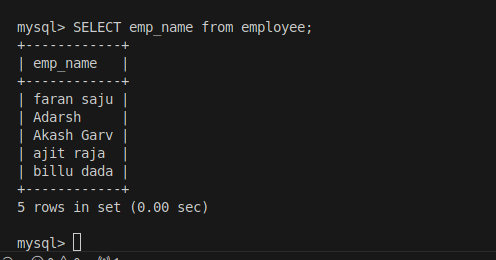
## Projection of string with changed name



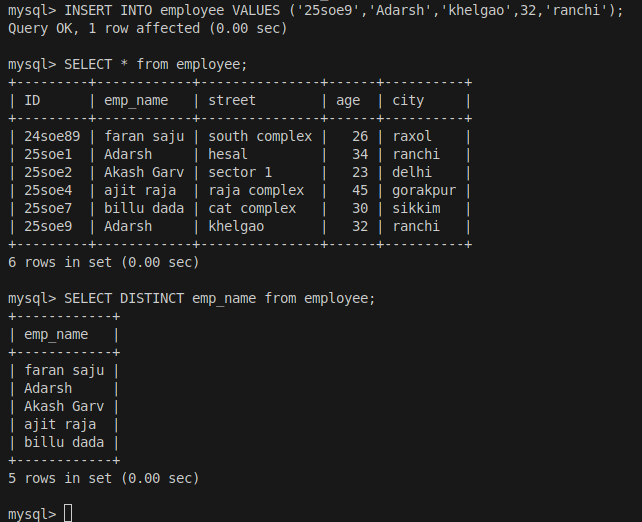
## show all employee in database



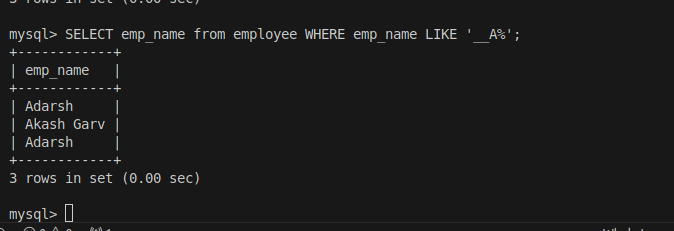
## Display only employee name



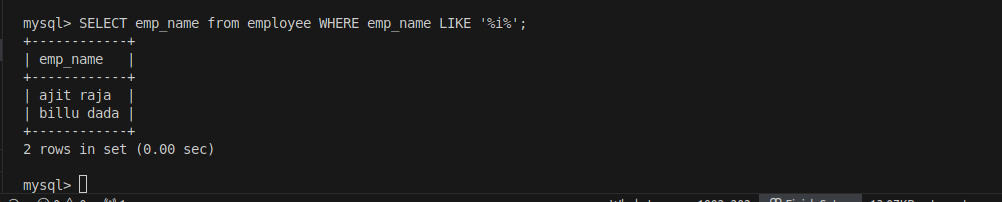
## Show distinct employee name



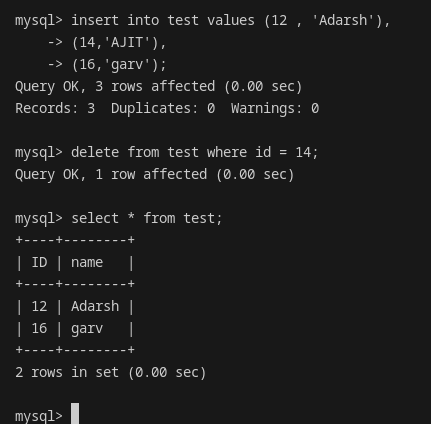
## Show name with min 3 char where 3rd char is A



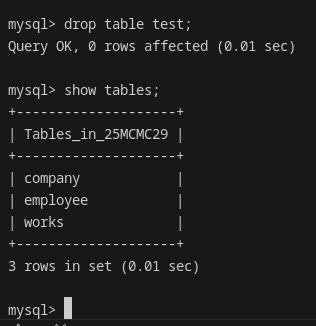
## Show employee name which contains I in it



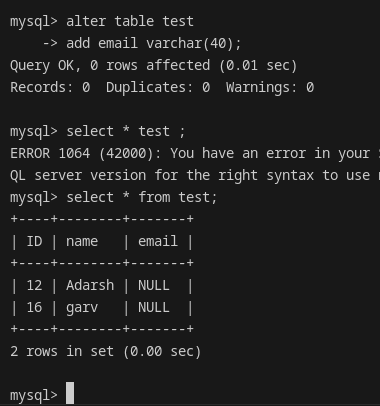
## Use of delete command



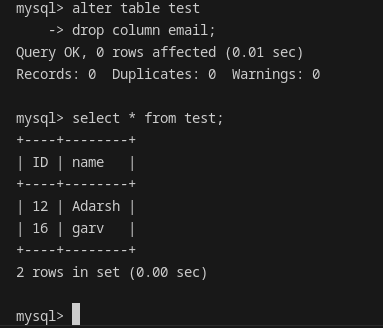
## Use of drop command



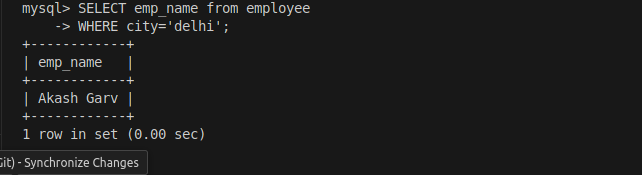
## Use of alter command to add column



## Use of alter command to drop the column



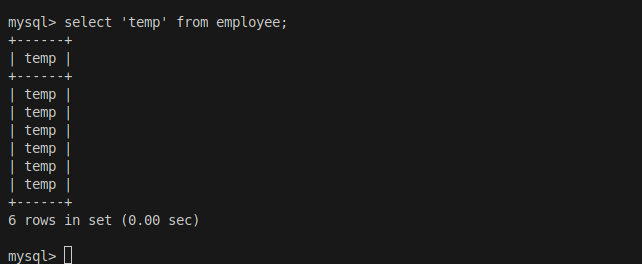
## Use of where clause



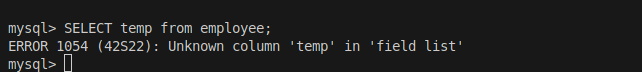
## Projection of string



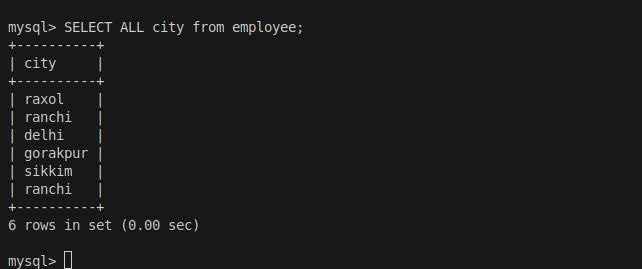
## Projection of string using from on table



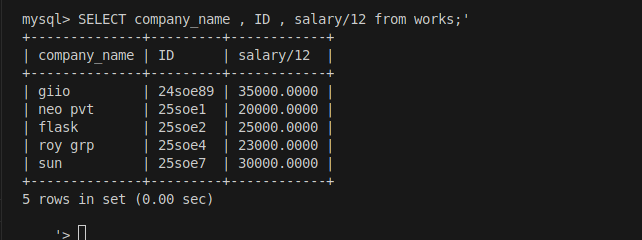
## Projection of attribute name



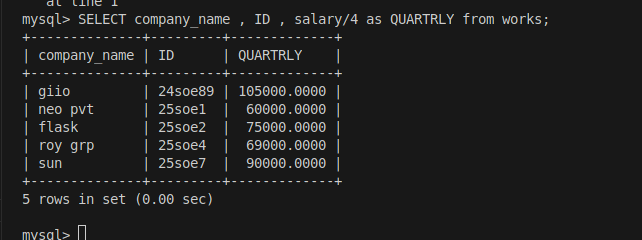
## show all city name



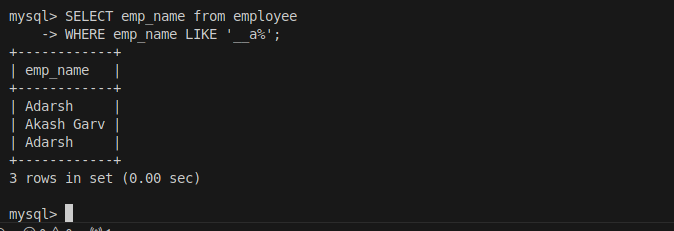
## Show monthly salary of the employee



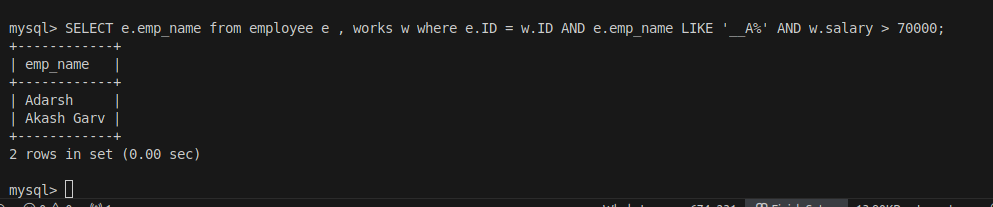
## Use of As command



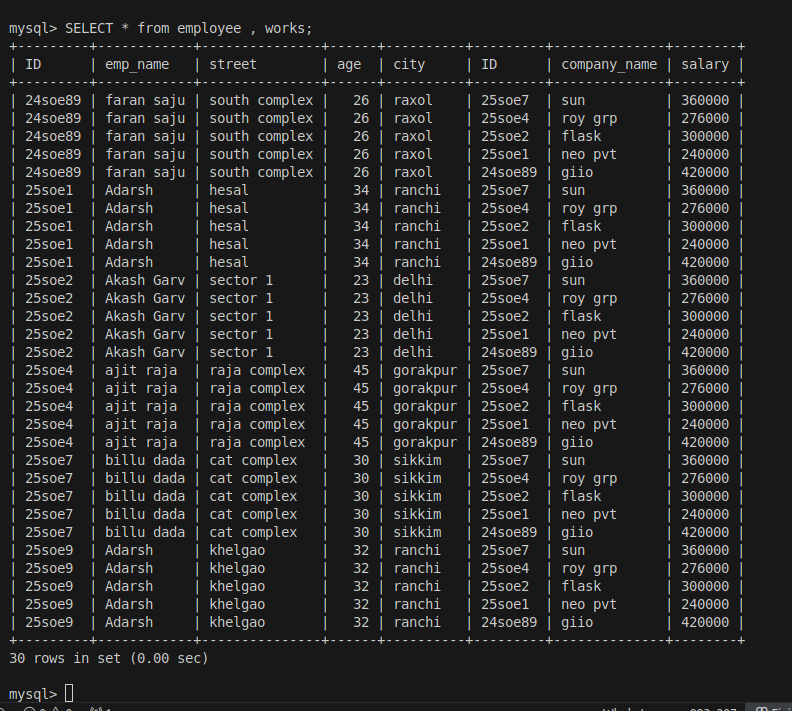
## Pattern matching to get a on 3rd place



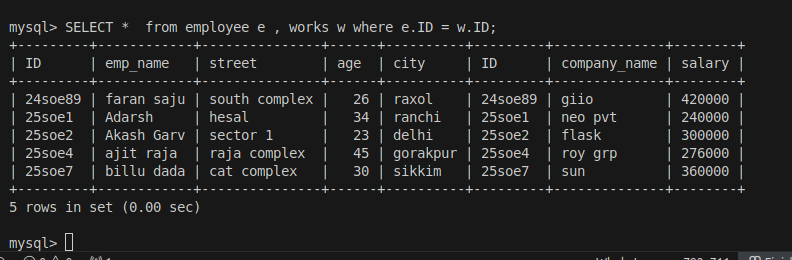
## Pattern matching to get a on 3rd place and salary > 70000



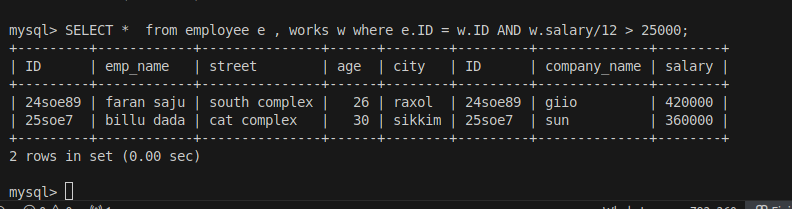
## Cross product of employee and work



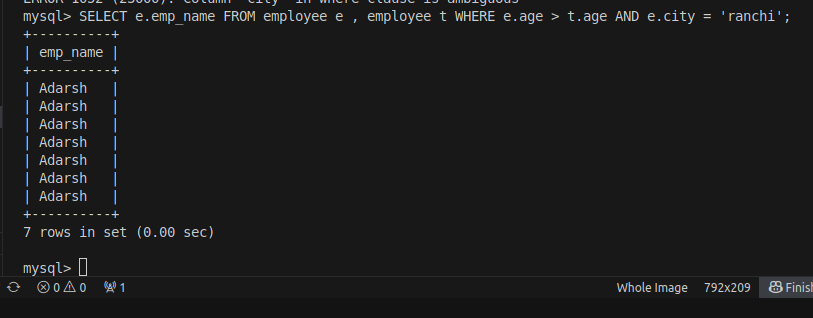
## Cross product of employee and works to get who work in which organization



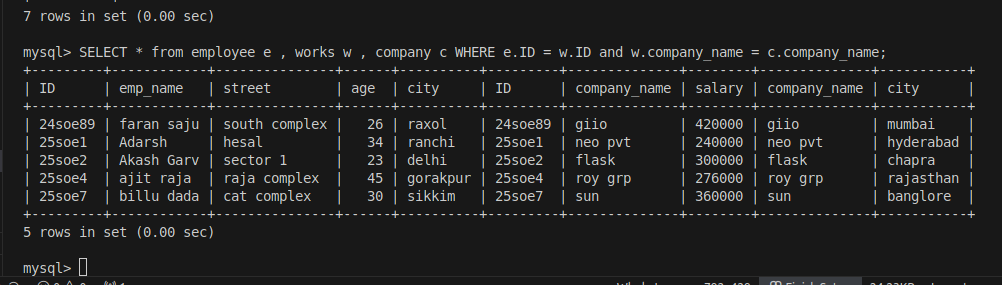
## Show details of those employee who earn more than 25000 per month



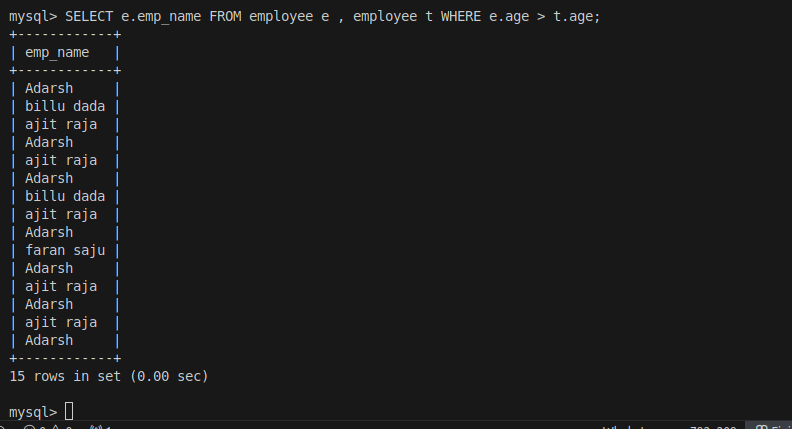
## Get name of employee who is older than some one and lives in ranchi



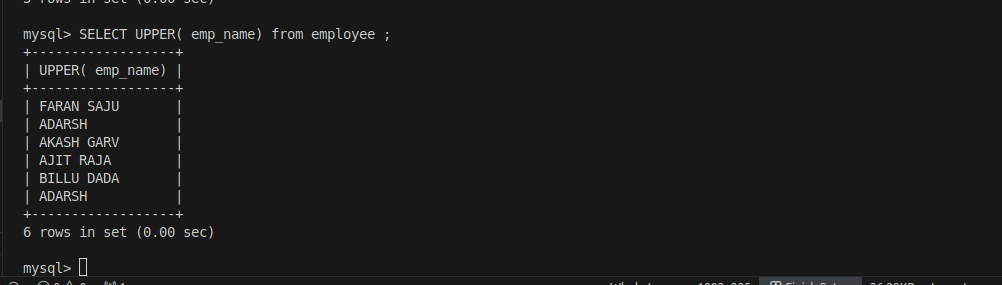
## Joining three table using primary key and foreign key



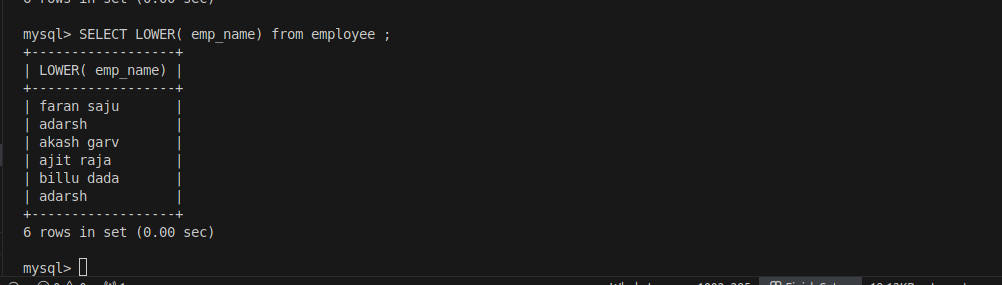
## self join to get name of employee who is at least older than some one



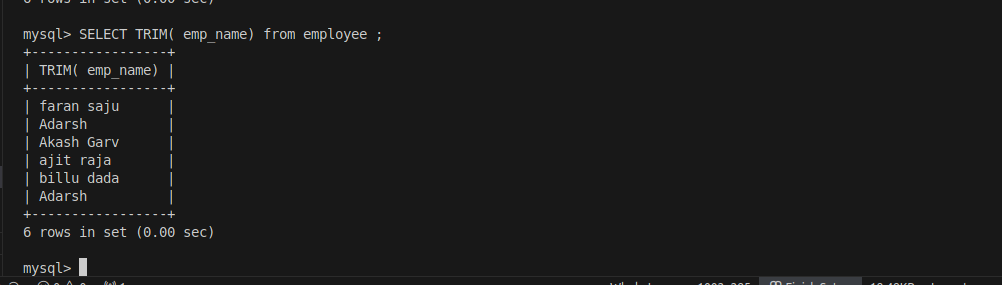
## Use of upper function



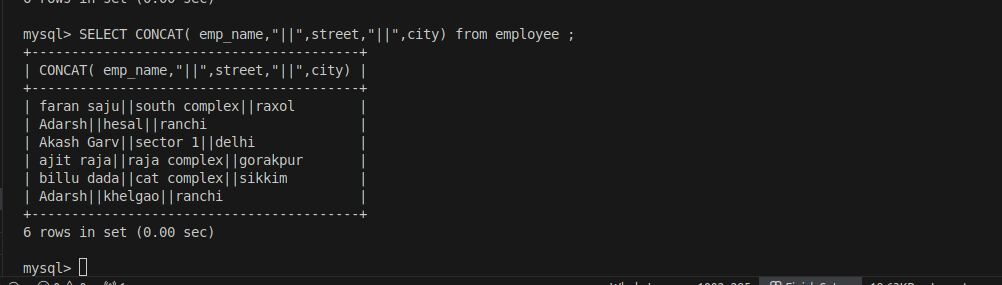
## use of lower function



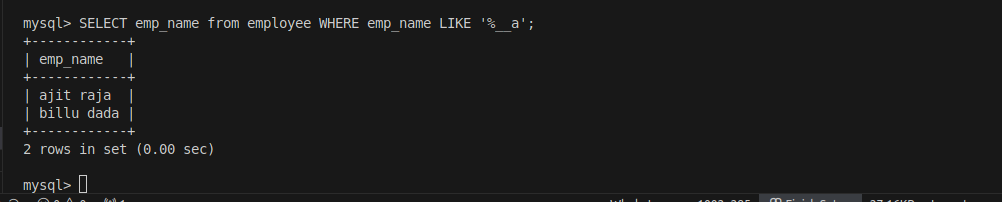
## use of trim function



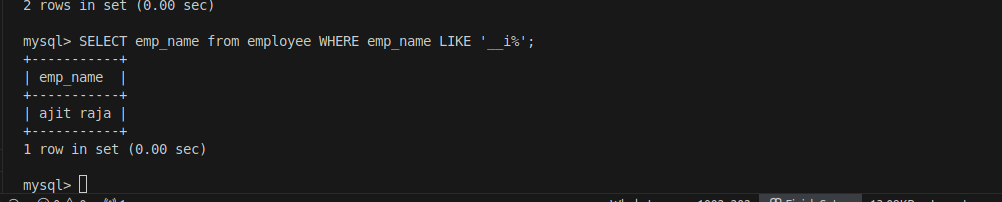
## use of concat function



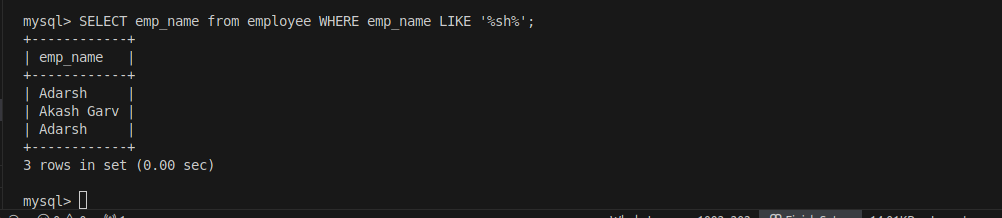
## Pattern matching for min length 3 and ends with a



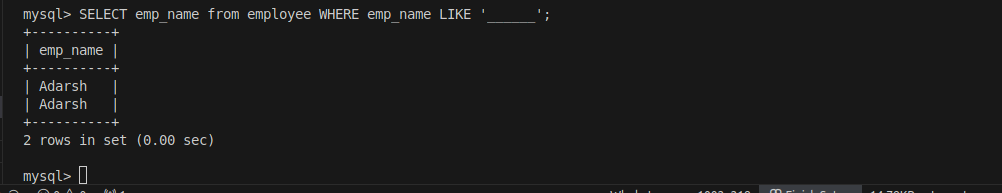
## Pattern matching which has min length of 3 and contains 3rd character as i



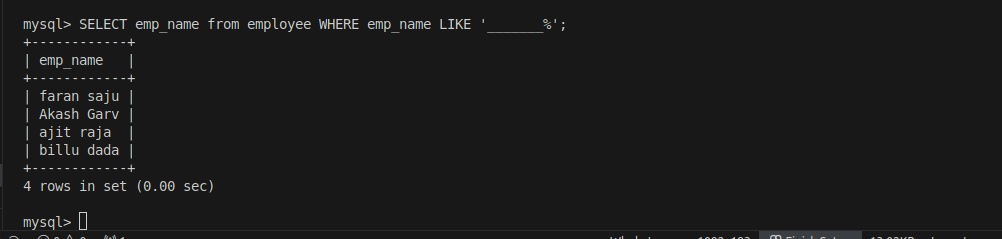
## Pattern matching which contains sh



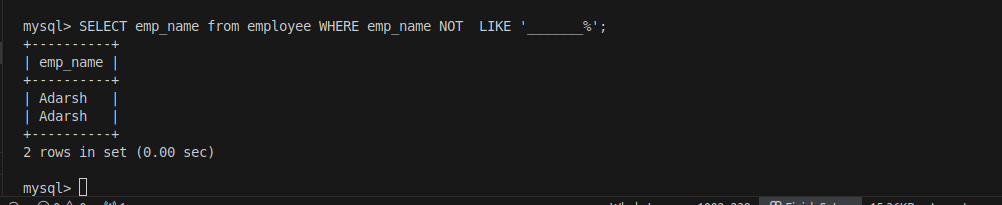
## Give name of employee who’s name contain 6character



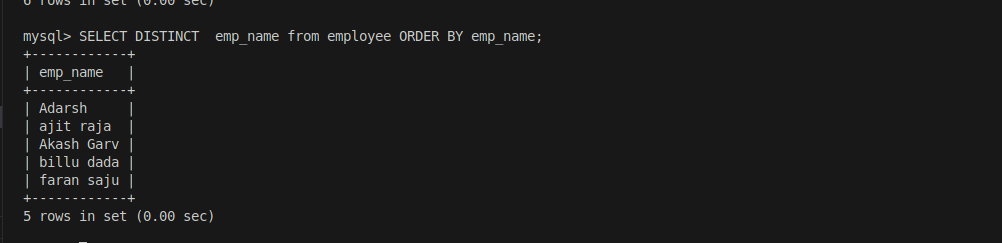
## Give name of employee with minimum of 6 character



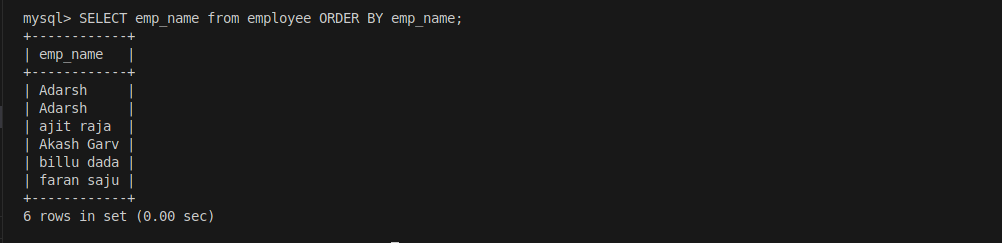
## give name of employee with less than 7 character



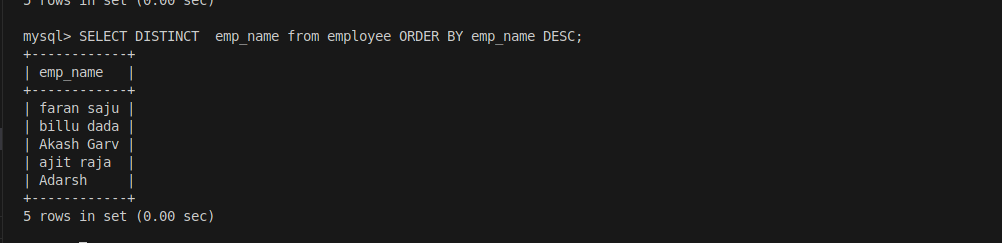
## Use of order by and distinct



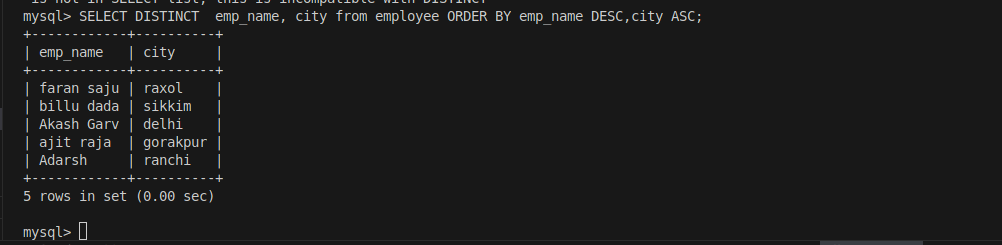
## use of order by



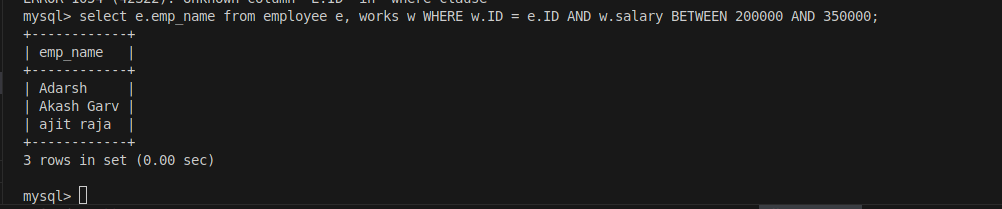
## use of order by and in desc order



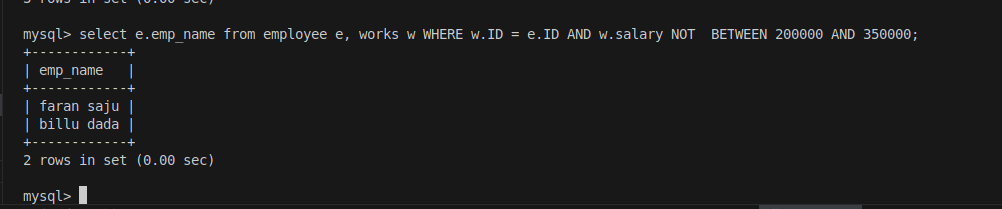
## use order by on two attribute



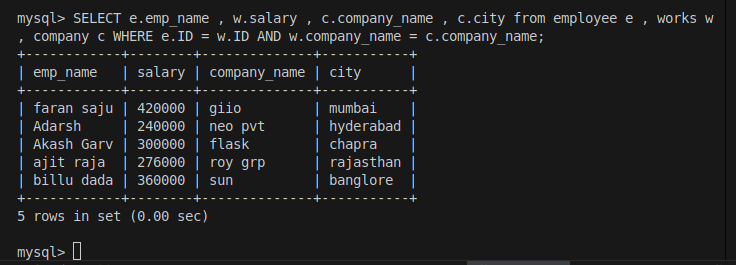
## Show name of those employee who’s salary between 2 lakh to 3.5 lakh



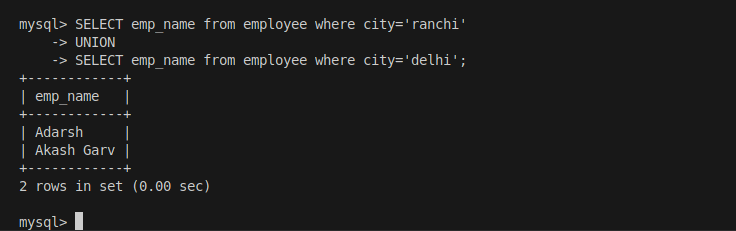
## Show name of those employee who’s salary is not in between 2 lakh to 3.5 lakh



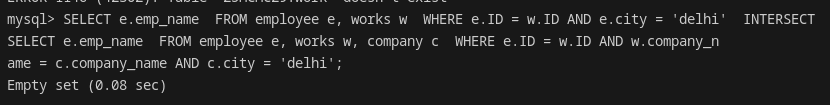
## Show employee name , salary and city of company with company name



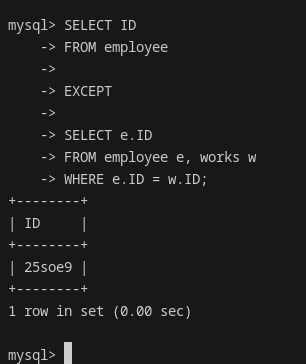
## Use of union get those who live in ranchi or delhi



## Get those people who work in same city as they are from

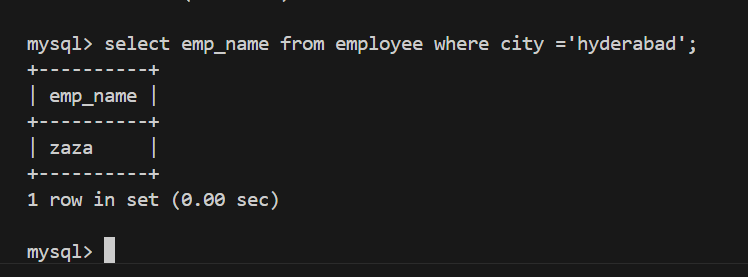


## Get those people who are not employed



# 5. Now in the created employee database, provide the SQL queries for the following.

# a. Find the name of each employee who lives in the city “Hyderabad”.



# b. Find the name of each employee who lives in the city “Hyderabad” and whose salary is greater than Rs. 1000000.

