# ~ SQL ~

Table 1 Query:

Create Table EmployeeDemographics

(EmployeeID int,

FirstName varchar(50),

LastName varchar(50),

Age int,

Gender varchar(50)

)

Table 1 Insert:

Insert into EmployeeDemographics VALUES

(1001, 'Jim', 'Halpert', 30, 'Male'),

(1002, 'Pam', 'Beasley', 30, 'Female'),

(1003, 'Dwight', 'Schrute', 29, 'Male'),

(1004, 'Angela', 'Martin', 31, 'Female'),

(1005, 'Toby', 'Flenderson', 32, 'Male'),

(1006, 'Michael', 'Scott', 35, 'Male'),

(1007, 'Meredith', 'Palmer', 32, 'Female'),

(1008, 'Stanley', 'Hudson', 38, 'Male'),

(1009, 'Kevin', 'Malone', 31, 'Male')

Table 2 Query:

Create Table EmployeeSalary

(EmployeeID int,

JobTitle varchar(50),

Salary int

)

Table 2 Insert:

Insert Into EmployeeSalary VALUES

(1001, 'Salesman', 45000),

(1002, 'Receptionist', 36000),

(1003, 'Salesman', 63000),

(1004, 'Accountant', 47000),

(1005, 'HR', 50000),

(1006, 'Regional Manager', 65000),

(1007, 'Supplier Relations', 41000),

(1008, 'Salesman', 48000),

## (1009, 'Accountant', 42000)

## partition by

SELECT FirstName, LastName, Gender,

count(FirstName) over (partition by gender) as TotalGender

FROM [SQL Tutorial].dbo.EmployeeDemographics as demo

JOIN [SQL Tutorial].dbo.EmployeeSalary as sal

ON demo.EmployeeID = sal.EmployeeID

## CTE (Common Table Expression)

Bir yere kaydetmiyor. Cte yerine herhangi bir şey yazabilirsin. With ten hemen sonra kullanman lazım.

with cte\_employee as

(

~~SELECT FirstName, LastName, Gender,~~

~~count(FirstName) over (partition by gender) as TotalGender~~

~~FROM [SQL Tutorial].dbo.EmployeeDemographics as demo~~

~~JOIN [SQL Tutorial].dbo.EmployeeSalary as sal~~

~~ON demo.EmployeeID = sal.EmployeeID~~

)

select FirstName

from cte\_employee

## Temp Tables

# işareti farkediyor normal tablo ile.

Tablo yaratımı

Create table #temp\_employee2 (

EmployeeID int,

JobTitle varchar(100),

Salary int

)

Select \* From #temp\_employee2

Insert into #temp\_employee2 values (

'1001', 'HR', '45000'

)

sql tutorial database’indeki EmployeeSalary table’ından data çekme

Insert into #temp\_employee2

SELECT \* From SQLTutorial..EmployeeSalary

Select \* From #temp\_employee2

Aynı kodu baştan create kodlarını silmeden çalıştırmaya yarıyor.

DROP TABLE IF EXISTS #temp\_employee3

Create table #temp\_employee3 (

JobTitle varchar(100),

EmployeesPerJob int ,

AvgAge int,

AvgSalary int

)

Select’ten sonra yazanlar hangi sütunların olacağı. Burada yazanları yaratılan tablodaki başlıklara sırasıyla atıyor. Eğer AVG(salary)i age’den önce yazsaydık bunu AvgAge başlığına atayacaktı.

Insert into #temp\_employee3

SELECT JobTitle, Count(JobTitle), Avg(Age), AVG(salary)

FROM SQLTutorial..EmployeeDemographics emp

JOIN SQLTutorial..EmployeeSalary sal

ON emp.EmployeeID = sal.EmployeeID

group by JobTitle

Select \*

From #temp\_employee3

SELECT AvgAge \* AvgSalary

from #temp\_employee3

## String Functions + Use Cases

--Drop Table EmployeeErrors;

CREATE TABLE EmployeeErrors (

EmployeeID varchar(50)

,FirstName varchar(50)

,LastName varchar(50)

)

Insert into EmployeeErrors Values

('1001 ', 'Jimbo', 'Halbert')

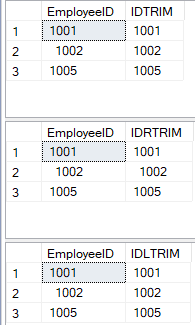
,(' 1002', 'Pamela', 'Beasely')

,('1005', 'TOby', 'Flenderson - Fired')

Select \*

From EmployeeErrors

-- Using Trim, LTRIM, RTRIM



Select EmployeeID, TRIM(employeeID) AS IDTRIM

FROM EmployeeErrors

Select EmployeeID, RTRIM(employeeID) as IDRTRIM

FROM EmployeeErrors

Select EmployeeID, LTRIM(employeeID) as IDLTRIM

FROM EmployeeErrors

-- Using Replace



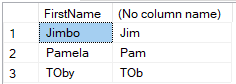
Select LastName, REPLACE(LastName, '- Fired', '') as LastNameFixed

FROM EmployeeErrors

-- Using Substring

Select’in yanında yazanlar hangi sütunların hangi başlıkla gösterileceğini gösteriyor.

On’la yazılanlar tablolar arasında hangi koşulla birleştirme yapılacağını gösteriyor.



Select FirstName, SUBSTRING(FirstName,1,3)

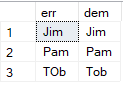
From EmployeeErrors

Select Substring(err.FirstName,1,3) as err, Substring(dem.FirstName,1,3) as dem

FROM EmployeeErrors err

JOIN EmployeeDemographics dem

on err.FirstName = dem.FirstName

Select Substring(err.FirstName,1,3) as err, Substring(dem.FirstName,1,3) as dem

FROM EmployeeErrors err

JOIN EmployeeDemographics dem

on Substring(err.FirstName,1,3) = Substring(dem.FirstName,1,3)

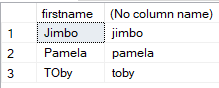
Select err.FirstName, dem.FirstName

FROM EmployeeErrors err

JOIN EmployeeDemographics dem

on err.FirstName = dem.FirstName

-- Using UPPER and lower



Select firstname, LOWER(firstname)

from EmployeeErrors

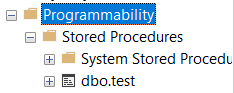
Select Firstname, UPPER(FirstName)

from EmployeeErrors

## Stored Procedures + Use Cases

Genel uyarı: sol üstte doğru database seçildiğinden emin ol error almamak için. Örn. Master yerine SQLTutorial

create procedure test

as

select \* from EmployeeDemographics

exec test

CREATE PROCEDURE Temp\_Employee

AS

Mevcutu düzenlemek için ALTER PROCEDURE

DROP TABLE IF EXISTS #temp\_employee

Create table #temp\_employee (

JobTitle varchar(100),

EmployeesPerJob int ,

AvgAge int,

AvgSalary int

)

Insert into #temp\_employee

SELECT JobTitle, Count(JobTitle), Avg(Age), AVG(salary)

FROM SQLTutorial..EmployeeDemographics emp

JOIN SQLTutorial..EmployeeSalary sal

ON emp.EmployeeID = sal.EmployeeID

group by JobTitle

Select \*

From #temp\_employee

GO;

exec Temp\_Employee2 @JobTitle = 'Salesman'

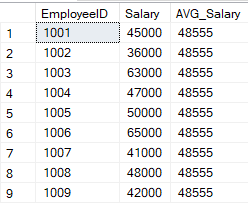
exec Temp\_Employee2 @jobtitle = 'Accountant'

## Subqueries



Select AVG(Salary) from EmployeeSalary

-- Subquery in Select



Select EmployeeID, Salary, (Select AVG(Salary) From EmployeeSalary) as AllAvgSalary

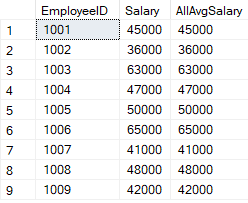
From EmployeeSalary

Iki kod da aynı sonucu veriyor

-- How to do it with Partition By

Select EmployeeID, Salary, AVG(Salary) over () as AllAvgSalary

From EmployeeSalary



-- Why Group By doesn't work

Group by ile tek sütunu all average yapamıyoruz.

Select EmployeeID, Salary, AVG(Salary) as AllAvgSalary

From EmployeeSalary

Group By EmployeeID, Salary

order by EmployeeID

-- Subquery in From

Select a.EmployeeID, AllAvgSalary

From

(Select EmployeeID, Salary, AVG(Salary) over () as AllAvgSalary

From EmployeeSalary) a

Order by a.EmployeeID

-- Subquery in Where

Select EmployeeID, JobTitle, Salary

From EmployeeSalary

where EmployeeID in (

Select EmployeeID

From EmployeeDemographics

where Age > 30)

## Portfolio Project

Select \*

From PortfolioProject..CovidDeaths

Where continent is not null

order by 3,4

-- Select Data that we are going to be starting with

Select Location, date, total\_cases, new\_cases, total\_deaths, population

From PortfolioProject..CovidDeaths

Where continent is not null

order by 1,2

-- Total Cases vs Total Deaths

-- Shows likelihood of dying if you contract covid in your country

Select Location, date, total\_cases,total\_deaths, (total\_deaths/total\_cases)\*100 as DeathPercentage

From PortfolioProject..CovidDeaths

Where location like '%states%'

and continent is not null

order by 1,2

-- Total Cases vs Population

-- Shows what percentage of population infected with Covid

Select Location, date, Population, total\_cases, (total\_cases/population)\*100 as PercentPopulationInfected

From PortfolioProject..CovidDeaths

--Where location like '%states%'

order by 1,2

-- Countries with Highest Infection Rate compared to Population

Select Location, Population, MAX(total\_cases) as HighestInfectionCount, Max((total\_cases/population))\*100 as PercentPopulationInfected

From PortfolioProject..CovidDeaths

--Where location like '%states%'

Group by Location, Population

order by PercentPopulationInfected desc

-- Countries with Highest Death Count per Population

Select Location, MAX(cast(Total\_deaths as int)) as TotalDeathCount

From PortfolioProject..CovidDeaths

--Where location like '%states%'

Where continent is not null

Group by Location

order by TotalDeathCount desc

-- BREAKING THINGS DOWN BY CONTINENT

-- Showing contintents with the highest death count per population

Select continent, MAX(cast(Total\_deaths as int)) as TotalDeathCount

From PortfolioProject..CovidDeaths

--Where location like '%states%'

Where continent is not null

Group by continent

order by TotalDeathCount desc

-- GLOBAL NUMBERS

Select SUM(new\_cases) as total\_cases, SUM(cast(new\_deaths as int)) as total\_deaths, SUM(cast(new\_deaths as int))/SUM(New\_Cases)\*100 as DeathPercentage

From PortfolioProject..CovidDeaths

--Where location like '%states%'

where continent is not null

--Group By date

order by 1,2

-- Total Population vs Vaccinations

-- Shows Percentage of Population that has recieved at least one Covid Vaccine

Select dea.continent, dea.location, dea.date, dea.population, vac.new\_vaccinations

, SUM(CONVERT(int,vac.new\_vaccinations)) OVER (Partition by dea.Location Order by dea.location, dea.Date) as RollingPeopleVaccinated

--, (RollingPeopleVaccinated/population)\*100

From PortfolioProject..CovidDeaths dea

Join PortfolioProject..CovidVaccinations vac

On dea.location = vac.location

and dea.date = vac.date

where dea.continent is not null

order by 2,3

-- Using CTE to perform Calculation on Partition By in previous query

With PopvsVac (Continent, Location, Date, Population, New\_Vaccinations, RollingPeopleVaccinated)

as

(

Select dea.continent, dea.location, dea.date, dea.population, vac.new\_vaccinations

, SUM(CONVERT(int,vac.new\_vaccinations)) OVER (Partition by dea.Location Order by dea.location, dea.Date) as RollingPeopleVaccinated

--, (RollingPeopleVaccinated/population)\*100

From PortfolioProject..CovidDeaths dea

Join PortfolioProject..CovidVaccinations vac

On dea.location = vac.location

and dea.date = vac.date

where dea.continent is not null

--order by 2,3

)

Select \*, (RollingPeopleVaccinated/Population)\*100

From PopvsVac

-- Using Temp Table to perform Calculation on Partition By in previous query

DROP Table if exists #PercentPopulationVaccinated

Create Table #PercentPopulationVaccinated

(

Continent nvarchar(255),

Location nvarchar(255),

Date datetime,

Population numeric,

New\_vaccinations numeric,

RollingPeopleVaccinated numeric

)

Insert into #PercentPopulationVaccinated

Select dea.continent, dea.location, dea.date, dea.population, vac.new\_vaccinations

, SUM(CONVERT(int,vac.new\_vaccinations)) OVER (Partition by dea.Location Order by dea.location, dea.Date) as RollingPeopleVaccinated

--, (RollingPeopleVaccinated/population)\*100

From PortfolioProject..CovidDeaths dea

Join PortfolioProject..CovidVaccinations vac

On dea.location = vac.location

and dea.date = vac.date

--where dea.continent is not null

--order by 2,3

Select \*, (RollingPeopleVaccinated/Population)\*100

From #PercentPopulationVaccinated

-- Creating View to store data for later visualizations

Create View PercentPopulationVaccinated as

Select dea.continent, dea.location, dea.date, dea.population, vac.new\_vaccinations

, SUM(CONVERT(int,vac.new\_vaccinations)) OVER (Partition by dea.Location Order by dea.location, dea.Date) as RollingPeopleVaccinated

--, (RollingPeopleVaccinated/population)\*100

From PortfolioProject..CovidDeaths dea

Join PortfolioProject..CovidVaccinations vac

On dea.location = vac.location

and dea.date = vac.date

where dea.continent is not null