**MySQL Basic SELECT statement**

1 .Write a query to display the names (first\_name, last\_name) using alias name "First Name", "Last Name"

**SELECT FIRST\_NAME as 'First\_Name' , LAST\_NAME AS 'Last\_Name' FROM employees**

2. Write a query to get unique department ID from employee table.

**SELECT DEPARTMENT\_ID FROM employees**

**3.** Write a query to get all employee details from the employee table order by first name, descending.

**SELECT FIRST\_NAME FROM employees ORDER BY FIRST\_NAME DESC**

**4.** Write a query to get the names (first\_name, last\_name), salary, PF of all the employees (PF is calculated as 15% of salary)

**SELECT FIRST\_NAME , LAST\_NAME ,SALARY , (15 \* SALARY) / 100 AS PF FROM employees**

**5.** Write a query to get the employee ID, names (first\_name, last\_name), salary in ascending order of salary.

**SELECT EMPLOYEE\_ID, FIRST\_NAME , LAST\_NAME ,SALARY FROM employees ORDER BY SALARY ASC**

**6.** Write a query to get the total salaries payable to employees.

**SELECT SUM(SALARY) FROM employees**

**7.** Write a query to get the maximum and minimum salary from employees table.

**SELECT MAX(SALARY) , MIN(SALARY) FROM employees**

**8.** Write a query to get the average salary and number of employees in the employees table.

**SELECT AVG(SALARY) , COUNT(EMPLOYEE\_ID) FROM employees**

**9.** Write a query to get the number of employees working with the company.

**SELECT COUNT(EMPLOYEE\_ID) FROM employees**

**10.** Write a query to get the number of jobs available in the employees table.

**A] SELECT DISTINCT (JOB\_ID) FROM employees**

**B] SELECT COUNT(DISTINCT job\_id)**

**FROM employees;**

**11.** Write a query get all first name from employees table in upper case

**SELECT UPPER(FIRST\_NAME) FROM employees**

**12.** Write a query to get the first 3 characters of first name from employees table.

**SELECT SUBSTRING(FIRST\_NAME, 1,3) FROM employees**

**13.** Write a query to calculate 171\*214+625.

**SELECT 171\*214+625 Result**

**14.** Write a query to get the names (for example Ellen Abel, Sundar Ande etc.) of all the employees from employees table

**SELECT CONCAT(FIRST\_NAME , ' ', LAST\_NAME) FROM employees**

**15.** Write a query to get first name from employees table after removing white spaces from both side.

**SELECT TRIM(FIRST\_NAME) FROM employees**

**16.** Write a query to get the length of the employee names (first\_name, last\_name) from employees table.

**A ] SELECT FIRST\_NAME, LAST\_NAME, LENGTH(FIRST\_NAME)+ LENGTH(LAST\_NAME) FROM employees**

**B ] SELECT LENGTH(CONCAT(FIRST\_NAME,' ' , LAST\_NAME)) AS FLLNAME FROM employees**

**{SELECT LENGTH(FIRST\_NAME ) + LENGTH(LAST\_NAME) FROM employees}**

**17.** Write a query to check if the first\_name fields of the employees table contains numbers.

**SELECT \* FROM employees WHERE FIRST\_NAME REGEXP '[0-9]'**

**18.** Write a query to select first 10 records from a table.

**SELECT EMPLOYEE\_ID , FIRST\_NAME FROM employees LIMIT 10**

**19.** Write a query to get monthly salary (round 2 decimal places) of each and every employee  
Note : Assume the salary field provides the 'annual salary' information.

**SELECT SALARY/12 FROM employees**

**MySQL Restricting and Sorting Data**

1. Write a query to display the name (first\_name, last\_name) and salary for all employees whose salary is not in the range $10,000 through $15,000.

**SELECT FIRST\_NAME , LAST\_NAME ,SALARY FROM employees WHERE SALARY NOT BETWEEN 10000 AND 15000**

1. Write a query to display the name (first\_name, last\_name) and department ID of all employees in departments 30 or 100 in ascending order.

**SELECT FIRST\_NAME , LAST\_NAME , DEPARTMENT\_ID FROM employees WHERE DEPARTMENT\_ID IN (30,100) ORDER BY DEPARTMENT\_ID ASC**

**3.** Write a query to display the name (first\_name, last\_name) and salary for all employees whose salary is not in the range $10,000 through $15,000 and are in department 30 or 100.

**SELECT FIRST\_NAME , LAST\_NAME , SALARY , DEPARTMENT\_ID FROM employees WHERE SALARY NOT BETWEEN 10000 AND 15000 AND DEPARTMENT\_ID IN (30,100)**

1. .Write a query to display the name (first\_name, last\_name) and hire date for all employees who were hired in 1987.

**SELECT FIRST\_NAME , LAST\_NAME , HIRE\_DATE FROM employees WHERE YEAR(HIRE\_DATE) = 1987**

**5.** Write a query to display the first\_name of all employees who have both "b" and "c" in their first name.

**SELECT first\_name FROM employees WHERE FIRST\_NAME LIKE '%B%' AND FIRST\_NAME LIKE '%C%'**

**6.** Write a query to display the last name, job, and salary for all employees whose job is that of a Programmer or a Shipping Clerk, and whose salary is not equal to $4,500, $10,000, or $15,000.

**SELECT LAST\_NAME , JOB\_ID ,SALARY FROM employees WHERE JOB\_ID IN** **('IT\_PROG','SH\_CLERK') AND SALARY NOT IN (4,500, 10,000,15,000.)**

**7.** Write a query to display the last name of employees whose names have exactly 6 characters.

**A] SELECT LAST\_NAME FROM employees WHERE LENGTH(LAST\_NAME) = 6**

**B] SELECT last\_name FROM employees WHERE last\_name LIKE '\_\_\_\_\_\_';**

**8.** Write a query to display the last name of employees having 'e' as the third character.

**SELECT LAST\_NAME FROM employees WHERE LAST\_NAME LIKE '\_\_E%'**

**9.** Write a query to display the jobs/designations available in the employees table.

**SELECT JOB\_ID FROM employees**

**10.** Write a query to display the name (first\_name, last\_name), salary and PF (15% of salary) of all employees.

**SELECT FIRST\_NAME, LAST\_NAME , SALARY , (15 \* SALARY) / 100 AS PF FROM employees**

**11.** Write a query to select all record from employees where last name in 'BLAKE', 'SCOTT', 'KING' and 'FORD'.

**SELECT \* FROM employees WHERE LAST\_NAME IN ( 'BLAKE', 'SCOTT', 'KING','FORD')**

**Aggregate Functions and Group by**

**1.**Write a query to list the number of jobs available in the employees table

**A] SELECT COUNT(JOB\_ID) FROM employees {Give total no of id including duplicate}**

**B] SELECT COUNT( DISTINCT JOB\_ID) FROM employees{Give total no of id except duplicate}**

**2.** Write a query to get the total salaries payable to employees.

**SELECT SUM( SALARY) FROM employees**

**3**. Write a query to get the minimum salary from employees table.

**SELECT MIN( SALARY) FROM employees**

**4.** Write a query to get the maximum salary of an employee working as a Programmer.

**SELECT MAX( SALARY) FROM employees WHERE JOB\_ID = 'IT\_PROG'**

**5.** Write a query to get the average salary and number of employees working the department 90.

**SELECT AVG(SALARY) , COUNT(\*) FROM employees WHERE DEPARTMENT\_ID = 90**

**6.** Write a query to get the highest, lowest, sum, and average salary of all employees.

**SELECT MAX(SALARY) , MIN(SALARY) , SUM(SALARY) , AVG(SALARY) FROM employees**

**7.**Write a query to get the number of employees with the same job.

**SELECT JOB\_ID , COUNT(JOB\_ID) FROM employees GROUP BY JOB\_ID**

**8.** Write a query to get the difference between the highest and lowest salaries

**SELECT MAX(SALARY) , MIN(SALARY) , MAX(SALARY)-MIN(SALARY) RESULT{DIFFERANCE} FROM employees**

**9.** Write a query to find the manager ID and the salary of the lowest-paid employee for that manager.

**SELECT MANAGER\_ID, MIN(SALARY) FROM employees WHERE MANAGER\_ID IS NOT NULL GROUP BY MANAGER\_ID ORDER BY MANAGER\_ID DESC**

**10.** Write a query to get the department ID and the total salary payable in each department.

**SELECT DEPARTMENT\_ID , SUM(SALARY) FROM employees GROUP BY** **DEPARTMENT\_ID**

**11.** Write a query to get the average salary for each job ID excluding programmer.

**SELECT JOB\_ID , AVG(SALARY)FROM employees WHERE job\_id <> 'IT\_PROG' GROUP BY JOB\_ID**

**12.** Write a query to get the total salary, maximum, minimum, average salary of employees (job ID wise), for department ID 90 only.

**SELECT JOB\_ID,SUM(SALARY) AS totalsalary, AVG(SALARY) AS avgsalary, MIN(SALARY) AS minsalary , MAX(SALARY) AS maxsalary from employees WHERE DEPARTMENT\_ID= 90 GROUP BY JOB\_ID**

**13.** Write a query to get the job ID and maximum salary of the employees where maximum salary is greater than or equal to $4000.

**SELECT JOB\_ID , MAX(SALARY) as maxsalary from employees GROUP BY JOB\_ID HAVING MAX(SALARY) >= 4000**

**14.** Write a query to get the average salary for all departments employing more than 10 employees.

**SELECT JOB\_ID , AVG(SALARY) AS avgsalary , COUNT(\*) as empcount FROM employees GROUP BY JOB\_ID HAVING COUNT(\*) >= 10**

**MySQL String Functions**

1. Write a query to get the job\_id and related employee's id.  
   Partial output of the query :

**SELECT JOB\_ID ,GROUP\_CONCAT(EMPLOYEE\_ID , ' ') FROM employees GROUP BY JOB\_ID**

1. Write a query to update the portion of the phone\_number in the employees table, within the phone number the substring '124' will be replaced by '999'.

**SELECT REPLACE(PHONE\_NUMBER , '124' , '999') FROM employees WHERE PHONE\_NUMBER LIKE '%124%'**

1. Write a query to get the details of the employees where the length of the first name greater than or equal to 8.

**SELECT \* FROM employees WHERE CHAR\_LENGTH(FIRST\_NAME) >= 8**

1. Write a query to append '@example.com' to email field.

**SELECT CONCAT(EMAIL , '@A') FROM employees**

1. Write a query to get the employee id, first name and hire month.

**SELECT EMPLOYEE\_ID , FIRST\_NAME , MONTH(HIRE\_DATE) FROM employees**

1. Write a query to get the employee id, email id (discard the last three characters).
2. Write a query to find all employees where first names are in upper case.

**SELECT \* FROM employees WHERE FIRST\_NAME = BINARY UPPER(FIRST\_NAME)**

1. Write a query to get the employee id, email id (discard the last three characters).
2. Write a query to extract the last 4 character of phone numbers.
3. Write a query to get the last word of the street address.

**SELECT LOCATION\_ID , MIN(LENGTH(STREET\_ADDRESS)) FROM locations**

1. Write a query to get the locations that have minimum street length

**SELECT STREET\_ADDRESS FROM locations ORDER BY LENGTH(STREET\_ADDRESS) LIMIT 1**

1. Write a query to display the first word from those job titles which contains more than one words.

**SELECT SUBSTRING(JOB\_TITLE, 1, LOCATE(' ', JOB\_TITLE)) from jobs where JOB\_TITLE LIKE '% %'**

1. Write a query to display the length of first name for employees where last name contain character 'c' after 2nd position.

**# SELECT FIRST\_NAME , LAST\_NAME FROM employees WHERE LAST\_NAME LIKE '%\_\_C%'**

**SELECT first\_name, last\_name FROM employees WHERE INSTR(last\_name,'C') > 2;**

14. Write a query that displays the first name and the length of the first name for all employees whose name starts with the letters 'A', 'J' or 'M'. Give each column an appropriate label. Sort the results by the employees' first names.

**SELECT FIRST\_NAME AS "Name" , LENGTH(FIRST\_NAME) AS "Length" FROM employees WHERE FIRST\_NAME LIKE 'A%' OR FIRST\_NAME LIKE 'J%' OR FIRST\_NAME LIKE 'M%' ORDER BY FIRST\_NAME**

1. Write a query to display the first name and salary for all employees. Format the salary to be 10 characters long, left-padded with the $ symbol. Label the column SALARY.

**SELECT FIRST\_NAME , LPAD(SALARY, 10 , '$') AS salary FROM employees**

1. Write a query to display the first eight characters of the employees' first names and indicates the amounts of their salaries with '$' sign. Each '$' sign signifies a thousand dollars. Sort the data in descending order of salary.

**select SUBSTRING(FIRST\_NAME, 1, 8) AS namepart, CONCAT('$', SALARY) AS DSALARY from employees ORDER BY SALARY DESC**

1. Write a query to display the employees with their code, first name, last name and hire date who hired either on seventh day of any month or seventh month in any year.

**SELECT EMPLOYEE\_ID, FIRST\_NAME, LAST\_NAME, HIRE\_DATE FROM employees WHERE MONTH(HIRE\_DATE) = 7 OR DAY(HIRE\_DATE) = 7**

**JOINS**

1 . SELECT COUNTRY\_NAME, REGION\_ID , REGION\_NAME FROM regions NATURAL JOIN countries

**Shows column - COUNTRY\_NAME, REGION\_ID , REGION\_NAME**

2 . SELECT \* FROM regions NATURAL JOIN countries

OR

2 SELECT COUNTRY\_ID ,COUNTRY\_NAME, REGION\_NAME , C.REGION\_ID FROM countries as C NATURAL JOIN regions AS r

**Shows column – COUNTRY\_ID , COUNTRY\_NAME, REGION\_ID , REGION\_NAME**

3 . SELECT COUNTRY\_NAME, REGION\_NAME FROM regions NATURAL JOIN countries

**Shows column - COUNTRY\_NAME, REGION \_NAME**

**EXERCISE**

1. Write a query to find the addresses (location\_id, street\_address, city, state\_province, country\_name) of all the departments.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) location\_id, street\_address, city, state\_province, COUNTRY\_NAME FROM locations NATURAL JOIN countries

**OR**

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) L.LOCATION\_ID , L.STREET\_ADDRESS, L.CITY, L.STATE\_PROVINCE, C.COUNTRY\_NAME FROM countries AS C INNER JOIN locations AS L ON C.COUNTRY\_ID = L.COUNTRY\_ID

2 .Write a query to find the name (first\_name, last name), department ID and name of all the department

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) E.FIRST\_NAME , E.LAST\_NAME , D.DEPARTMENT\_ID , D.DEPARTMENT\_NAME FROM employees AS E INNER JOIN departments AS D ON E.DEPARTMENT\_ID = D.DEPARTMENT\_ID

**3.** Write a query to find the name (first\_name, last\_name), job, department ID and name of the employees who works in London.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) E.FIRST\_NAME ,E.LAST\_NAME,E.JOB\_ID ,D.DEPARTMENT\_ID , D.DEPARTMENT\_NAME , L.CITY FROM employees AS E INNER JOIN departments AS D ON E.DEPARTMENT\_ID = D.DEPARTMENT\_ID INNER JOIN locations AS L ON D.LOCATION\_ID = L.LOCATION\_ID WHERE CITY =

'London'

4.Write a query to find the employee id, name (last\_name) along with their manager\_id and name (last\_name).

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) E.EMPLOYEE\_ID , E.LAST\_NAME ,M.MANAGER\_ID, M.LAST\_NAME AS MANAGERNAME FROM employees AS E INNER JOIN employees AS M ON E.MANAGER\_ID = M.EMPLOYEE\_ID

**5.** Write a query to find the name (first\_name, last\_name) and hire date of the employees who was hired after 'Jones'.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) E.FIRST\_NAME , E.LAST\_NAME, E.HIRE\_DATE FROM employees AS E WHERE HIRE\_DATE > ' 1987-09-20 '

**6.** Write a query to get the department name and number of employees in the department.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) D.DEPARTMENT\_NAME , [COUNT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(E.EMPLOYEE\_ID) FROM departments AS D INNER JOIN employees AS E ON D.DEPARTMENT\_ID = E.DEPARTMENT\_ID GROUP BY D.DEPARTMENT\_NAME

**7.** Write a query to find the employee ID, job title, number of days between ending date and starting date for all jobs in department 90.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) H.EMPLOYEE\_ID, J.JOB\_TITLE ,H.END\_DATE-H.START\_DATE AS DAYS FROM job\_history AS H NATURAL JOIN jobs AS J WHERE H.DEPARTMENT\_ID = 90

OR

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) H.EMPLOYEE\_ID, J.JOB\_TITLE ,H.END\_DATE-H.START\_DATE AS DAYS FROM job\_history AS H INNER JOIN jobs AS J WHERE H.DEPARTMENT\_ID = 90

**8.** Write a query to display the department ID and name and first name of manager.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) D.DEPARTMENT\_ID , D.DEPARTMENT\_NAME,D.MANAGER\_ID , E.FIRST\_NAME AS MANAGERNAME FROM employees AS E INNER JOIN departments AS D ON E.DEPARTMENT\_ID = D.DEPARTMENT\_ID

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) d.department\_id, d.department\_name, d.manager\_id, e.first\_name FROM departments d INNER JOIN employees e ON (d.manager\_id = e.employee\_id)

**9.** Write a query to display the department name, manager name, and city

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) D.DEPARTMENT\_NAME , E.FIRST\_NAME AS MANAGERNAME , L.CITY FROM employees AS E INNER JOIN departments AS D ON E.EMPLOYEE\_ID = D.MANAGER\_ID INNER JOIN locations AS L ON D.LOCATION\_ID = L.LOCATION\_ID

**10.** Write a query to display the job title and average salary of employees.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) J.JOB\_TITLE , [AVG](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_avg)(E.SALARY) FROM employees AS E INNER JOIN jobs AS J ON E.JOB\_ID = J.JOB\_ID GROUP BY J.JOB\_TITLE

**11.** Write a query to display job title, employee name, and the difference between salary of the employee and minimum salary for the job.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) J.JOB\_TITLE , E.FIRST\_NAME AS EMPLOYEENAME , E.SALARY - J.MIN\_SALARY FROM employees AS E INNER JOIN jobs AS J ON E.JOB\_ID = J.JOB\_ID

**12.** Write a query to display the job history that were done by any employee who is currently drawing more than 10000 of salary.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) \* FROM job\_history AS J INNER JOIN employees AS E ON E.EMPLOYEE\_ID = J.EMPLOYEE\_ID WHERE E.SALARY > 10000

**13.** Write a query to display department name, name (first\_name, last\_name), hire date, salary of the manager for all managers whose experience is more than 15 years

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) D.DEPARTMENT\_NAME , E.FIRST\_NAME ,E.LAST\_NAME , E.SALARY, E.HIRE\_DATE FROM departments AS D INNER JOIN employees AS E ON D.MANAGER\_ID = E.EMPLOYEE\_ID WHERE [YEAR](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html)(NOW()) - [YEAR](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html)(E.HIRE\_DATE)> 15

# MySQL Subquery - Exercises

1. Write a query to find the name (first\_name, last\_name) and the salary of the employees who have a higher salary than the employee whose last\_name='Bull'.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , LAST\_NAME FROM employees WHERE SALARY > ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) SALARY FROM employees WHERE LAST\_NAME = 'Bull')

1. Write a query to find the name (first\_name, last\_name) of all employees who works in the IT department

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , LAST\_NAME FROM employees WHERE DEPARTMENT\_ID [IN](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#function_in) ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DEPARTMENT\_ID FROM departments WHERE DEPARTMENT\_NAME = 'IT')

1. Write a query to find the name (first\_name, last\_name) of the employees who have a manager and worked in a USA based department
2. Write a query to find the name (first\_name, last\_name) of the employees who are managers.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME FROM employees WHERE EMPLOYEE\_ID [IN](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#function_in) ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) MANAGER\_ID FROM employees)

1. Write a query to find the name (first\_name, last\_name), and salary of the employees whose salary is greater than the average salary. [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , LAST\_NAME , SALARY FROM employees WHERE SALARY > ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [AVG](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_avg)(SALARY) FROM employees)
2. Write a query to find the name (first\_name, last\_name), and salary of the employees whose salary is equal to the minimum salary for their job grade.
3. Write a query to find the name (first\_name, last\_name), and salary of the employees who earns more than the average salary and works in any of the IT departments.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , LAST\_NAME, SALARY FROM employees WHERE DEPARTMENT\_ID [IN](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#function_in) ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DEPARTMENT\_ID FROM departments WHERE DEPARTMENT\_NAME [LIKE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-comparison-functions.html#operator_like) '%IT%' ) [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_and) SALARY > ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [AVG](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_avg)(SALARY) FROM employees)

1. Write a query to find the name (first\_name, last\_name), and salary of the employees who earns more than the earning of Mr. Bell.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME ,LAST\_NAME, SALARY FROM employees WHERE SALARY > ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) SALARY FROM employees WHERE LAST\_NAME = 'Bell')ORDER BY FIRST\_NAME

1. Write a query to find the name (first\_name, last\_name), and salary of the employees who earn the same salary as the minimum salary for all departments.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , LAST\_NAME , SALARY FROM employees WHERE SALARY = ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [MIN](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_min)(SALARY) FROM employees)

1. Write a query to find the name (first\_name, last\_name), and salary of the employees whose salary is greater than the average salary of all departments.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , LAST\_NAME , SALARY FROM employees WHERE SALARY > ALL([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [AVG](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_avg)(SALARY) FROM employees GROUP BY department\_id)

**11.** Write a query to find the name (first\_name, last\_name) and salary of the employees who earn a salary that is higher than the salary of all the Shipping Clerk (JOB\_ID = 'SH\_CLERK'). Sort the results of the salary of the lowest to highest.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , LAST\_NAME , SALARY, JOB\_ID FROM employees WHERE SALARY > ALL([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) SALARY FROM employees WHERE JOB\_ID ='SH\_CLERK') ORDER BY SALARY ASC

12.Write a query to find the name (first\_name, last\_name) of the employees who are not supervisors.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , LAST\_NAME , SALARY FROM employees WHERE EMPLOYEE\_ID [NOT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_not) [IN](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#function_in) ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) MANAGER\_ID FROM employees)

**13.** Write a query to display the employee ID, first name, last name, and department names of all employees.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) EMPLOYEE\_ID , FIRST\_NAME , LAST\_NAME ,([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DEPARTMENT\_NAME FROM departments AS D WHERE D.DEPARTMENT\_ID = E.DEPARTMENT\_ID) FROM employees AS E ORDER BY DEPARTMENT\_ID

**14.** Write a query to display the employee ID, first name, last name, salary of all employees whose salary is above average for their departments.

**15.** Write a query to fetch even numbered records from employees table.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) EMPLOYEE\_ID FROM employees WHERE EMPLOYEE\_ID % 2 =! 0

**16.** Write a query to find the 5th maximum salary in the employees table.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DISTINCT SALARY FROM employees ORDER BY SALARY DESC LIMIT 1 OFFSET 4

**17.** Write a query to find the 4th minimum salary in the employees table.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DISTINCT SALARY FROM employees ORDER BY SALARY ASC LIMIT 1 OFFSET 3

**18.** Write a query to select last 10 records from a table.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) \* FROM ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) \* FROM employees ORDER BY EMPLOYEE\_ID DESC LIMIT 10) SUB ORDER BY EMPLOYEE\_ID ASC

**19.** Write a query to list the department ID and name of all the departments where no employee is working.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DEPARTMENT\_ID , DEPARTMENT\_NAME, MANAGER\_ID FROM departments WHERE MANAGER\_ID = 0

**20.** Write a query to get 3 maximum salaries.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DISTINCT SALARY FROM employees ORDER BY SALARY DESC LIMIT 3

**21.** Write a query to get 3 minimum salaries.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DISTINCT SALARY FROM employees ORDER BY SALARY ASC LIMIT 3

**22.** Write a query to get nth max salaries of employees.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) SALARY FROM employees ORDER BY SALARY DESC LIMIT 1 OFFSET 3

# MySQL Date Time

1. Write a query to display the first day of the month (in datetime format) three months before the current month.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ([CURRENT\_DATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-functions.html#function_current_date)() - [INTERVAL](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#function_interval) 3 MONTH )

1. Write a query to display the last day of the month (in datetime format) three months before the current month.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) LAST\_DAY(NOW() - [INTERVAL](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/comparison-operators.html#function_interval) 3 MONTH )

1. Write a query to get the distinct Mondays from hire\_date in employees tables.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DATE\_FORMAT(HIRE\_DATE, '%W %c %Y') AS DAY FROM employees WHERE DATE\_FORMAT(HIRE\_DATE, '%W %c %Y') [LIKE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/string-comparison-functions.html#operator_like) '%Monday%'

1. Write a query to get the first day of the current year.

SELECT LAST\_DAY(DATE(CONCAT\_WS('-', YEAR(NOW()), 12, 1))) AS LASTDAYOFYEAR, DATE(CONCAT\_WS('-', YEAR(NOW()), 1, 1)) AS FIRSTDAYOFYEAR

1. Write a query to get the last day of the current year.

SELECT LAST\_DAY(DATE(CONCAT\_WS('-', YEAR(NOW()), 12, 1))) AS LASTDAYOFYEAR, DATE(CONCAT\_WS('-', YEAR(NOW()), 1, 1)) AS FIRSTDAYOFYEAR

1. Write a query to calculate the age in year

SELECT ABS(YEAR(DATE('2000-12-25')) - YEAR(NOW())) AS Age

1. Write a query to get the current date in the following format.

Sample date : 2014-09-04  
Output : September 4, 2014

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DATE\_FORMAT(NOW(), '%M %e, %Y')

1. Write a query to get the current date in Thursday September 2014 format.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DATE\_FORMAT(NOW(), '%W %M %Y')

1. Write a query to extract the year from the current date.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) EXTRACT([YEAR](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html) FROM NOW())

1. Write a query to get the DATE value from a given day (number in N). Sample days: 730677  
   Output : 2000-07-11
2. Write a query to get the first name and hire date from employees table where hire date between '1987-06-01' and '1987-07-30'

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , HIRE\_DATE FROM employees WHERE HIRE\_DATE BETWEEN '1987-06-01'[AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_and) '1987-07-30'

1. Write a query to display the current date in the following format.  
   Sample output: Thursday 4th September 2014 00:00:00

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DATE\_FORMAT(NOW(), '%W %D %M %Y %T ')

1. Write a query to display the current date in the following format.  
   Sample output: 05/09/2014

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DATE\_FORMAT([CURRENT\_DATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-functions.html#function_current_date)(), '%d/%m/%Y')

1. Write a query to display the current date in the following format.  
   Sample output: 12:00 AM Sep 5, 2014

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DATE\_FORMAT([CURRENT\_DATE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-functions.html#function_current_date)(), '%l %i %p %b %e %Y')

1. Write a query to get the firstname, lastname who joined in the month of June.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME, LAST\_NAME, HIRE\_DATE FROM employees WHERE MONTH(HIRE\_DATE) = 6

1. Write a query to get the years in which more than 10 employees joined.

SELECT YEAR(HIRE\_DATE), COUNT(\*) AS empCount FROM employees GROUP BY YEAR(HIRE\_DATE) HAVING COUNT(\*) > 10

1. Write a query to get first name of employees who joined in 1987.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , HIRE\_DATE FROM employees WHERE [YEAR](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html)(HIRE\_DATE) = '1987'

1. Write a query to get department name, manager name, and salary of the manager for all managers whose experience is more than 5 years.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) D.DEPARTMENT\_NAME , E.FIRST\_NAME , E.SALARY FROM employees AS E INNER JOIN departments AS D ON D.MANAGER\_ID=E.MANAGER\_ID WHERE NOW() - HIRE\_DATE > 5

1. Write a query to get employee ID, last name, and date of first salary of the employees.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) LAST\_NAME , MONTH(HIRE\_DATE), LAST\_DAY(HIRE\_DATE) FROM employees

1. Write a query to get first name, hire date and experience of the employees.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) FIRST\_NAME , HIRE\_DATE, DATEDIFF(NOW(), HIRE\_DATE )/365 AS exprience FROM employees

1. Write a query to get the department ID, year, and number of employees joined.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) DEPARTMENT\_ID ,[YEAR](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html)(HIRE\_DATE) AS [YEAR](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/date-and-time-types.html) , [COUNT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(EMPLOYEE\_ID) FROM employees GROUP BY DEPARTMENT\_ID ORDER BY DEPARTMENT\_ID

# Northwind database , Exercises

# Write a query to get Product name and quantity/unit.

# [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ProductName , QuantityPerUnit FROM products

1. Write a query to get current Product list (Product ID and name).

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ProductID , ProductName FROM products WHERE Discontinued = 0

1. Write a query to get discontinued Product list (Product ID and name).

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ProductID , ProductName FROM products WHERE Discontinued = '1'

1. Write a query to get most expense and least expensive Product list (name and unit price).

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ProductID , UnitPrice FROM products ORDER BY UnitPrice DESC

1. Write a query to get Product list (id, name, unit price) where current products cost less than $20.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ProductID , ProductName , UnitPrice FROM products WHERE (((UnitPrice)<20) [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_and) ((Discontinued)=False)) ORDER BY UnitPrice DESC

1. Write a query to get Product list (id, name, unit price) where products cost between $15 and $25.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ProductID , ProductName, UnitPrice FROM Products WHERE (((UnitPrice)>=15 [And](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_and) (UnitPrice)<=25) [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/logical-operators.html#operator_and) ((Products.Discontinued)=False)) ORDER BY Products.UnitPrice DESC

1. Write a query to get Product list (name, unit price) of above average price.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ProductName , UnitPrice FROM products WHERE UnitPrice > ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [AVG](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_avg)(UnitPrice) FROM products)

1. Write a query to get Product list (name, unit price) of ten most expensive products

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ProductName, UnitPrice FROM products ORDER BY UnitPrice DESC LIMIT 10

1. Write a query to count current and discontinued products

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [COUNT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(Discontinued) as currentproducts FROM products WHERE Discontinued = 0 UNION ALL [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) [COUNT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/group-by-functions.html#function_count)(Discontinued) as discontinuedproduct FROM products WHERE Discontinued = 1

1. Write a query to get Product list (name, units on order , units in stock) of stock is less than the quantity on order.

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/5.5/en/select.html) ProductName , UnitsOnOrder , UnitsInStock FROM products WHERE UnitsInStock < UnitsOnOrder