- To get the departments where total salary is more than 9200 and maximum salary is less than 10000.
  ➜ SELECT DEPTNO, sum(sal) as Total_salary, max(sal) as Max_Salary
    From emp
    Group by deptno
    Having sum(sal) > 9200 AND max(sal) < 10000;

Aggregate, distinct, group by assignment

Write a query to display all distinct job titles from the emp table.
        Select distinct job
        From emp;

Write a query to display distinct commission (COMM) values that employees earn.
        Select distinct comm
        From emp;

Write a query to find how many distinct managers (MGR) are present in the emp table.
        Select count(distinct mgr) as distinct_manager
        From emp;

Write a query to display distinct combinations of salary (SAL) and commission (COMM).

```sql
Select distinct sal,comm
From emp;
```

Write a query to display distinct department number (DEPTNO) and job title (JOB) combinations.

```sql
Select distinct deptno,job
From emp;
```

Write a query to display the total and average salary (SAL) for each job title (JOB).

```sql
SELECT job, sum(sal) as total_salary,
avg(sal) as average_salary
From emp
Group by job;
```

Write a query to find the highest salary (SAL) among employees who have non-null commission (COMM).

```sql
Select max(sal) as highest_salary
From emp
Where comm is not null;
```

Write a query to count the number of employees earning more than the average salary.

```sql
Select count(*) as employee_count
From emp
Where sal > (select avg(sal) from emp);
```

Write a query to calculate the total salary for employees under manager (MGR = 7839).

```sql
Select sum(sal) as total_salary
From emp
Where mgr=7839;
```

Write a query to find the earliest hire date (HIREDATE) for each department.

```sql
Select deptno,min(hiredate) as earliest_hiredates
From emp
Group by deptno;
```

Write a query to count the number of employees for each department (DEPTNO) and job (JOB).

```sql
Select deptno, job, count(*) as employee_count
From emp
Group by deptno,job;
```

Write a query to calculate the total salary of employees working under each manager (MGR).

```sql
Select mgr, sum(sal) as total_salary
From emp
Group by mgr;
```

Write a query to display the average salary by job for departments that have more than 3 employees.

```sql
Select deptno, job, avg(sal) as average_salary
From emp
Group by deptno,job
Having count(*) > 3;
```

Write a query to find the departments where the maximum salary is greater than 2000.

```sql
Select deptno
From emp
Group by deptno
Having max(sal) > 2000;
```

Write a query to find the total salary and employee count by manager (MGR).

```sql
Select mgr, sum(sal) as total_salary, count(*) as employee_count
From emp
Group by mgr;
```

Subquery

1. Single row subquery: Returns a single value
2. Multi-row subquery: returns multiple rows
3. Correlated Subquery: depends on outer query for execution.

Ex. Find the name of employee who earns the highest salary.

```
Select empname
From emp
Where sal = (Select max(sal) from emp);
```

After calculating the highest salary

```
Select ename
From emp
Where sal = 5000;
```

To get the highest salary
```
Select max(sal) from emp;
```

Find the name of employee who earns 3000.
```
Select ename
From emp
Where sal = 3000;
```

Ex. Find all employees who work in the same department as employees earning more than 3500.

```
Select *
From emp
Where deptno IN (
                  Select deptno
                  From emp
                  Where sal > 3500
);
```

```
Select *
From emp
Where deptno IN ( 10 );
```

Correlated Query:
The inner query depends on the value from outer query.

Ex. Find employees who earn more than the average salary of their department.

```
+-----------------------------------------------------------+
|                     Date Functions                        |
+-----------------------------------------------------------+
```

1. **Curdate():**

   To fetch the current date(YYYY-MM-DD)

   Ex. Select curdate();

   mysql> Select curdate();

   ```
   +-----------+
   | curdate() |
   +-----------+
   | 2025-03-17 |
   +-----------+
   ```

2. **Now():**

   To fetch the current date and time
   (YYYY-MM-DD HH:MM:SS)

   Select now();

   mysql> Select now();

   ```
   +---------------------+
   | now()               |
   +---------------------+
   | 2025-03-17 11:08:34 |
   +---------------------+
   ```

3. **Date_Format()**

   To display the date in user friendly format
   There are placeholders.

Common placeholders:

%d : Day of month(2 digits)

%D : Day of the month with suffix(1st ,2nd ,3rd)

%m : Month in numeric format

%M : Full month name(March,….)

%y : year in 2-digit format(2025 -> 25)

%Y : Year in 4 digit format(2025)

Ex. To display the curdate in custom format
Select DATE_FORMAT(curdate(),' %M %d %Y');
mysql> Select DATE_FORMAT(curdate(),'%M %d %Y');

```
+--------------------------------+
| DATE_FORMAT(curdate(),'%M %d %Y') |
+--------------------------------+
| March 17 2025                  |
+--------------------------------+
```

mysql> Select DATE_FORMAT(curdate(),'%M %D %Y');

```
+--------------------------------+
| DATE_FORMAT(curdate(),'%M %D %Y') |
+--------------------------------+
| March 17th 2025                |
+--------------------------------+
```

Ex. Display the hiredate in custom format.(March 17th 2025)

Select empname, date_format(hiredate, '%M %D %Y') as Date
From emp;

```
mysql> Select empname, date_format(hiredate, '%M %D %Y') as Date
    -> From emp;
+----------+---------------------+
| empname  | Date                |
+----------+---------------------+
| SMITH    | December 17th 1980  |
| ALLEN    | February 20th 1981  |
| WARD     | February 22nd 1981  |
| JONES    | April 2nd 1981      |
| MARTIN   | September 28th 1981 |
| BLAKE    | May 1st 1981        |
| CLARK    | June 9th 1981       |
| SCOTT    | December 9th 1982   |
| KING     | November 17th 1981  |
| TURNER   | September 8th 1981  |
| ADAMS    | January 12th 1983   |
| JAMES    | December 3rd 1981   |
| FORD     | December 3rd 1981   |
| MILLER   | January 23rd 1982   |
```

4. DateDiff()
   Calculates the number of days between two dates.
   Datediff(from_date, to_date);

   Ex. To find days between two dates
   Select datediff('2022-11-23' ,' 2000-12-01') as days;

   mysql> Select datediff('2022-11-2','2000-12-01') as days;
   +------+
   | days |
   +------+
   | 8006 |
   +------+

   TASK: To find the experience in years from employee table.