Assignment 2.5

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1. [SQL Week 2 Question 200-501] For every shipment in the shipment table, you want to know its shipment details, the customer information, and the employee information.
   1. Include exactly and only all the records for which a shipment ID exists.
   2. Sort it ascending by Scantag.
   3. Your output should look a little like this. Note the “shipment information” will be in the form of several distinct columns. (Hint: look up the “ Select \* ” command to select several columns at once.)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| idShipment | (Shipment information, such as Quantity, Scantag, etc.) | idCustomer | (Customer information) | idEmployee | (Employee information) |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Code:

use warehouse;

show tables;

select \* from shipment, customer, employee

order by Scantag ASC;

Table

Description automatically generated

1. [SQL Week 2 Question 200-502] You want to make a report which will give you information about shipments sent by your lower-commission employees. Create a query which will
   1. Include only all those shipments which were sent by an employee whose commission is 10% or less (include commissions of exactly 10%)
   2. Print the state, company name, total quantity in the shipments for that customer, and the maximum employee commission in that order left to right.
   3. Sort it alphabetically by state (ascending). If one state has several companies in it, they should be sorted within the state, with the highest total order quantity on top.

Your data may or may not match the example below.

For example, if your input data looks like this

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Shipment | Customer Company Name | Customer State | Quantity | Employee | Employee Commission |
| 1 | ABC | MN | 1 | Sarah | 0.05 |
| 2 | ABC | MN | 2 | Thomas | 0.10 |
| 3 | Junior | MN | 5 | Sarah | 0.05 |
| 4 | DEF | GA | 1 | Thomas | 0.10 |
| 5 | DEF | GA | 1 | Victor | 0.11 |
| 6 | G | MD | 10 | Wally | 0.01 |
| 7 | H | MD | 20 | Xerxes | 0.09 |

Your answer would look like this:

|  |  |  |  |
| --- | --- | --- | --- |
| State | Customer CompanyName | Total Quantity shipped to this customer | Maximum Employee Commission in these shipments |
| GA | DEF | 1 | 0.10 |
| MD | H | 20 | 0.09 |
| MD | G | 10 | 0.01 |
| MN | Junior | 5 | 0.05 |
| MN | ABC | 3 | 0.10 |

Code:

select State, companyname, quantity, commission

from shipment, customer, employee

where commission <= 10

Graphical user interface, text, email

Description automatically generated

1. [SQL Week 2 Question 200-503] You suspect certain employees are not servicing very many shipments, and some may not have any shipments at all.

Create SQL to run a report which will

* 1. List all your employees and the customers they serviced along with the number of shipments for each customer. Include all employees, including those who may not have serviced any customers.
  2. Note you want the number of shipments, not the sum of shipment quantity. For example, if you have one shipment of 10 units, and another shipment of 20 units, our number of shipments here is 2.
  3. Sort the list ascending on number of shipments (so the smallest numbers of shipments are at the top), and then on employee id. If an employee has not serviced any customers, display that employee at the very top.

Code:

SELECT shipment.idShipment, employee.idEmployee, Customer.idcustomer, Shipment.quantity

FROM ((Shipment

INNER JOIN employee ON shipment.Employee\_idEmployee = employee.idEmployee)

INNER JOIN customer ON shipment.Customer\_idCustomer = customer.idCustomer)

order by quantity ASC;

Text, table

Description automatically generated

For the Question 4, you may want to review the SQL Aliases functionality (“select X from Y as Z”). There is a section in WWW3 SQL schools on this.

You also may find the following syntax helpful. If we have a table named “table” with columns A and B in it, “select table.RecordID, table.A, table.B, (table.A + table.B) as Answer from table;” will give you the following. The (table.A + table.B) performs the addition for each row, and the “as Answer” uses aliasing to give your output an easy to read name.

|  |  |  |  |
| --- | --- | --- | --- |
| RecordID | A | B | Answer |
| 1 | 3 | 6 | 9 |
| 2 | 4 | 0 | 4 |
| 3 | 1 | 2 | 3 |

1. [SQL Week 2 Question 200-504] You want to compute the order total for your shipments. For all of your shipments, put together a report which contains the following columns.
   1. Sort it ascending on idShipment
   2. Create a new field in the output result called OrderTotal, which is the price per unit multiplied by the order quantity. You will need to calculate this field in SQL.
   3. Your output will look a little bit like the following. Your numbers may vary from this example.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| idShipment | Company Name | Manufacturer | Product Name | Scantag | Price Per Unit | Quantity | Order Total |
| 1 | ABC | General Motors | Vida | XCH-109 | 4.00 | 3 | 12.00 |
| 2 | ABC | General Motors | Nova | DAC-102 | 1.50 | 3 | 4.50 |
| 3 | DEF | Midland Motors | Extra | PIC-693 | 10.00 | 1 | 10.00 |

Code:

select shipment.idShipment, customer.companyname, product.manufacturer, product.productname,

shipment.scantag, product.priceperunit, shipment.Quantity, (product.priceperunit \* shipment.Quantity)

as Ordertotal

from shipment

INNER JOIN customer ON customer.idCustomer = shipment.customer\_idCustomer

INNER JOIN product ON product.idProduct = shipment.product\_idProduct

order by shipment.idShipment ASC

Text

Description automatically generated with medium confidence

1. [SQL Week 2 Question 200-505] You want to report on a certain group of your products. Select
   1. Only customers who have a balance of 0
   2. Only shipments which were sent by employees whose employee location is California, Maryland, or New York
   3. Only products which have had a shipment
   4. Only employees who have made a shipment
   5. Only customers who have received a shipment
   6. Compute the total quantity of shipments which meet these criteria. Here we want the number of items shipped. If you have one shipment of 10 items, and another shipment of 20 items, this number should be 30.
   7. Aggregate it by manufacturer and by product name. This means each manufacturer/product name combination appears on only one row in the table. If a manufacturer makes more than one product, it’s OK if it shows up once per product.
   8. Sort it descending by the sum of the shipment quantity, so the largest shipment quantity shows up on top. Within shipment quantities, sort it alphabetically on manufacturer and then product name.

Your results should look a little bit like this. Your data may or may not match this example.

Input example:

|  |  |  |  |
| --- | --- | --- | --- |
| Shipment ID | Manufacturer | Product Name | Shipment |
| 1 | Alpha Mfg | Gamma Zap | 5 |
| 2 | Alpha Mfg | Gamma Zap | 5 |
| 3 | Alpha Mfg | Gamma Zap | 5 |
| 4 | Beta Mfg | Gamma Zap | 10 |
| 5 | Alpha Mfg | Delta Cross | 6 |
| 6 | Alpha Mfg | Delta Cross | 1 |
| 7 | Alpha Mfg | Epsilon Ray | 8 |
| 8 | Beta Mfg | Frank Zappa | 10 |

Output example:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Manufacturer | Product Name | Total Shipment Quantity |
|  | Alpha Mfg | Gamma Zap | 15 |
|  | Beta Mfg | Frank Zappa | 10 |
|  | Alpha Mfg | Epsilon Ray | 8 |
|  | Alpha Mfg | Delta Cross | 7 |

Code: select manufacturer, productname, quantity from shipment, product

order by quantity ASC;

Graphical user interface, text, application, email

Description automatically generated

1. [SQL Week 2 Question 200-506] Last one! You want to know how many times products were shipped to customers. Note you want the total number of shipments, not the number of items shipped – one shipment of 10 items and one shipment of 20 items would be two shipments, not 30 items.
   1. Include all products, even if they had no shipments. In this case, their count would be 0.
   2. Include the manufacturer and the product name
   3. Include the customer company name
   4. Sort it so the smallest count of shipments is on top. After that, sort ascending by Manufacturer name and then product name.

Your output might look a little bit like this (of course, your data may vary):

|  |  |  |  |
| --- | --- | --- | --- |
| Manufacturer | Product Name | Company Name | How many shipments? |
| Bee Gee Mfg | Walla Walla | Marysville Imports | 5 |
| Bee Gee Mfg | Walla Walla | Nancysville Exports | 8 |
| Gee Whiz Mfg | Cheez Whiz | Marysville Imports | 8 |
| Gee Whiz Mfg | Special Cheese | Xerxes Retail | 10 |

Here is a screenshot of some correct output (from somewhere in the middle of the file) to help you verify your SQL:



Code: select manufacturer, productname, companyname, quantity from shipment, product, customer

order by quantity, Manufacturer, ProductName ASC

Graphical user interface, text, application, email

Description automatically generated