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;
```

	First Name	Last Name
Edit Copy Delete	Ellen	Abel
Edit Copy Delete	Sundar	Ande
Edit Copy Delete	Mozhe	Atkinson
Edit Copy Delete	David	Austin
Edit Copy Delete	Hermann	Baer
Edit Copy Delete	Shelli	Baida
Edit Copy Delete	Amit	Banda
Edit Copy Delete	Elizabeth	Bates

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

```
SELECT DISTINCT DEPARTMENT_ID FROM employees;
```

	DEPARTMENT_ID
Edit Copy Delete	0
Edit Copy Delete	10
Edit Copy Delete	20
Edit Copy Delete	30
Edit Copy Delete	40
Edit Copy Delete	50
Edit Copy Delete	60
Edit Copy Delete	70

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

```
SELECT * FROM employees ORDER BY FIRST_NAME DESC;
```

	EMPLOYEE_ID	FIRST_NAME 1	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE
Edit Copy Delete	180	Winston	Taylor	WTAYLOR	650.507.9876	1987-09-05
Edit Copy Delete	206	William	Gietz	WGIETZ	515.123.8181	1987-10-01
Edit Copy Delete	171	William	Smith	WSMITH	011.44.1343.629268	1987-08-27
Edit Copy Delete	195	Vance	Jones	VJONES	650.501.4876	1987-09-20
Edit Copy Delete	106	Valli	Pataballa	VPATABAL	590.423.4560	1987-06-23
Edit Copy Delete	141	Trenna	Rajs	TRAJS	650.121.8009	1987-07-28
Edit Copy Delete	132	TJ	Olson	TJOLSON	650.124.8234	1987-07-19
Edit Copy Delete	190	Timothy	Gates	TGATES	650.505.3876	1987-09-15

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, (SALARY * 0.15) AS PF FROM empl
oyees;
```

	FIRST_NAME	LAST_NAME	SALARY	PF
Edit Copy Delete	Steven	King	24000.00	3600.0000
Edit Copy Delete	Neena	Kochhar	17000.00	2550.0000
Edit Copy Delete	Lex	De Haan	17000.00	2550.0000
Edit Copy Delete	Alexander	Hunold	9000.00	1350.0000
Edit Copy Delete	Bruce	Ernst	6000.00	900.0000
Edit Copy Delete	David	Austin	4800.00	720.0000
Edit Copy Delete	Valli	Pataballa	4800.00	720.0000
Edit Copy Delete	Diana	Lorentz	4200.00	630.0000

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 ORDE
R BY SALARY;
```

Edit Copy Delete	132	TJ	Olson	2100.00
Edit Copy Delete	136	Hazel	Philtanker	2200.00
Edit Copy Delete	128	Steven	Markle	2200.00
Edit Copy Delete	127	James	Landry	2400.00
Edit Copy Delete	135	Ki	Gee	2400.00
Edit Copy Delete	140	Joshua	Patel	2500.00
Edit Copy Delete	191	Randall	Perkins	2500.00
Edit Copy Delete	144	Peter	Vargas	2500.00

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

SUM(SALARY)
691400.00

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

```
SELECT MAX(SALARY), MIN(SALARY) FROM employees;
```

MAX(SALARY)	MIN(SALARY)
24000.00	2100.00

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

```
SELECT AVG(salary), COUNT(*) FROM employees;
```

AVG(salary)	COUNT(*)
6461.682243	107

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

```
SELECT COUNT(*) FROM employees;
```

COUNT(*)
107

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

```
SELECT COUNT(DISTINCT JOB_ID) FROM employees;
```

COUNT(DISTINCT JOB_ID)
19

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

```
SELECT UPPER(first_name) FROM employees;
```

UPPER(first_name)
ELLEN
SUNDAR
MOZHE
DAVID
HERMANN
SHELLI
AMIT
ELIZABETH

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

```
SELECT LEFT(FIRST_NAME, 3) AS first_three_letters FROM employees;
```

first_three_letters
Ell
Sun
Moz
Dav
Her
She
Ami
Eli

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

```
SELECT 171 * 214 + 625 AS result;
```

result
37219

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) AS full_name FROM employees;
```

full_name
Ellen Abel
Sundar Ande
Mozhe Atkinson
David Austin
Hermann Baer
Shelli Baida
Amit Banda
Elizabeth Bates

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

```
SELECT TRIM(first_name) FROM employees;
```

TRIM(first_name)
Ellen
Sundar
Mozhe
David
Hermann
Shelli
Amit
Elizabeth

16. Write a query to get the length of the employee names (first_name, last_name) from employees table.

```
SELECT first_name,last_name, LENGTH(first_name)+LENGTH(last_name) AS 'Length of Names' FROM employees;
```

←T→	first_name	last_name	Length of Names
Edit Copy Delete	Ellen	Abel	9
Edit Copy Delete	Sundar	Ande	10
Edit Copy Delete	Mozhe	Atkinson	13
Edit Copy Delete	David	Austin	11
Edit Copy Delete	Hermann	Baer	11
Edit Copy Delete	Shelli	Baida	11
Edit Copy Delete	Amit	Banda	9
Edit Copy Delete	Elizabeth	Bates	14

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]';
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID

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

```
SELECT EMPLOYEE_ID, FIRST_NAME FROM employees LIMIT 10;
```

	EMPLOYEE_ID	FIRST_NAME
Edit Copy Delete	100	Steven
Edit Copy Delete	101	Neena
Edit Copy Delete	102	Lex
Edit Copy Delete	103	Alexander
Edit Copy Delete	104	Bruce
Edit Copy Delete	105	David
Edit Copy Delete	106	Valli
Edit Copy Delete	107	Diana
Edit Copy Delete	108	Nancy
Edit Copy Delete	109	Daniel

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 < 10000 OR SALARY > 15000;
```

	FIRST_NAME	LAST_NAME	SALARY
Edit Copy Delete	Steven	King	24000.00
Edit Copy Delete	Neena	Kochhar	17000.00
Edit Copy Delete	Lex	De Haan	17000.00
Edit Copy Delete	Alexander	Hunold	9000.00
Edit Copy Delete	Bruce	Ernst	6000.00
Edit Copy Delete	David	Austin	4800.00
Edit Copy Delete	Valli	Pataballa	4800.00

Click the drop-down arrow to toggle column's visibility.

2. 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;
```

	FIRST_NAME	LAST_NAME	DEPARTMENT_ID ▲ 1
Edit Copy Delete	Den	Raphaely	30
Edit Copy Delete	Alexander	Khoo	30
Edit Copy Delete	Shelli	Baida	30
Edit Copy Delete	Sigal	Tobias	30
Edit Copy Delete	Guy	Himuro	30
Edit Copy Delete	Karen	Colmenares	30
Edit Copy Delete	Nancy	Greenberg	100
Edit Copy Delete	Daniel	Faviet	100
Edit Copy Delete	John	Chen	100

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 FROM employees WHERE (SALARY < 10000 OR SALARY > 15000) AND DEPARTMENT_ID IN (30, 100);
```

	FIRST_NAME	LAST_NAME	SALARY
Edit Copy Delete	Alexander	Khoo	3100.00
Edit Copy Delete	Shelli	Baida	2900.00
Edit Copy Delete	Sigal	Tobias	2800.00
Edit Copy Delete	Guy	Himuro	2600.00
Edit Copy Delete	Karen	Colmenares	2500.00
Edit Copy Delete	Daniel	Faviet	9000.00
Edit Copy Delete	John	Chen	8200.00
Edit Copy Delete	Ismael	Sciarra	7700.00
Edit Copy Delete	Jose Manuel	Urman	7800.00
Edit Copy Delete	Luis	Popp	6900.00

4. 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 EXTRACT(YEAR FROM hire_date) = 1987
;
```

	first_name	last_name	hire_date
Edit Copy Delete	Steven	King	1987-06-17
Edit Copy Delete	Neena	Kochhar	1987-06-18
Edit Copy Delete	Lex	De Haan	1987-06-19
Edit Copy Delete	Alexander	Hunold	1987-06-20
Edit Copy Delete	Bruce	Ernst	1987-06-21
Edit Copy Delete	David	Austin	1987-06-22
Edit Copy Delete	Valli	Pataballa	1987-06-23
Edit Copy Delete	Diana	Lorentz	1987-06-24

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%';
```

	FIRST_NAME
Edit Copy Delete	Bruce

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 (4500,10000, 15000);
```

	LAST_NAME	JOB_ID	SALARY
Edit Copy Delete	Hunold	IT_PROG	9000.00
Edit Copy Delete	Ernst	IT_PROG	6000.00
Edit Copy Delete	Austin	IT_PROG	4800.00
Edit Copy Delete	Pataballa	IT_PROG	4800.00
Edit Copy Delete	Lorentz	IT_PROG	4200.00
Edit Copy Delete	Taylor	SH_CLERK	3200.00
Edit Copy Delete	Fleaur	SH_CLERK	3100.00
Edit Copy Delete	Sullivan	SH_CLERK	2500.00
Edit Copy Delete	Geoni	SH_CLERK	2800.00

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

```
SELECT LAST_NAME FROM employees WHERE LENGTH(LAST_NAME) = 6;
```

	LAST_NAME
Edit Copy Delete	Austin
Edit Copy Delete	Bissot
Edit Copy Delete	Cabrio
Edit Copy Delete	Davies
Edit Copy Delete	Faviet
Edit Copy Delete	Feeney
Edit Copy Delete	Fleaur
Edit Copy Delete	Greene

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%';
```

	LAST_NAME
Edit Copy Delete	Abel
Edit Copy Delete	Baer
Edit Copy Delete	Chen
Edit Copy Delete	Everett
Edit Copy Delete	Feeney
Edit Copy Delete	Fleaur
Edit Copy Delete	Gee
Edit Copy Delete	Gietz
Edit Copy Delete	Greenberg

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

```
SELECT DISTINCT JOB_ID FROM employees;
```

	JOB_ID
Edit Copy Delete	AC_ACCOUNT
Edit Copy Delete	AC_MGR
Edit Copy Delete	AD_ASST
Edit Copy Delete	AD_PRES
Edit Copy Delete	AD_VP
Edit Copy Delete	FI_ACCOUNT
Edit Copy Delete	FI_MGR
Edit Copy Delete	HR_REP
Edit Copy Delete	IT_PROG

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, SALARY * 0.15 AS PF FROM employees
```

	FIRST_NAME	LAST_NAME	SALARY	PF
Click the drop-down arrow to toggle column's visibility.				
Edit Copy Delete	Steven	King	24000.00	3600.0000
Edit Copy Delete	Neena	Kochhar	17000.00	2550.0000
Edit Copy Delete	Lex	De Haan	17000.00	2550.0000
Edit Copy Delete	Alexander	Hunold	9000.00	1350.0000
Edit Copy Delete	Bruce	Ernst	6000.00	900.0000
Edit Copy Delete	David	Austin	4800.00	720.0000
Edit Copy Delete	Valli	Pataballa	4800.00	720.0000

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('JONES', 'BLAKE', 'SCOTT', 'KIN
G', 'FORD');
```

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
Edit Copy Delete	195	Vance	Jones	VJONES	650.501.4876	1987-09-20	SH_CLERK	2800.00	0.00	123	50
Edit Copy Delete	156	Janette	King	JKING	011.44.1345.429268	1987-08-12	SA_REP	10000.00	0.35	146	80
Edit Copy Delete	100	Steven	King	SKING	515.123.4567	1987-06-17	AD_PRES	24000.00	0.00	0	90

MySQL Aggregate Functions and Group by-Exercises

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

```
SELECT COUNT(DISTINCT job_id) FROM employees;
```

COUNT(DISTINCT job_id)
19

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

```
SELECT SUM(salary) FROM employees;
```

SUM(salary)
691400.00

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

```
SELECT MIN(salary) FROM employees
```

MIN(salary)
2100.00

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';
```

MAX(salary)
9000.00

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;
```

AVG(salary)	count(*)
19333.333333	3

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

```
SELECT ROUND(MAX(salary),0) 'Maximum', ROUND(MIN(salary),0) 'Minimum', ROUND(SUM(salary),0) 'Sum', ROUND(AVG(salary),0) 'Average' FROM employees
```

Maximum	Minimum	Sum	Average
24000	2100	691400	6462

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

```
SELECT job_id, COUNT(*) FROM employees GROUP BY job_id;
```

job_id	COUNT(*)
AC_ACCOUNT	1
AC_MGR	1
AD_ASST	1
AD_PRES	1
AD_VP	2
FI_ACCOUNT	5
FI_MGR	1
HR_REP	1
IT_PROG	5
MK_MAN	1
MK_REP	1
PR_REP	1
PU_CLERK	5

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

```
SELECT MAX(salary) - MIN(salary) DIFFERENCE FROM employees;
```

DIFFERENCE
21900.00

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 MIN(salary) DESC;
```

	manager_id	MIN(salary) 1
Edit Copy Delete	0	24000.00
Edit Copy Delete	102	9000.00
Edit Copy Delete	205	8300.00
Edit Copy Delete	145	7000.00
Edit Copy Delete	146	7000.00
Edit Copy Delete	108	6900.00
Edit Copy Delete	147	6200.00

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;
```

	department_id	SUM(salary)
Edit Copy Delete	0	7000.00
Edit Copy Delete	10	4400.00
Edit Copy Delete	20	19000.00
Edit Copy Delete	30	24900.00
Edit Copy Delete	40	6500.00
Edit Copy Delete	50	156400.00
Edit Copy Delete	60	28800.00

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;
```

	job_id	AVG(salary)
Edit Copy Delete	AC_ACCOUNT	8300.000000
Edit Copy Delete	AC_MGR	12000.000000
Edit Copy Delete	AD_ASST	4400.000000
Edit Copy Delete	AD_PRES	24000.000000
Edit Copy Delete	AD_VP	17000.000000
Edit Copy Delete	FI_ACCOUNT	7920.000000
Edit Copy Delete	FI_MGR	12000.000000
Edit Copy Delete	HR_REP	6500.000000
Edit Copy Delete	MK_MAN	13000.000000

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), AVG(salary), MAX(salary), MIN(salary) FROM employees WHERE department_id = '90' GROUP BY job_id;
```

←T→				job_id	SUM(salary)	AVG(salary)	MAX(salary)	MIN(salary)
☐	Edit	Copy	Delete	AD_PRES	24000.00	24000.000000	24000.00	24000.00
☐	Edit	Copy	Delete	AD_VP	34000.00	17000.000000	17000.00	17000.00

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) FROM employees GROUP BY job_id HAVING MAX(salary) >=4000;
```

←T→				job_id	MAX(salary)
☐	Edit	Copy	Delete	AC_ACCOUNT	8300.00
☐	Edit	Copy	Delete	AC_MGR	12000.00
☐	Edit	Copy	Delete	AD_ASST	4400.00
☐	Edit	Copy	Delete	AD_PRES	24000.00
☐	Edit	Copy	Delete	AD_VP	17000.00
☐	Edit	Copy	Delete	FI_ACCOUNT	9000.00
☐	Edit	Copy	Delete	FI_MGR	12000.00
☐	Edit	Copy	Delete	HR_REP	6500.00

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

```
SELECT department_id, AVG(salary), COUNT(*) FROM employees GROUP BY department_id HAVING COUNT(*) > 10;
```

department_id	AVG(salary)	COUNT(*)
50	3475.555556	45
80	8955.882353	34

MySQL Subquery

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 FIRST_NAME, LAST_NAME, SALARY FROM employees WHERE SALARY > (SELECT salary FROM employees WHERE last_name = 'Bull');
```

←T→			FIRST_NAME	LAST_NAME	SALARY
Edit	Copy	Delete	Steven	King	24000.00
Edit	Copy	Delete	Neena	Kochhar	17000.00
Edit	Copy	Delete	Lex	De Haan	17000.00
Edit	Copy	Delete	Alexander	Hunold	9000.00
Edit	Copy	Delete	Bruce	Ernst	6000.00
Edit	Copy	Delete	David	Austin	4800.00
Edit	Copy	Delete	Valli	Pataballa	4800.00
Edit	Copy	Delete	Diana	Lorentz	4200.00

2. Write a query to find the name (first_name, last_name) of all employees who works in the IT department.

```
SELECT first_name, last_name FROM employees WHERE depar
tment_id IN (SELECT department_id FROM departments WHER
E department_name='IT');
```

←T→			first_name	last_name
Edit	Copy	Delete	Alexander	Hunold
Edit	Copy	Delete	Bruce	Ernst
Edit	Copy	Delete	David	Austin
Edit	Copy	Delete	Valli	Pataballa
Edit	Copy	Delete	Diana	Lorentz

You can also edit most values by double-clicking directly on them.

3. 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.

```
SELECT first_name, last_name FROM employees WHERE mana
ger_id in (select employee_id FROM employees WHERE depart
ment_id IN (SELECT department_id FROM departments WHER
E location_id IN (select location_id from locations where countr
y_id='US')));
```

←T→			first_name	last_name
Edit	Copy	Delete	Neena	Kochhar
Edit	Copy	Delete	Lex	De Haan
Edit	Copy	Delete	Alexander	Hunold
Edit	Copy	Delete	Bruce	Ernst
Edit	Copy	Delete	David	Austin

4. Write a query to find the name (first_name, last_name) of the employees who are managers.

```
SELECT first_name, last_name FROM employees WHERE (empl
oyee_id IN (SELECT manager_id FROM employees));
```

←T→				first_name	last_name
☐	Edit	Copy	Delete	Steven	King
☐	Edit	Copy	Delete	Neena	Kochhar
☐	Edit	Copy	Delete	Lex	De Haan
☐	Edit	Copy	Delete	Alexander	Hunold
☐	Edit	Copy	Delete	Nancy	Greenberg
☐	Edit	Copy	Delete	Den	Raphaely

5. 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 first_name, last_name, salary FROM employees WHERE
 salary > (SELECT AVG(salary) FROM employees);
```

←T→				first_name	last_name	salary
☐	Edit	Copy	Delete	Steven	King	24000.00
☐	Edit	Copy	Delete	Neena	Kochhar	17000.00
☐	Edit	Copy	Delete	Lex	De Haan	17000.00
☐	Edit	Copy	Delete	Alexander	Hunold	9000.00
☐	Edit	Copy	Delete	Nancy	Greenberg	12000.00
☐	Edit	Copy	Delete	Daniel	Faviet	9000.00
☐	Edit	Copy	Delete	John	Chen	8200.00
☐	Edit	Copy	Delete	Ismael	Sciarra	7700.00
☐	Edit	Copy	Delete	Jose Manuel	Urman	7800.00

6. 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.

```
SELECT first_name, last_name, salary FROM employees WHER
E employees.salary = (SELECT min_salary FROM jobs WHERE
employees.job_id = jobs.job_id);
```

←T→				first_name	last_name	salary
☐	Edit	Copy	Delete	Karen	Colmenares	2500.00
☐	Edit	Copy	Delete	Martha	Sullivan	2500.00
☐	Edit	Copy	Delete	Randall	Perkins	2500.00

7. 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 first_name, last_name, salary FROM employees WHERE
 department_id IN (SELECT department_id FROM departments
WHERE department_name LIKE 'IT%') AND salary > (SELECT
avg(salary) FROM employees);
```

first_name	last_name	salary
Alexander	Hunold	9000.00

8. 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 first_name, last_name, salary FROM employees WHERE
 salary > (SELECT salary FROM employees WHERE last_name
= 'Bell') ORDER BY first_name;
```

first_name	last_name	salary
Adam	Fripp	8200.00
Alberto	Errazuriz	12000.00
Alexander	Hunold	9000.00
Alexis	Bull	4100.00
Allan	McEwen	9000.00
Alyssa	Hutton	8800.00

9. 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 * FROM employees WHERE salary = (SELECT MIN(sal
ary) FROM employees);
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
132	TJ	Olson	TJOLSON	650.124.8234	1987-07-19	ST_CLERK	2100.00	0.00	121	50

10. 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 * FROM employees WHERE salary > ALL(SELECT avg(sala
ry)FROM employees GROUP BY department_id);
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
100	Steven	King	SKING	515.123.4567	1987-06-17	AD_PRES	24000.00	0.00	0	90

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 first_name,last_name, job_id, salary FROM employees
WHERE salary > ALL (SELECT salary FROM employees WHER
E job_id = 'SH_CLERK') ORDER BY salary;
```

	first_name	last_name	job_id	salary
Edit Copy Delete	Jennifer	Whalen	AD_ASST	4400.00
Edit Copy Delete	David	Austin	IT_PROG	4800.00
Edit Copy Delete	Valli	Pataballa	IT_PROG	4800.00
Edit Copy Delete	Kevin	Mourgos	ST_MAN	5800.00
Edit Copy Delete	Pat	Fay	MK_REP	6000.00
Edit Copy Delete	Bruce	Ernst	IT_PROG	6000.00
Edit Copy Delete	Sundita	Kumar	SA_REP	6100.00

12. Write a query to find the name (first_name, last_name) of the employees who are not supervisors.

```
SELECT b.first_name,b.last_name FROM employees b WHERE N
OT EXISTS (SELECT 'X' FROM employees a WHERE a.manager_i
d = b.employee_id);
```

	first_name	last_name
Edit Copy Delete	Bruce	Ernst
Edit Copy Delete	David	Austin
Edit Copy Delete	Valli	Pataballa
Edit Copy Delete	Diana	Lorentz
Edit Copy Delete	Daniel	Faviet
Edit Copy Delete	John	Chen
Edit Copy Delete	Ismael	Sciarra
Edit Copy Delete	Jose Manuel	Urman

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

```
SELECT employee_id, first_name, last_name, (SELECT departm
ent_name FROM departments d WHERE e.department_id = d.d
epartment_id) department FROM employees e ORDER BY depa
rtment
```

employee_id	first_name	last_name	department
178	Kimberely	Grant	*NULL*
206	William	Gietz	Accounting
205	Shelley	Higgins	Accounting
200	Jennifer	Whalen	Administration
100	Steven	King	Executive
102	Lex	De Haan	Executive
101	Neena	Kochhar	Executive
113	Luis	Popp	Finance
112	Jose Manuel	Urman	Finance
111	Ismael	Sciarra	Finance
110	John	Chen	Finance
109	Daniel	Faviet	Finance
108	Nancy	Greenberg	Finance

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.

```
SELECT employee_id, first_name FROM employees AS A WHERE salary > (SELECT AVG(salary) FROM employees WHERE department_id = A.department_id);
```

	employee_id	first_name
Edit Copy Delete	100	Steven
Edit Copy Delete	103	Alexander
Edit Copy Delete	104	Bruce
Edit Copy Delete	108	Nancy
Edit Copy Delete	109	Daniel
Edit Copy Delete	114	Den
Edit Copy Delete	120	Matthew
Edit Copy Delete	121	Adam
Edit Copy Delete	122	Payam
Edit Copy Delete	123	Shanta

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

```
SELECT i, employee_id FROM (SELECT @i := @i + 1 AS i, employee_id FROM employees) a WHERE MOD(a.i, 2) = 0;
```

i	employee_id
2	101
4	103
6	105
8	107
10	109
12	111
14	113
16	115
18	117
20	119
22	121
24	123
26	125

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

```
SELECT DISTINCT salary FROM employees e1 WHERE 5 = (SELECT COUNT(DISTINCT salary) FROM employees e2 WHERE e2.salary >= e1.salary)
```

	salary
Edit Copy Delete	13000.00

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

```
SELECT DISTINCT salary FROM employees e1 WHERE 4 = (SELECT COUNT(DISTINCT salary) FROM employees e2 WHERE e2.salary <= e1.salary);
```

	salary
Edit Copy Delete	2500.00

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

```
SELECT * FROM ( SELECT * FROM employees ORDER BY emplo
yee_id DESC LIMIT 10) sub ORDER BY employee_id ASC;
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
197	Kevin	Feeney	KFEENEY	650.507.9822	1987-09-22	SH_CLERK	3000.00	0.00	124	50
198	Donald	OConnell	DOCONNEL	650.507.9833	1987-09-23	SH_CLERK	2600.00	0.00	124	50
199	Douglas	Grant	DGRANT	650.507.9844	1987-09-24	SH_CLERK	2600.00	0.00	124	50
200	Jennifer	Whalen	JWHALEN	515.123.4444	1987-09-25	AD_ASST	4400.00	0.00	101	10
201	Michael	Hartstein	MHARTSTE	515.123.5555	1987-09-26	MK_MAN	13000.00	0.00	100	20
202	Pat	Fay	PFAY	603.123.6666	1987-09-27	MK_REP	6000.00	0.00	201	20
203	Susan	Mavris	SMAVRIS	515.123.7777	1987-09-28	HR_REP	6500.00	0.00	101	40
204	Hermann	Baer	HBAER	515.123.8888	1987-09-29	PR_REP	10000.00	0.00	101	70
205	Shelley	Higgins	SHIGGINS	515.123.8080	1987-09-30	AC_MGR	12000.00	0.00	101	110
206	William	Gietz	WGIETZ	515.123.8181	1987-10-01	AC_ACCOUNT	8300.00	0.00	205	110

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

```
SELECT * FROM departments WHERE department_id NOT IN (
select department_id FROM employees);
```

	DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
Edit Copy Delete	120	Treasury	0	1700
Edit Copy Delete	130	Corporate Tax	0	1700
Edit Copy Delete	140	Control And Credit	0	1700
Edit Copy Delete	150	Shareholder Services	0	1700
Edit Copy Delete	160	Benefits	0	1700
Edit Copy Delete	170	Manufacturing	0	1700
Edit Copy Delete	180	Construction	0	1700
Edit Copy Delete	190	Contracting	0	1700
Edit Copy Delete	200	Operations	0	1700
Edit Copy Delete	210	IT Support	0	1700

20. Write a query to get 3 maximum salaries.

```
SELECT DISTINCT salary FROM employees a WHERE 3 >= (SE
LECT COUNT(DISTINCT salary) FROM employees b WHERE b.s
alary >= a.salary) ORDER BY a.salary DESC;
```

	salary
Edit Copy Delete	24000.00
Edit Copy Delete	17000.00
Edit Copy Delete	14000.00

21. Write a query to get 3 minimum salaries

```
SELECT DISTINCT salary FROM employees a WHERE 3 >= (SE
LECT COUNT(DISTINCT salary) FROM employees b WHERE b.s
alary <= a.salary) ORDER BY a.salary DESC;
```

	salary
Edit Copy Delete	2400.00
Edit Copy Delete	2200.00
Edit Copy Delete	2100.00

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

```
SELECT * FROM employees emp1 WHERE (1) = ( SELECT COUNT(DISTINCT(emp2.salary)) FROM employees emp2 WHERE emp2.salary > emp1.salary)
```

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
Edit Copy Delete	101	Neena	Kochhar	NKOCHHAR	515.123.4568	1987-06-18	AD_VP	17000.00	0.00	100	90
Edit Copy Delete	102	Lex	De Haan	LDEHAAN	515.123.4569	1987-06-19	AD_VP	17000.00	0.00	100	90

MySQL JOINS

1. Write a query to find the addresses (location_id, street_address, city, state_province, country_name) of all the departments.
   Hint : Use NATURAL JOIN.

```
SELECT location_id, street_address, city, state_province, country_name FROM locations NATURAL JOIN countries;
```

location_id	street_address	city	state_province	country_name
1000	12			Italy
1100	93			Italy
1200	20		Tokyo Prefecture	Japan
1300	94			Japan
1400	2014 Jabberwocky Rd	Southlake	Texas	United States of America
1500	2011 Interiors Blvd	South San Francisco	California	United States of America
1600	2007 Zagora St	South Brunswick	New Jersey	United States of America
1700	2004 Charade Rd	Seattle	Washington	United States of America

2. Write a query to find the name (first_name, last name), department ID and name of all the employees.

```
SELECT first_name, last_name, department_id, department_name FROM employees JOIN departments USING (department_id)
```

first_name	last_name	department_id	department_name
Steven	King	90	Executive
Neena	Kochhar	90	Executive
Lex	De Haan	90	Executive
Alexander	Hunold	60	IT
Bruce	Ernst	60	IT
David	Austin	60	IT
Valli	Pataballa	60	IT
Diana	Lorentz	60	IT
Nancy	Greenberg	100	Finance
Daniel	Faviet	100	Finance
John	Chen	100	Finance
Ismael	Sciarra	100	Finance
Jose Manuel	Urman	100	Finance

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 e.first_name, e.last_name, e.job_id, e.department_id, d.department_name FROM employees e JOIN departments d ON (e.department_id = d.department_id) JOIN locations l ON (d.location_id = l.location_id) WHERE LOWER(l.city) = 'London';
```

first_name	last_name	job_id	department_id	department_name
Susan	Mavris	HR_REP	40	Human Resources

4. Write a query to find the employee id, name (last_name) along with their manager_id and name (last_name)

```
SELECT e.employee_id 'Emp_Id', e.last_name 'Employee', m.employee_id 'Mgr_Id', m.last_name 'Manager' FROM employees e join employees m ON (e.manager_id = m.employee_id)
```

Emp_Id	Employee	Mgr_Id	Manager
101	Kochhar	100	King
102	De Haan	100	King
103	Hunold	102	De Haan
104	Ernst	103	Hunold
105	Austin	103	Hunold
106	Pataballa	103	Hunold
107	Lorentz	103	Hunold
108	Greenberg	101	Kochhar
109	Faviet	108	Greenberg
110	Chen	108	Greenberg

5. Write a query to find the name (first_name, last_name) and hire date of the employees who was hired after 'Jones'.'

```
SELECT e.first_name, e.last_name, e.hire_date FROM employees e JOIN employees davies ON (davies.last_name = 'Jones') WHERE davies.hire_date < e.hire_date;
```

first_name	last_name	hire_date
Alana	Walsh	1987-09-21
Kevin	Feeney	1987-09-22
Donald	OConnell	1987-09-23
Douglas	Grant	1987-09-24
Jennifer	Whalen	1987-09-25
Michael	Hartstein	1987-09-26

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

```
SELECT department_name AS 'Department Name', COUNT(*) AS 'No of Employees' FROM departments INNER JOIN employees ON employees.department_id = departments.department_id GROUP BY departments.department_id, department_name ORDER BY department_name;
```

Department Name	No of Employees
Accounting	2
Administration	1
Executive	3
Finance	6
Human Resources	1
IT	5
Marketing	2
Public Relations	1
Purchasing	6
Sales	34
Shipping	45

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 employee_id, job_title, end_date-start_date Days FROM job_history NATURAL JOIN jobs WHERE department_id=90
```

employee_id	job_title	Days
200	Administration Assistant	59700
200	Public Accountant	40530

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

```
SELECT 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);
```

department_id	department_name	manager_id	first_name
10	Administration	200	Jennifer
20	Marketing	201	Michael
30	Purchasing	114	Den
40	Human Resources	203	Susan
50	Shipping	121	Adam
60	IT	103	Alexander
70	Public Relations	204	Hermann
80	Sales	145	John
90	Executive	100	Steven
100	Finance	108	Nancy
110	Accounting	205	Shelley

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

```
SELECT d.department_name, e.first_name, l.city FROM departments d JOIN employees e ON (d.manager_id = e.employee_id) JOIN locations l USING (location_id)
```

department_name	first_name	city
Administration	Jennifer	Seattle
Marketing	Michael	Toronto
Purchasing	Den	Seattle
Human Resources	Susan	London
Shipping	Adam	South San Francisco
IT	Alexander	Southlake
Public Relations	Hermann	Munich
Sales	John	OX9 9ZB
Executive	Steven	Seattle
Finance	Nancy	Seattle
Accounting	Shelley	Seattle

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

```
SELECT job_title, AVG(salary) FROM employees NATURAL JOIN jobs GROUP BY job_title;
```

job_title	AVG(salary)
Accountant	7920.000000
Accounting Manager	12000.000000
Administration Assistant	4400.000000
Administration Vice President	17000.000000
Finance Manager	12000.000000
Human Resources Representative	6500.000000
Marketing Manager	13000.000000
Marketing Representative	6000.000000
President	24000.000000
Programmer	5760.000000
Public Accountant	8300.000000
Public Relations Representative	10000.000000
Purchasing Clerk	2780.000000
Purchasing Manager	11000.000000

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 job_title, first_name, salary-min_salary 'Salary - Min_Salary' FROM employees NATURAL JOIN jobs;
```

job_title	first_name	Salary - Min_Salary
President	Steven	4000.00
Administration Vice President	Neena	2000.00
Administration Vice President	Lex	2000.00
Programmer	Alexander	5000.00
Programmer	Bruce	2000.00
Programmer	David	800.00
Programmer	Valli	800.00
Programmer	Diana	200.00
Finance Manager	Nancy	3800.00
Accountant	Daniel	4800.00
Accountant	John	4000.00

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 jh.* FROM job_history jh JOIN employees e ON (jh.employee_id = e.employee_id) WHERE salary > 10000;
```

EMPLOYEE_ID	START_DATE	END_DATE	JOB_ID	DEPARTMENT_ID
102	1993-01-13	1998-07-24	IT_PROG	60
101	1989-09-21	1993-10-27	AC_ACCOUNT	110
101	1993-10-28	1997-03-15	AC_MGR	110
201	1996-02-17	1999-12-19	MK_REP	20
114	1998-03-24	1999-12-31	ST_CLERK	50

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 first_name, last_name, hire_date, salary, (DATEDIFF(now(), hire_date))/365 Experience FROM departments d JOIN employees e ON (d.manager_id = e.employee_id) WHERE (DATEDIFF(now(), hire_date))/365>15
```

first_name	last_name	hire_date	salary	Experience
Steven	King	1987-06-17	24000.00	36.3808
Alexander	Hunold	1987-06-20	9000.00	36.3726
Nancy	Greenberg	1987-06-25	12000.00	36.3589
Den	Raphaely	1987-07-01	11000.00	36.3425
Adam	Fripp	1987-07-08	8200.00	36.3233
John	Russell	1987-08-01	14000.00	36.2575
Jennifer	Whalen	1987-09-25	4400.00	36.1068
Michael	Hartstein	1987-09-26	13000.00	36.1041
Susan	Mavris	1987-09-28	6500.00	36.0986
Hermann	Baer	1987-09-29	10000.00	36.0959
Shelley	Higgins	1987-09-30	12000.00	36.0932

MySQL Date and Time

1. Write a query to display the first day of the month (in datetime format) three months before the current month.
   Sample current date : 2014-09-03
   Expected result : 2014-06-01

```
SELECT date(((PERIOD_ADD (EXTRACT(YEAR_MONTH FROM CURDATE()),-3)*100)+1)) AS Date;
```

2. Write a query to get the distinct Mondays from hire_date in employees tables.

```
SELECT DISTINCT(STR_TO_DATE (CONCAT(YEARWEEK(hire_date),'1'),'%x%v%w')) FROM employees
```

HIRE_DATE
1987-06-08
1987-06-15
1987-06-22
1987-06-29
1987-07-06
1987-07-13
1987-07-20
1987-07-27
1987-08-03
1987-08-10

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

```
SELECT MAKEDATE(EXTRACT(YEAR FROM CURDATE()),1) AS first_date_of_year;
```

first_date_of_year
2023-01-01

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

```
SELECT STR_TO_DATE(CONCAT(12,31, EXTRACT(YEAR FROM CURDATE())), '%m%d%Y') AS last_day_of_year;
```

last_day_of_year
2023-12-31

5. Write a query to calculate the age in year

```
SELECT YEAR(CURRENT_TIMESTAMP) - YEAR("2003-01-27") - (RIGHT(CURRENT_TIMESTAMP, 5) < RIGHT("2003-01-27", 5)) as age;
```

age
20

6. Write a query to get the current date in the following format.
   Sample date : 2014-09-04
   Output : September 4, 2014

```
SELECT DATE_FORMAT(CURDATE(),'%M %e, %Y') AS 'Current_date';
```

Current_date
October 28, 2023

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

```
SELECT DATE_FORMAT(NOW(), '%W %M %Y');
```

DATE_FORMAT(NOW(), '%W %M %Y')
Saturday October 2023

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

```
SELECT EXTRACT(YEAR FROM NOW());
```

year
2023

9. Write a query to get the DATE value from a given day (number in N).
   Sample days: 730677
   Output : 2000-07-11

```
SELECT FROM_DAYS(730677)AS date;
```

date
2000-07-11

10. 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 FIRST_NAME, HIRE_DATE FROM employees WHERE HIRE_DATE BETWEEN '1987-06-01 00:00:00' AND '1987-07-30 23:59:59';
```

	FIRST_NAME	HIRE_DATE
Edit Copy Delete	Steven	1987-06-17
Edit Copy Delete	Neena	1987-06-18
Edit Copy Delete	Lex	1987-06-19
Edit Copy Delete	Alexander	1987-06-20
Edit Copy Delete	Bruce	1987-06-21
Edit Copy Delete	David	1987-06-22
Edit Copy Delete	Valli	1987-06-23
Edit Copy Delete	Diana	1987-06-24

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

```
SELECT date_format(CURDATE(),'%W %D %M %Y %T');
```

date_format(CURDATE(),'%W %D %M %Y %T')
Saturday 28th October 2023 00:00:00

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

```
SELECT date_format(CURDATE(),'%d/%m/%Y');
```

date_format(CURDATE(),'%d/%m/%Y')
28/10/2023

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

```
SELECT date_format(CURDATE(),'%l:%i %p %b %e, %Y') AS today;
```

today
12:00 AM Oct 28, 2023

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

```
SELECT first_name, last_name FROM employees WHERE MONTH(HIR
E_DATE) = 6;
```

←T→				first_name	last_name
☐	Edit	Copy	Delete	Steven	King
☐	Edit	Copy	Delete	Neena	Kochhar
☐	Edit	Copy	Delete	Lex	De Haan
☐	Edit	Copy	Delete	Alexander	Hunold
☐	Edit	Copy	Delete	Bruce	Ernst
☐	Edit	Copy	Delete	David	Austin
☐	Edit	Copy	Delete	Valli	Pataballa
☐	Edit	Copy	Delete	Diana	Lorentz

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

```
SELECT DATE_FORMAT(HIRE_DATE,'%Y') FROM employees GROUP B
Y DATE_FORMAT(HIRE_DATE,'%Y') HAVING COUNT(EMPLOYEE_ID)
> 10;
```

DATE_FORMAT(HIRE_DATE,'%Y')
1987

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

```
SELECT FIRST_NAME, HIRE_DATE FROM employees WHERE YEAR(HIRE_D
ATE)=1987;
```

←T→	FIRST_NAME	HIRE_DATE
Edit Copy Delete	Steven	1987-06-17
Edit Copy Delete	Neena	1987-06-18
Edit Copy Delete	Lex	1987-06-19
Edit Copy Delete	Alexander	1987-06-20
Edit Copy Delete	Bruce	1987-06-21
Edit Copy Delete	David	1987-06-22
Edit Copy Delete	Valli	1987-06-23
Edit Copy Delete	Diana	1987-06-24
Edit Copy Delete	Nancy	1987-06-25
Edit Copy Delete	Daniel	1987-06-26
Edit Copy Delete	John	1987-06-27

18. 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 DEPARTMENT_NAME, FIRST_NAME, SALARY FROM departments D
JOIN employees E ON (D.MANAGER_ID=E.MANAGER_ID) WHERE (SYSDATE
()-HIRE_DATE) / 365 > 5;
```

DEPARTMENT_NAME	FIRST_NAME	SALARY
Marketing	Pat	6000.00
Purchasing	Alexander	3100.00
Purchasing	Shelli	2900.00
Purchasing	Sigal	2800.00
Purchasing	Guy	2600.00
Purchasing	Karen	2500.00
Shipping	Laura	3300.00
Shipping	Mozhe	2800.00
Shipping	James	2500.00
Shipping	TJ	2100.00

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

```
SELECT employee_id, last_name, hire_date, LAST_DAY(hire_date) FROM em
ployees;
```

←T→	employee_id	last_name	hire_date	LAST_DAY(hire_date)
Edit Copy Delete	100	King	1987-06-17	1987-06-30
Edit Copy Delete	101	Kochhar	1987-06-18	1987-06-30
Edit Copy Delete	102	De Haan	1987-06-19	1987-06-30
Edit Copy Delete	103	Hunold	1987-06-20	1987-06-30
Edit Copy Delete	104	Ernst	1987-06-21	1987-06-30
Edit Copy Delete	105	Austin	1987-06-22	1987-06-30

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

```
SELECT FIRST_NAME, SYSDATE(), HIRE_DATE, DATEDIFF( SYSDATE(), hire_date )/365 FROM employees;
```

	FIRST_NAME	SYSDATE()	HIRE_DATE	DATEDIFF(SYSDATE(), hire_date)/365
Edit Copy Delete	Steven	2023-10-28 18:01:09	1987-06-17	36.3890
Edit Copy Delete	Neena	2023-10-28 18:01:09	1987-06-18	36.3863
Edit Copy Delete	Lex	2023-10-28 18:01:09	1987-06-19	36.3836
Edit Copy Delete	Alexander	2023-10-28 18:01:09	1987-06-20	36.3808
Edit Copy Delete	Bruce	2023-10-28 18:01:09	1987-06-21	36.3781
Edit Copy Delete	David	2023-10-28 18:01:09	1987-06-22	36.3753

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

```
SELECT DEPARTMENT_ID, DATE_FORMAT(HIRE_DATE,'%Y'), COUNT(EMPLOYEE_ID) FROM employees GROUP BY DEPARTMENT_ID, DATE_FORMAT(HIRE_DATE, '%Y') ORDER BY DEPARTMENT_ID;
```

DEPARTMENT_ID ▲ 1	DATE_FORMAT(HIRE_DATE,'%Y')	COUNT(EMPLOYEE_ID)
0	1987	1
10	1987	1
20	1987	2
30	1987	6
40	1987	1
50	1987	45
60	1987	5
70	1987	1
80	1987	34
90	1987	3
100	1987	6

- e--

MySQL String

1. Write a query to get the job_id and related employee's id.

```
SELECT job_id, GROUP_CONCAT(employee_id, ' ') 'Employees ID' FROM employees GROUP BY job_id;
```

	job_id	Employees ID
Edit Copy Delete	AC_ACCOUNT	206
Edit Copy Delete	AC_MGR	205
Edit Copy Delete	AD_ASST	200
Edit Copy Delete	AD_PRES	100
Edit Copy Delete	AD_VP	101 ,102
Edit Copy Delete	FI_ACCOUNT	109 ,110 ,111 ,112 ,113
Edit Copy Delete	FI_MGR	108
Edit Copy Delete	HR_REP	203
Edit Copy Delete	IT_PROG	103 ,104 ,105 ,106 ,107
Edit Copy Delete	MK_MAN	201
Edit Copy Delete	MK_REP	202

2. 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'.

```
UPDATE employees SET phone_number = REPLACE(phone_number, '124', '999') WHERE phone_number LIKE '%124%';
```

3. 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 LENGTH(first_name) >= 8;
```

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
Edit Copy Delete	103	Alexander	Hunold	AHUNOLD	590.423.4567	1987-06-20	IT_PROG	9000.00	0.00	102	60
Edit Copy Delete	112	Jose Manuel	Urman	JMURMAN	515.999.4469	1987-06-29	FI_ACCOUNT	7800.00	0.00	108	100
Edit Copy Delete	115	Alexander	Khoo	AKHOO	515.127.4562	1987-07-02	PU_CLERK	3100.00	0.00	114	30
Edit Copy Delete	153	Christopher	Olsen	COLSEN	011.44.1344.498718	1987-08-09	SA_REP	8000.00	0.20	145	80
Edit Copy Delete	163	Danielle	Greene	DGREENE	011.44.1346.229268	1987-08-19	SA_REP	9500.00	0.15	147	80
Edit Copy Delete	169	Harrison	Bloom	HBLOOM	011.44.1343.829268	1987-08-25	SA_REP	10000.00	0.20	148	80
Edit Copy Delete	172	Elizabeth	Bates	EBATES	011.44.1343.529268	1987-08-28	SA_REP	7300.00	0.15	148	80
Edit Copy Delete	176	Jonathon	Taylor	JTAYLOR	011.44.1644.429265	1987-09-01	SA_REP	8600.00	0.20	149	80
Edit Copy Delete	178	Kimberely	Grant	KGRANT	011.44.1644.429263	1987-09-03	SA_REP	7000.00	0.15	149	0
Edit Copy Delete	189	Jennifer	Dilly	JDILLY	650.505.2876	1987-09-14	SH_CLERK	3600.00	0.00	122	50
Edit Copy Delete	200	Jennifer	Whalen	JWHALEN	515.123.4444	1987-09-25	AD_ASST	4400.00	0.00	101	10

4. Write a query to display leading zeros before maximum and minimum salary.

```
SELECT job_id, LPAD( max_salary, 7, '0') ' Max Salary', LPAD( min_salary, 7, '0') ' Min Salary' FROM jobs;
```

	job_id	Max Salary	Min Salary
Edit Copy Delete	AD_PRES	0040000	0020000
Edit Copy Delete	AD_VP	0030000	0015000
Edit Copy Delete	AD_ASST	0006000	0003000
Edit Copy Delete	FI_MGR	0016000	0008200
Edit Copy Delete	FI_ACCOUNT	0009000	0004200
Edit Copy Delete	AC_MGR	0016000	0008200
Edit Copy Delete	AC_ACCOUNT	0009000	0004200
Edit Copy Delete	SA_MAN	0020000	0010000

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

```
UPDATE employees SET email = CONCAT(email, '@example.com');
```

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

```
SELECT employee_id, first_name, MID(hire_date, 6, 2) as hire_month FROM employees;
```

	employee_id	first_name	hire_month
Edit Copy Delete	100	Steven	06
Edit Copy Delete	101	Neena	06
Edit Copy Delete	102	Lex	06
Edit Copy Delete	103	Alexander	06
Edit Copy Delete	104	Bruce	06
Edit Copy Delete	105	David	06
Edit Copy Delete	106	Valli	06
Edit Copy Delete	107	Diana	06
Edit Copy Delete	108	Nancy	06
Edit Copy Delete	109	Daniel	06

7. Write a query to get the employee id, email id (discard the last three characters).

```
SELECT employee_id, REVERSE(SUBSTR(REVERSE(email), 4)) as Email_ID from employees;
```

	employee_id	Email_ID
Edit Copy Delete	100	SKING@example.
Edit Copy Delete	101	NKOCHHAR@example.
Edit Copy Delete	102	LDEHAAN@example.
Edit Copy Delete	103	AHUNOLD@example.
Edit Copy Delete	104	BERNST@example.
Edit Copy Delete	105	DAUSTIN@example.
Edit Copy Delete	106	VPATABAL@example.
Edit Copy Delete	107	DLORENTZ@example.
Edit Copy Delete	108	NGREENBE@example.
Edit Copy Delete	109	DFAVIET@example.

8. Write a query to find all employees where first names are in upper case

```
SELECT * FROM employees WHERE first_name = BINARY UPPER(first_name);
```

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
Edit Copy Delete	132	TJ	Olson	TJOLSON@example.com	650.999.8234	1987-07-19	ST_CLERK	2100.00	0.00	121	50

9. Write a query to extract the last 4 character of phone numbers.

```
SELECT RIGHT(phone_number, 4) as 'Ph.No.' FROM employees;
```

Ph.No.
4567
4568
4569
4567
4568
4569
4560
5567
4569
4169
4269
4369
4469
4567
4561
4562
4563
4564
4565
4566
1234
2234
3234
4234
5234

10. Write a query to get the last word of the street address

```
SELECT location_id, street_address, SUBSTRING_INDEX(REPLACE(REPLACE(REPLACE(street_address,',',' '),')',' '),'(',' '),' ',-1) AS 'Last--word-of-street_address' FROM locations;
```

location_id	street_address	Last--word-of-street_address
1000	1297 Via Cola di Rie	Rie
1100	93091 Calle della Testa	Testa
1200	2017 Shinjuku-ku	Shinjuku-ku
1300	9450 Kamiya-cho	Kamiya-cho
1400	2014 Jabberwocky Rd	Rd
1500	2011 Interiors Blvd	Blvd
1600	2007 Zagora St	St
1700	2004 Charade Rd	Rd
1800	147 Spadina Ave	Ave
1900	6092 Boxwood St	St
2000	40-5-12 Laogianggen	Laogianggen
2100	1298 Vileparle (E)	
2200	12-98 Victoria Street	Street

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

```
SELECT * FROM locations WHERE LENGTH(street_address) <= (SEL
ECT MIN(LENGTH(street_address)) FROM locations);
```

	LOCATION_ID	STREET_ADDRESS	POSTAL_CODE	CITY	STATE_PROVINCE	COUNTRY_ID
Edit Copy Delete	1600	2007 Zagora St	50090	South Brunswick	New Jersey	US
Edit Copy Delete	2400	8204 Arthur St		London		UK

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

```
SELECT job_title, SUBSTR(job_title,1, INSTR(job_title, ' ')-
1) FROM jobs;
```

	job_title	SUBSTR(job_title,1, INSTR(job_title, ' ')-1)
Edit Copy Delete	President	
Edit Copy Delete	Administration Vice President	Administration
Edit Copy Delete	Administration Assistant	Administration
Edit Copy Delete	Finance Manager	Finance
Edit Copy Delete	Accountant	
Edit Copy Delete	Accounting Manager	Accounting
Edit Copy Delete	Public Accountant	Public
Edit Copy Delete	Sales Manager	Sales
Edit Copy Delete	Sales Representative	Sales
Edit Copy Delete	Purchasing Manager	Purchasing
Edit Copy Delete	Purchasing Clerk	Purchasing
Edit Copy Delete	Stock Manager	Stock
Edit Copy Delete	Stock Clerk	Stock

13. 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 INSTR(last_
name,'C') > 2;
```

	first_name	last_name
Edit Copy Delete	Neena	Kochhar
Edit Copy Delete	Nandita	Sarchand
Edit Copy Delete	Peter	Tucker

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 "Name", LENGTH(first_name) "Length" FROM em
ployees WHERE first_name LIKE 'J%' OR first_name LIKE 'M%' OR fir
st_name LIKE 'A%' ORDER BY first_name;
```

	Name	Length
Edit Copy Delete	Adam	4
Edit Copy Delete	Alana	5
Edit Copy Delete	Alberto	7
Edit Copy Delete	Alexander	9
Edit Copy Delete	Alexander	9
Edit Copy Delete	Alexis	6
Edit Copy Delete	Allan	5
Edit Copy Delete	Alyssa	6
Edit Copy Delete	Amit	4
Edit Copy Delete	Anthony	7
Edit Copy Delete	Jack	4
Edit Copy Delete	James	5

15. 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, '$') SALARY FROM employees;
```

	first_name	SALARY
Edit Copy Delete	Steven	$$24000.00
Edit Copy Delete	Neena	$$17000.00
Edit Copy Delete	Lex	$$17000.00
Edit Copy Delete	Alexander	$$$9000.00
Edit Copy Delete	Bruce	$$$6000.00
Edit Copy Delete	David	$$$4800.00
Edit Copy Delete	Valli	$$$4800.00
Edit Copy Delete	Diana	$$$4200.00
Edit Copy Delete	Nancy	$$12000.00
Edit Copy Delete	Daniel	$$$9000.00
Edit Copy Delete	John	$$$8200.00
Edit Copy Delete	Ismael	$$$7700.00
Edit Copy Delete	Jose Manuel	$$$7800.00
Edit Copy Delete	Luis	$$$6900.00
Edit Copy Delete	Den	$$11000.00

16. 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 left(first_name, 8), REPEAT('$', FLOOR(salary/1000)) 'SALARY($)', salary FROM employees ORDER BY salary DESC;
```

	left(first_name, 8)	SALARY($)	salary
Edit Copy Delete	Steven	$$$$$$$$$$$$$$$$$$$$$$$$	24000.00
Edit Copy Delete	Neena	$$$$$$$$$$$$$$$$$	17000.00
Edit Copy Delete	Lex	$$$$$$$$$$$$$$$$$	17000.00
Edit Copy Delete	John	$$$$$$$$$$$$$	14000.00
Edit Copy Delete	Karen	$$$$$$$$$$$$$	13500.00
Edit Copy Delete	Michael	$$$$$$$$$$$$$	13000.00
Edit Copy Delete	Alberto	$$$$$$$$$$$$	12000.00
Edit Copy Delete	Shelley	$$$$$$$$$$$$	12000.00
Edit Copy Delete	Nancy	$$$$$$$$$$$$	12000.00
Edit Copy Delete	Lisa	$$$$$$$$$$$	11500.00
Edit Copy Delete	Gerald	$$$$$$$$$$$	11000.00
Edit Copy Delete	Den	$$$$$$$$$$$	11000.00
Edit Copy Delete	Ellen	$$$$$$$$$$$	11000.00
Edit Copy Delete	Eleni	$$$$$$$$$$	10500.00
Edit Copy Delete	Clara	$$$$$$$$$$	10500.00
Edit Copy Delete	Peter	$$$$$$$$$$	10000.00
Edit Copy Delete	Harrison	$$$$$$$$$$	10000.00

17. 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.

Sample table: employees

```
SELECT employee_id,first_name,last_name,hire_date FROM employees WHERE POSITION("07" IN DATE_FORMAT(hire_date, '%d %m %Y'))>0;
```

	employee_id	first_name	last_name	hire_date
Edit Copy Delete	114	Den	Raphaely	1987-07-01
Edit Copy Delete	115	Alexander	Khoo	1987-07-02
Edit Copy Delete	116	Shelli	Baida	1987-07-03
Edit Copy Delete	117	Sigal	Tobias	1987-07-04
Edit Copy Delete	118	Guy	Himuro	1987-07-05
Edit Copy Delete	119	Karen	Colmenares	1987-07-06
Edit Copy Delete	120	Matthew	Weiss	1987-07-07
Edit Copy Delete	121	Adam	Fripp	1987-07-08
Edit Copy Delete	122	Payam	Kaufling	1987-07-09
Edit Copy Delete	123	Shanta	Vollman	1987-07-10
Edit Copy Delete	124	Kevin	Mourgos	1987-07-11
Edit Copy Delete	125	Julia	Nayer	1987-07-12
Edit Copy Delete	126	Irene	Mikkilineni	1987-07-13
Edit Copy Delete	127	James	Landry	1987-07-14