**Select Clause with Where clause**

1)Display details of jobs where the minimum salary is greater than 10000.

**Mysql>*****Select*** *\* from jobs* ***where*** *min\_salary>10000;*

2)Display the first name and join date of the employees who joined between 2002 and 2005.

**Mysql>**- ***Select*** *first\_name,*

*hire\_date*

***from*** *employees*

***where*** *hire\_date* ***between*** *‘2002-01-01’ and ‘2005-01-01’;*

3) Display first name and join date of the employees who is either IT Programmer or Sales Man.

**Mysql>** ***select*** *first\_name,*

*hire\_date*

***from*** *employees*

***where*** *job\_id*  ***in*** *('IT\_PROG','SA\_MAN');*

4)Display first name, salary, commission pct, and hire date for employees with salary less than

10000.

**Mysql>** ***select*** *first\_name,salary,commission\_pct,hire\_date*

***from*** *employees*

***where*** *salary<10000;*

5) Display job Title, the difference between minimum and maximum salaries for jobs with max salary in the range 10000 to 20000.

**Mysql>** ***select*** *job\_title,max\_salary,min\_salary, max\_salary-min\_salary* ***AS*** *Difference*

***from*** *jobs*

***where*** *max\_salary* ***between*** *10000 and 20000 ;*

6) Display employees where the first name or last name starts with S.

**Mysql>*****select*** *first\_name,*

*last\_name*

***from*** *employees*

***where*** *first\_name* ***like*** *‘s%’ or last\_name* ***like*** *‘s%’;*

7) Display details of jobs in the descending order of the title.

**Mysql>** ***select*** *\* from jobs* ***order by*** *job\_title desc;*

8) Display employees who joined in the month of May.

**Mysql> *select*** *first\_name,hire\_date* ***from*** *employees* ***where*** *hire\_date like ’%-05-%’;*

9) Display details of the employees where commission percentage is null and salary in the range 5000 to 10000 and department is 30.

**Mysql>** ***select*** *\** ***from*** *employees*

***where*** *commission\_pct is null*

***and*** *salary* ***between*** *5000 and 10000* ***and*** *department\_id=30;*

**Join**

1). Display job title, employee ID, number of days between ending date and starting date for all jobs in department 30 from job history.

**Mysql>** ***select*** *job\_title,*

*employee\_id,*

*end\_date-start\_date* ***AS*** *Date\_difference*

***from*** *jobs j*

***JOIN*** *job\_history jh*

***ON*** *j.job\_id=jh.job\_id where department\_id=30;*

2) Display department name and manager first name.

**Mysql>** ***select***  *dept.department\_name,*

*e.first\_name* ***AS*** *Manager*

***from*** *employees e*

***JOIN*** *departments dept*

***ON*** *e.manager\_id=dept.manager\_id;*

3) Display department name, manager name, and city.

**Mysql> *select*** *department\_name*

*first\_name* ***AS*** *Manager,*

*city*

***from*** *employees e*

***JOIN*** *departments dept*

***ON*** *e.manager\_id=dept.manager\_id*

***JOIN*** *locations loc*

***ON*** *dept.location\_id=loc.location\_id ;*

4) Display country name, city, and department name.

**Mysql>** ***select*** *country\_name,*

*city,*

*department\_name*

***from*** *countries c*

***JOIN*** *locations loc*

***USING****(Country\_id)*

***JOIN*** *departments dept* ***USING*** *(location\_id);*

5) Display employee name and country in which he is working.

**Mysql>** ***select*** *first\_name,*

*country\_name*

***from*** *employees*

***JOIN*** *departments* ***USING*** *(department\_id)*

***JOIN*** *locations* ***USING*** *(location\_id)*

***JOIN*** *countries* ***USING*** *(country\_id);*

**Functions**

1. Display employees who joined in the month of May.

**Mysql>** ***select*** *first\_name,*

*hire\_date* ***from*** *employees*

***where*** *date\_format(hire\_date,'%m')='05';*

2. Display first name, salary, and round the salary to thousands.

**Mysql>*****select*** *first\_name,salary ,****round****(salary,-3) from employees;*

3. Display first name and date of first salary of the employees.

**Mysql>*****SELECT*** *employee\_id, first\_name, hire\_date,*

***LAST****\_****DAY*** *(hire\_date)*

***From*** *employees;*

4. Display first name and experience of the employees.

**Mysql>** ***SELECT*** *first\_name,* ***SYSDATE****(), hire\_date,* ***DATEDIFF****( SYSDATE(), hire\_date )/365*

*AS Experience* ***FROM*** *employees;*

5. Display the length of first name for employees where last name contain character ‘b’

after 3rd position.

**Mysql>** ***SELECT*** *first\_name,* ***LENGTH*** *(FIRST\_NAME) as length, LAST\_NAME* ***FROM*** *EMPLOYEES*

***WHERE*** *last\_name* ***like*** *'\_\_\_b%';*

6. Display first name in upper case and email address in lower case for employees where

the first name and email address are same irrespective of the case.

**Mysql>  *select******UPPER****(first\_name),* ***LOWER****(email) from employees*

***Where******upper****(first\_name)=****upper****(email);*

7. Display employees who joined in the current year.

**Mysql>** ***select*** *\* from employees* ***where*** *hire\_date= '2021-01-01';*

8. Display the number of days between system date and 1st January 1995.

**Mysql>** ***select*** *datediff(****sysdate****(),'1995-01-01');*

9. Display how many employees joined in each month of the current year.

**Mysql>**

**Aggregate Function**

1. Display employee ID and the date on which he ended his previous job.

**Mysql>** ***SELECT*** *EMPLOYEE\_ID,*

*MAX(END\_DATE) as 'End date'* ***FROM*** *JOB\_HISTORY*

***GROUP******BY*** *EMPLOYEE\_ID;*

1. Display number of employees joined after 15th of the month.

**Mysql>**

1. Display the country ID and number of cities we have in the country.

**Mysql>** ***SELECT*** *COUNTRY\_ID,* ***COUNT****(\*) FROM LOCATIONS* ***GROUP******BY*** *COUNTRY\_ID;*

1. Display average salary of employees in each department who have commission percentage.

**Mysql>** ***SELECT*** *first\_name, DEPARTMENT\_ID, AVG(SALARY)* ***FROM*** *EMPLOYEES*

***Where*** *commission\_pct is not null*

***group*** *by department\_id;*

1. Display job ID, number of employees, sum of salary, and difference between highest salary and lowest salary of the employees of the job.

**Mysql>** ***SELECT*** *JOB\_ID,* ***COUNT****(\*),*

***SUM****(SALARY),* ***MAX****(SALARY)-MIN(SALARY) AS ‘Difference SALARY’*

***FROM*** *EMPLOYEES* ***GROUP******BY*** *JOB\_ID;*

1. Display job ID for jobs with average salary more than 10000.

**Mysql>** ***SELECT*** *JOB\_ID, AVG(SALARY)* ***FROM*** *EMPLOYEES*

***GROUP******BY*** *JOB\_ID*

***HAVING******AVG****(SALARY)>10000;*

1. Display years in which more than 10 employees joined.

**Mysql> *SELECT*** *date\_format(hire\_date,’%y’) from employees*

***GROUP******BY*** *date\_format(hire\_date,’%y’)*

***HAVING*** *count(employee\_id)>10;*

1. Display departments in which more than five employees have commission percentage.

**Mysql> *SELECT*** *DEPARTMENT\_ID* ***FROM*** *EMPLOYEES*

***WHERE*** *COMMISSION\_PCT IS* ***NOT******NULL***

***GROUP******BY*** *DEPARTMENT\_ID*

***HAVING******COUNT****(COMMISSION\_PCT)>5;*

1. Display department name and number of employees in the department.

**Mysql>** ***SELECT*** *DEPARTMENT\_NAME,* ***COUNT****(\*)* ***FROM*** *EMPLOYEES*

***NATURAL******JOIN***

*DEPARTMENTS* ***GROUP******BY*** *DEPARTMENT\_NAME;*

10.Display employee ID for employees who did more than one job in the past.

**Mysql>** ***SELECT*** *EMPLOYEE\_ID FROM JOB\_HISTORY* ***GROUP******BY*** *EMPLOYEE\_ID* ***HAVING***

***COUNT****(\*) > 1;*

**DML Operation**

1. Change salary of employee 115 to 8000 if the existing salary is less than 6000.

**Mysql>** ***UPDATE*** *EMPLOYEES* ***SET*** *SALARY = 8000*

***WHERE*** *EMPLOYEE\_ID = 115* ***AND*** *SALARY < 6000;*

1. Insert a new employee into employees with all the required details.

**Mysql>** ***INSERT*** *into employees* ***VALUES****(99,'Aashu','Kumar','AKV',9525745602,'1986-01-01,*

*01','MG\_HEAD',30000,0.5,null,1);*

1. Delete department 20.

**Mysql>** ***Delete*** *from departments* ***where*** *department\_id=20;*

1. Change job ID of employee 110 to IT\_PROG if the employee belongs to department 10 and the existing job ID does not start with IT.

**Mysql> *UPDATE*** *EMPLOYEES* ***SET*** *JOB\_ID= 'IT\_PROG'*

***WHERE*** *EMPLOYEE\_ID=110 AND DEPARTMENT\_ID=10*

*AND NOT JOB\_ID* ***LIKE*** *'IT%' ;*

1. Insert a row into departments table with manager ID 120 and location ID in any location

ID for city Tokyo.

**Mysql>** ***Insert*** *into departments* ***values****(11,'IT Developer',120,1200);*

1. Display job title, employee ID, number of days between ending date and starting date for

all jobs in department 30 from job history.

**Mysql>** ***SELECT*** *EMPLOYEE\_ID,*

*JOB\_TITLE,*

*END\_DATE-START\_DATE DAYS*

***FROM*** *JOB\_HISTORY* ***NATURAL******JOIN*** *JOBS* ***WHERE*** *DEPARTMENT\_ID=30;*

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**DDL Assignments with Constraints**

1. Table ---> Customer

custId, firstName,lastName,age,city, mobileNumber, dob

Add the Constraints

custId is Primary Key

firstName not null

age must be greater than 21

mobile must be unique

**Mysql> *CREATE*** *TABLE* ***Customer*** *(cust\_id int ,First\_name* ***varchar****(10) Not Null,*

*Last\_num varchar(10), Age int check (Age>21),Mobile\_number int* ***Unique,***

***constraint*** *cus****\_****pk* ***primary key(****cust****\_****id****)*** *);*

2.Table ----> Branch

branchId, branchName, city

Add the Constraints

branchId is Primary Key

branchName not null

city not null

**Mysql> CREATE** TABLE **Branch** (Branch\_id int ,Branch\_name varchar(10)

Not Null, City varchar(20) Not Null,

**Constraint** br\_pk **primary** **key**(Branch\_id));

3.Table -----> Account

accountNumber, openingBalance, typeOfAccount, status,BankId,CustId

Add the Constraints

accountNumber is primary key

openingBalance must be greater than 5000

typeOfAccount must be saving/current

BankId is foreign key refer to BranchId(Primary key) Branch table

CustId is foreign key refer to Customer(Primary key) Customer table

**Mysql> CREATE** TABLE **Account**(acc\_num int , Op\_Balance

Float default 5000,acc\_type enum(‘savings’,’current’),status varchar(10)

,cust\_id int(10),Branch\_id int(10),

**constraint** acc\_pk primary key(acc\_num),

**constraint** bk\_fk **foreign** **key**(Branch\_id) references **Branch**( Branch\_id),

**constraint** cus\_fk **foreign** **key**(Cust\_id) references **Customer**(Cust\_id));

4.Table ----> Transaction

transactionId, transactionDate, MediumOfTransaction, TransactionAmount

Add the Constraints

transactionId is primary key

**Mysql>*CREATE*** *TABLE* ***Transaction****(Transaction\_id int ,transaction\_date date,*

*Med\_of\_transaction varchar(10),trans\_amount float,*

***constraint*** *tid primarykey(Transaction\_id));*

5.Table ----> Loan

LoanId, loanAmount, customerId and bankdId

Add the Constraints

loadId is primary key

loanAmount must be +ve

BankId is foreign key refer to BranchId(Primary key) Branch table

**Mysql> *CREATE*** *TABLE* ***Loan****(Loan\_id int,Loan\_amt,cust\_id,bank\_id,*

***constraint*** *lid* ***primarykey****(Loan\_id),*

**constraint** bk\_fk **foreign** **key**(Branch\_id) references **Branch**( Branch\_id));

**Sub Query**

1. Display details of departments managed by ‘John’.

**Mysql>** **select** \* from departments

**where** manager\_id **IN**

(**select** employee\_id from employees **where** first\_name='John');

1. Display employees who did not do any job in the past.

**Mysql>** **Select** \* from employees

**where** employee **NOT** **IN**

(**select** employee\_id from job\_history);

1. Display job title and average salary for employees who did a job in the past.

**Mysql>** **Select** job\_title,avg(salary)

from jobs **Natural** **join** employees

**group** **by** job\_title **where** employee\_id **IN**(

**select** employee\_id from job\_history);

1. Display country name, city, and number of departments where department has more

Than 5 employees.

**Mysql>** **Select** country\_name,city,count(department\_id) from countries

**JOIN** using locations(country\_id) **where** department\_id IN(

**Select** department\_id from employees **group** **by** department\_id

HAVING **count**(department\_id)>5) **group** **by** country\_name,city;

1. Display details of manager who manages more than 5 employees.

**Mysql>Select** first\_name from employees **where** employee\_id **IN**(

**Select** manager\_id from employees **group** **by** manager\_id Having

**Count**(\*)>5);

1. Display details of current job for employees who worked as IT Programmers in the past.

**Mysql>Select** \* from Jobs **where** job\_id **IN**(

**Select** job\_id from employees **where** employee\_id In(

**Select** employee\_id from job\_history **where** job\_id=’IT\_PROG’));

1. Display the details of employees drawing the highest salary in the department.

**Mysql>Select** \* from employees where salary **IN**(

**Select** **max**(salary) from employees);

1. Display third highest salary of all employees.

**Mysql>Select** salary from employees **order** **by** salary desc **Limit** 2,1;