

Database Systems

SQL: Data Manipulation (DML) Examples

Orders Database Schema

- ◆ **Customer** (CustNo, CustFirstName, CustLastName, CustStreet, CustCity, CustState, CustZip, CustBal)
- ◆ **Employee** (EmpNo, EmpFirstName, EmpLastName, EmpPhone, EmpEmail, SupEmpNo, EmpCommRate)
- ◆ **Product** (ProdNo, ProdName, ProdMfg, ProdQOH, ProdPrice, ProdNextShipDate)
- ◆ **OrderTbl** (OrdNo, OrdDate, CustNo, EmpNo, ShpName, ShpStreet, ShpCity, ShpState, ShpZip)
- ◆ **OrdProd** (OrdNo, ProdNo, Qty)

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Orders Database Schema

Customer (CustNo, CustFirstName, CustLastName, CustStreet, CustCity, CustState, CustZip, CustBal)
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OrdProd (OrdNo, ProdNo, Qty)

- ◆ For all the products sold by the company, how many items are there, and how many are NOT ordered by 'BC' customers?
- ◆ How many 'BC' customers had ordered 'Color Monitor' and 'Ink Jet' printers, but not any 'Laser' printers?
- ◆ Of all the orders by 'BC' customers, how many are handled by an employee and how many are internet orders by customers?
- ◆ What is the average number of different products per order for all 'BC' customer orders?
- ◆ What is the most popular product for 'BC' customer?

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Examples

◆ For all the products sold by the company, how many items are there, and how many are NOT ordered by 'BC' customers?

- ◆ **Customer** (CustNo, CustFirstName, CustLastName, CustStreet, CustCity, CustState, CustZip, CustBal)
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Examples

◆ How many 'BC' customers had ordered 'Color Monitor' and 'Ink Jet' printers, but not any 'Laser' printers?

- ◆ **Customer** (CustNo, CustFirstName, CustLastName, CustStreet, CustCity, CustState, CustZip, CustBal)
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- ◆ **OrdProd** (OrdNo, ProdNo, Qty)

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Examples

◆ Of all the orders by 'BC' customers, how many are handled by an employee and how many are internet orders by customers?

- ◆ **Customer** (CustNo, CustFirstName, CustLastName, CustStreet, CustCity, CustState, CustZip, CustBal)
- ◆ **Employee** (EmpNo, EmpFirstName, EmpLastName, EmpPhone, EmpEmail, SupEmpNo, EmpCommRate)
- ◆ **Product** (ProdNo, ProdName, ProdMfg, ProdQOH, ProdPrice, ProdNextShipDate)
- ◆ **OrderTbl** (OrdNo, OrdDate, CustNo, EmpNo, ShpName, ShpStreet, ShpCity, ShpState, ShpZip)
- ◆ **OrdProd** (OrdNo, ProdNo, Qty)

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Examples

◆ What is the average number of different products per order for all 'BC' customer orders?

- ◆ **Customer** (CustNo, CustFirstName, CustLastName, CustStreet, CustCity, CustState, CustZip, CustBal)
- ◆ **Employee** (EmpNo, EmpFirstName, EmpLastName, EmpPhone, EmpEmail, SupEmpNo, EmpCommRate)
- ◆ **Product** (ProdNo, ProdName, ProdMfg, ProdQOH, ProdPrice, ProdNextShipDate)
- ◆ **OrderTbl** (OrdNo, OrdDate, CustNo, EmpNo, ShpName, ShpStreet, ShpCity, ShpState, ShpZip)
- ◆ **OrdProd** (OrdNo, ProdNo, Qty)

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Examples

◆ What is the average number of product item quantity per order for all 'BC' customer orders?

- ◆ **Customer** (CustNo, CustFirstName, CustLastName, CustStreet, CustCity, CustState, CustZip, CustBal)
- ◆ **Employee** (EmpNo, EmpFirstName, EmpLastName, EmpPhone, EmpEmail, SupEmpNo, EmpCommRate)
- ◆ **Product** (ProdNo, ProdName, ProdMfg, ProdQOH, ProdPrice, ProdNextShipDate)
- ◆ **OrderTbl** (OrdNo, OrdDate, CustNo, EmpNo, ShpName, ShpStreet, ShpCity, ShpState, ShpZip)
- ◆ **OrdProd** (OrdNo, ProdNo, Qty)

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Examples

◆ What is the most popular product for 'BC' customer?

- ◆ **Customer** (CustNo, CustFirstName, CustLastName, CustStreet, CustCity, CustState, CustZip, CustBal)
- ◆ **Employee** (EmpNo, EmpFirstName, EmpLastName, EmpPhone, EmpEmail, SupEmpNo, EmpCommRate)
- ◆ **Product** (ProdNo, ProdName, ProdMfg, ProdQOH, ProdPrice, ProdNextShipDate)
- ◆ **OrderTbl** (OrdNo, OrdDate, CustNo, EmpNo, ShpName, ShpStreet, ShpCity, ShpState, ShpZip)
- ◆ **OrdProd** (OrdNo, ProdNo, Qty)

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Examples

◆ Which products are ordered by all 'BC' customer?

- ◆ **Customer** (CustNo, CustFirstName, CustLastName, CustStreet, CustCity, CustState, CustZip, CustBal)
- ◆ **Employee** (EmpNo, EmpFirstName, EmpLastName, EmpPhone, EmpEmail, SupEmpNo, EmpCommRate)
- ◆ **Product** (ProdNo, ProdName, ProdMfg, ProdQOH, ProdPrice, ProdNextShipDate)
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WITH Clause

```
◆ WITH mysub AS
  ( subquery
  )      -- multiples allowed
SELECT ...
FROM mysub m ...
WHERE ...
GROUP BY ...
HAVING ...
ORDER BY ...
;
```

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