Sql Server - Practice

```
create database cts

use cts

create table Employee(Empid int primary key identity(11,1),
                      Empname varchar(40),City varchar(20),
                                    Salary decimal(8,2),Dept varchar(20),JoiningDate
date)

insert into Employee(empname,city,salary,dept,joiningdate)
       values('Pawan','Pune',60000,'Developer','2024-10-20'),
                ('Neha','Pune',80000,'HR','2022-08-25'),
                      ('Mano','Chennai',70000,'Developer','2023-01-12'),
                      ('Piyush','Hyderabad',65000,'Developer','2023-05-24'),
                      ('Riya','Chennai',55000,'Testing','2024-10-20'),
                      ('Riyaz','Bangalore',85000,'HR','2021-10-20'),
                      ('Sahana','Pune',60000,'Developer','2024-10-26'),
                      ('Mahima','Bangalore',60000,'Service','2024-07-02')

--Aggregate Functions
select min(salary) as 'MinimumSalary' from employee

select max(salary) as 'MaximumSalary' from employee

select avg(salary) as 'AverageSalary' from employee

select sum(salary) as 'TotalSalary' from employee

select count(*) as 'No:ofEmployees' from employee

select Dept,count(*) as 'No:ofEmployees' from employee group by Dept
having count(*)>1

select Dept,sum(salary) as 'TotalSalaryDeptwise' from employee group by dept

select Dept,count(*) as 'No:ofEmployees' from employee
group by Dept
having count(*)>1

--Grouping sets - multiple grouping combinations in one query
select
   grouping(Dept) grouping_dept,
   grouping(city) grouping_city,
   Dept,
   city,
   count(*) as 'EmployeeCount'
from
   Employee
group by
   grouping sets(
   (dept,city),
       (dept),
          (city),
          ()
   )
--employee per dept, total per dept, grandtotal
select dept,city,count(*) from employee group by rollup(dept,city)

--All Possible Combinations
select dept,city,count(*) from employee group by cube(dept,city)
```

```sql
create table Customer(custid int primary key identity(101,1),custname varchar(35) not
null,custage int check (custage>18),custloc varchar(25) default 'Chennai')

create table Orders(orderid int primary key identity(1001,1),
                    cid int foreign key references Customer(custid),
                                orderdate date not null,
                                totamount decimal(10,2) not null);

select * from Customer
select * from Orders

select c.custid,c.custname,o.totamount from customer c
right join orders o on c.custid = o.cid

--Total Amount Spent Per Customer (with Customers Table)
select c.custid,c.custname, sum(o.totamount)
from customer c
join orders o
on c.custid = o.cid
group by c.custid,c.custname

--Ranking function
select * from Employee order by salary asc
select *,rank() over(order by salary desc) from employee

select *,dense_rank() over(order by salary desc) from employee

--Ranking based on department
select *,rank() over(partition by dept order by salary desc) from employee

--With statement
with topsalary as (
   select *,dense_rank() over(order by salary desc) as salaryrank from employee
)
select * from topsalary where salaryrank=3

with yearjoined as (
select * from employee where year(joiningdate) = 2024
)
select Empname from yearjoined

with experiencedemp as (
select *,datediff(year, joiningdate, getdate()) as experience from employee where
datediff(year, joiningdate, getdate()) > 2
)
select Empname,experience from experiencedemp

--Pivoting and Unpivoting
--Pivot – rows into columns
select * from employee

SELECT EmpName, Developer, HR
FROM (
    SELECT EmpName, Dept, Salary
    FROM Employee
) AS SourceTable
PIVOT (
    SUM(Salary) FOR Dept IN ([Developer], [HR])
) AS PivotRes;
```

```sql
--unpivot – reverse of pivot -those rows converted to columns will be replaced to its original

SELECT EmpName, Dept, Salary
    FROM (
SELECT EmpName, Developer, HR
FROM (
    SELECT EmpName, Dept, Salary
    FROM Employee
) AS SourceTable
PIVOT (
    SUM(Salary) FOR Dept IN ([Developer], [HR])
) AS PivotRes
) As Pivottable
Unpivot (Salary FOR Dept IN ([Developer], [HR])
) as unpivotedtable
```