DATABASE CONCEPTS

1. Example for Foreign Key

CREATE TABLE Persons  
(  
P\_Id int NOT NULL,  
LastName varchar(255) NOT NULL,  
FirstName varchar(255),  
PRIMARY KEY(P\_Id)  
)

CREATE TABLE Orders  
(  
O\_Id int NOT NULL PRIMARY KEY,  
OrderNo int NOT NULL,  
P\_Id int PRIMARY KEY REFERENCES Persons(P\_Id)  
)

1. Example for Group by

SELECT s.ShipperName,COUNT(o.OrderID) AS OrderCount FROM Orders o LEFT JOIN Shippers s ON o.ShipperID = s.ShipperID GROUP BY ShipperName;

1. Example for Having

SELECT e.LastName, COUNT(o.OrderID) AS OrderCount FROM (Orders o INNER JOIN Employees e ON o.EmployeeID=e.EmployeeID) GROUP BY LastName HAVING COUNT(o.OrderID) > 10;

1. Example for Inner Join

SELECT c.CustomerName, o.OrderID FROM Customers c INNER JOIN Orders o ON c.CustomerID=o.CustomerID ORDER BY c.CustomerName;

1. Example for Left Outer

SELECT c.CustomerName, o.OrderID FROM Customers c LEFT JOIN Orders o ON c.CustomerID=o.CustomerID ORDER BY c.CustomerName;

1. Example for Max, Sum, Avg

SELECT MAX(Price) AS HighestPrice FROM Products;

SELECT SUM(Quantity) AS TotalItemsOrdered FROM OrderDetails;

SELECT AVG(Price) AS PriceAverage FROM Products;

1. Example for Primary Key

CREATE TABLE Persons  
(  
P\_Id int NOT NULL,  
LastName varchar(255) NOT NULL,  
FirstName varchar(255),  
PRIMARY KEY (P\_Id)  
)

1. Example for Right outer

SELECT o.OrderID,e.FirstName FROM Orders o RIGHT JOIN Employees e ON o.EmployeeID=e.EmployeeID ORDER BY o.OrderID;

1. Example for where condition

SELECT \* FROM Customers WHERE Country LIKE 's%';

1. Finding second highest salary from row table

SELECT MAX (Salary) as 'Salary' from Employees where Salary NOT IN (SELECT TOP 1 (Salary) from Employees ORDER BY Salary Desc);

1. What is Column

Column is a set of data values of a particular simple type, one for each row of the table. The columns provide the structure according to which the rows are composed.

1. What is Database

A database is an organized collection of data. It is the collection of schemas, tables, queries, reports, views, and other objects.

1. What is Row

In the context of a relational database, a row also called a record or tuple which represents a single, implicitly structured data item in a table.

1. What is Table

Database table can be thought of as consisting of rows and columns or fields.