



DML Exercises



Coding Guideline – SQL

- Each clause in a statement should begin on a new line
- The beginning of each clause should line up with the beginning of other clauses.
- If a clause has several parts
 - They should appear on separate lines and
 - Indented under the start of the clause to show the relationship
- Upper case letters are used to represent reserved words.
- Lower case letters are used to represent user-defined words except when used as a 1st character
- Always use **TABs** for alignment



Coding Guideline – SQL (cont.)

■ Example

```
SELECT FName, LName  
FROM Employee  
WHERE Salary >= 2000
```

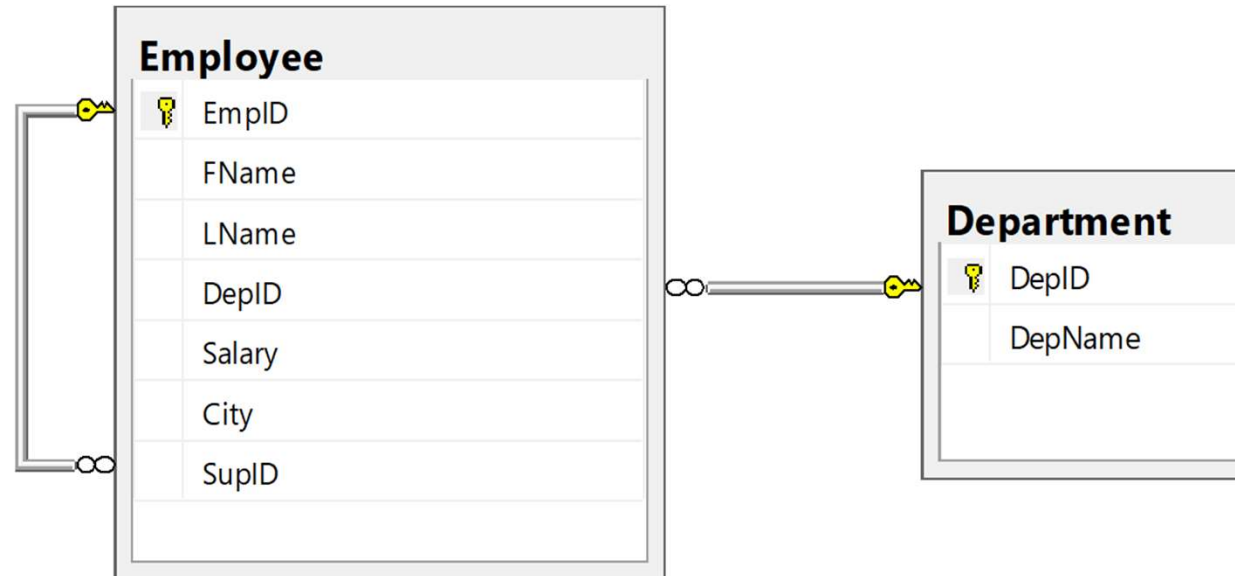
■ Example

```
SELECT E.FName + ' ' + E.LName AS 'Employee Name'  
      , S.FName + ' ' + S.LName AS Supervisor  
FROM Employee E JOIN Employee S  
      ON E.SupID = S.EmpID
```

■ Example

```
SELECT O.OrderNumber, P.ProductName, I.Quantity, I.UnitPrice  
FROM [Order] O  
      JOIN OrderItem I ON O.Id = I.OrderId  
      JOIN Product P ON P.Id = I.ProductId  
ORDER BY O.OrderNumber
```

Exercise



1. Get all city names
2. Get employees and their departments
3. Get list of employees with their supervisors
4. Get the list of employees along with their department names and Supervisor names
5. Get employees ordered by city and salary
6. Get the names of the departments where there are no employees
7. Get total salary for each department
8. Get all cities and total salary paid for the employees in the city



Question on Select – #4

- Get the list of employees along with their department names and Supervisor names

```
SELECT      E.FName + ' ' + E.LName AS 'Employee Name'  
            , S.FName + ' ' + S.LName AS Supervisor  
            , D.DepName AS Department  
FROM        Employee E  
            JOIN Employee S ON E.SupID = S.EmplID  
            JOIN Department D ON E.DeplD = D.DeplD  
ORDER BY    Supervisor
```



Question on Select – #5

- Get employees ordered by city and salary

```
SELECT      E.EmpID, E.FName, E.LName, E.Salary, E.City  
FROM        Employee E  
ORDER BY    E.FName, E.LName
```



Question on Select – #6

- Get the names of the departments where there are no employees

```
SELECT      D.DepName AS Department
FROM        Department D LEFT JOIN Employee E
           ON D.DepID = E.DepID
WHERE       E.EmpID IS NULL
```



Questions

- Use the descriptions bellow for the questions that follow:

Employee(EmpID, FName, LName, DepID, Salary, SupID, City)

DepID References Department(DepID)

SupID References Employee(EmpID)

Department(DepID, DepName, City)

1. Give a 10% raise for all employees
2. Give a 10% raise for all employees if the total salary for their department is not more than 100,000.00
3. Get the employees that are NOT living and working in the same city
4. Get all the departments located in Cities X and Y
5. Find the Minimum, Average and Maximum salaries for each department



Questions

- Explain the difference between the following two queries

```
SELECT    FirstName
FROM      Person
WHERE     LastName LIKE 'Ja%es'
```

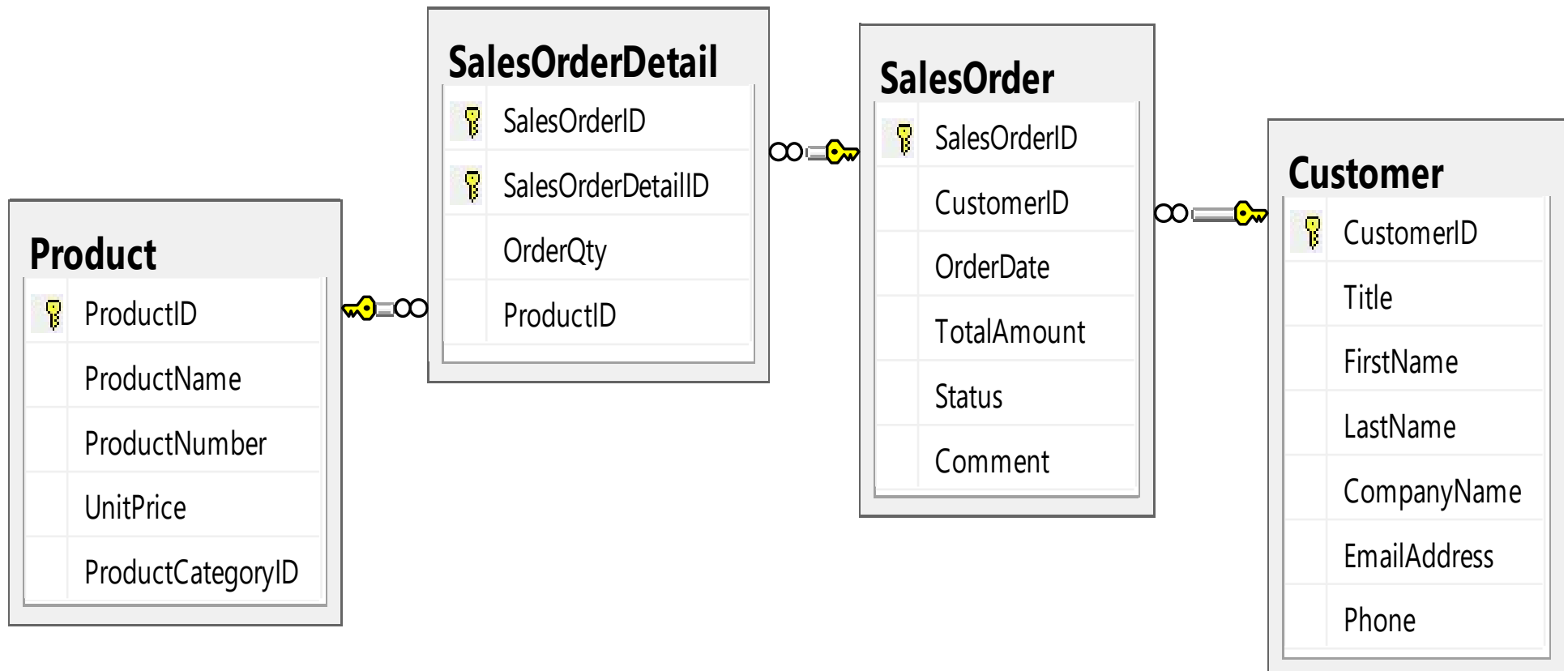
```
SELECT    FirstName
FROM      Person
WHERE     LastName LIKE 'Ja_es'
```



Questions on AdvWorks DB

1. Get the products purchased by a customer
2. Get the details for an Order
3. List of products that have never been ordered
4. Total Amount for each order
5. Number of order details (products) for each order

AdvWorks Database





CS341 – Course Project

1. Create a group of 4 students
 - a) Each student needs to participate in the work and presentation
 - b) Group leader will report the percentage of work/participation by each group members
2. Presentation needs to include at least the following:
 - a) The description of the business and problem that will be solved
 - b) The requirements of the application to be developed
 - c) The database design
 - d) Database implementation
 - i. Table specification
 - ii. Sample data
 - iii. Sample queries

Group members to be submitted NEXT Class

Presentation starts on Thursday 29 Aug 2019

Project assessment will be 15% of your final grade