**Oracle Group Functions syntax**

Here you will see severl Examples of using GROUP FUNCTIONS with Oracle server, also some INNER and OUTER JOIN examples with Group Functions. Explore these primers and try to get ready for our Assignment1.

1. For each customer with the Id less than 40 and who placed less than 3 orders, display its Customer\_Id and How Many orders have been placed so far. Do not show customers who never placed an order.

SELECT **customer\_id**, COUNT(\*) "# Of Orders"

FROM orders

WHERE customer\_id < 40

GROUP BY **customer\_id**

HAVING COUNT(\*) < 3

ORDER BY 1

|  |  |
| --- | --- |
|  |  |
| |  |  | | --- | --- | | **CUSTOMER\_ID** | **# Of Orders** | | 18 | 2 | | 19 | 1 | | 20 | 1 | | 21 | 1 | | 22 | 1 | | 23 | 1 | |  |
|  |  |
|  |  |

1. For each customer with name starting on a vowel and who placed more than 3 orders, display its Id, Name and How Many orders have been placed so far.

SELECT **customer\_id, name,** COUNT(\*) "# Of Orders"

FROM orders JOIN customers

USING (customer\_id)

WHERE SUBSTR(name,1,1) IN ('A','E','I','O','U')

GROUP BY **customer\_id, name**

HAVING COUNT(\*) > 3

ORDER BY 1

|  |  |  |
| --- | --- | --- |
| **CUSTOMER\_ID** | **NAME** | **# Of Orders** |
| 3 | US Foods Holding | 4 |
| 4 | AbbVie | 4 |
| 7 | Alcoa | 4 |
| 8 | International Paper | 4 |
| 9 | Emerson Electric | 4 |
| 16 | Aflac | 4 |
| 17 | AutoNation | 4 |

1. VARIATION of Q2 For each customer with name starting on a vowel and who placed more than 3 orders, display its Id, Name and How Many orders have been placed so far.

Display also number of orders without associated customer.

SELECT customer\_id, name, COUNT(order\_id) "# Of Orders"

FROM orders LEFT OUTER JOIN customers

USING (customer\_id)

WHERE SUBSTR(name,1,1) IN ('A','E','I','O','U')

GROUP BY customer\_id, name

HAVING COUNT(order\_id) > 3

ORDER BY 1

|  |  |  |
| --- | --- | --- |
| **CUSTOMER\_ID** | **NAME** | **# Of Orders** |
| 3 | US Foods Holding | 4 |
| 4 | AbbVie | 4 |
| 7 | Alcoa | 4 |
| 8 | International Paper | 4 |
| 9 | Emerson Electric | 4 |
| 16 | Aflac | 4 |
| 17 | AutoNation | 4 |

1. VARIATION of Q2 For each customer with name starting on ‘U’ who placed more than 3 orders, display its Id, Name and How Many orders have been placed so far.

Display also all customers who never placed an order.

SELECT customer\_id, name, COUNT(order\_id) "# Of Orders"

FROM orders RIGHT OUTER JOIN customers

USING (customer\_id)

WHERE SUBSTR(name,1,1) = 'U'

GROUP BY customer\_id, name

HAVING (COUNT(order\_id) > 3 **OR COUNT(order\_id) = 0)**

ORDER BY 3 DESC, 2

|  |  |  |
| --- | --- | --- |
| **CUSTOMER\_ID** | **NAME** | **# Of Orders** |
| 3 | US Foods Holding | 4 |
| 12 | U.S. Bancorp | 0 |
| 140 | UPS | 0 |
| 217 | USAA | 0 |
| 10 | Union Pacific | 0 |
| 177 | United Continental Holdings | 0 |
| 283 | United States Steel | 0 |
| 137 | United Technologies | 0 |
| 93 | UnitedHealth Group | 0 |
| 301 | Univar | 0 |
| 154 | Universal Health Services | 0 |
| 308 | Unum Group | 0 |

1. Display Id, Name and Category Name for products which name starts on H, also Quantity, Warehose Name, City and Country Name.

Sort by Product Id ascending.

SELECT product\_id, product\_name, category\_name, quantity, warehouse\_name, city, country\_name

FROM products JOIN product\_categories USING (category\_id)

JOIN inventories USING (product\_id)

JOIN warehouses USING (warehouse\_id)

JOIN locations USING (location\_id)

JOIN countries USING (country\_id)

WHERE product\_name LIKE 'H%'

ORDER BY 1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Id** | **PRODUCT\_NAME** | **Cat Id** | **Qty** | **Wrh Name** | **CITY** | **Country** |
| 139 | Hitachi HUS724030ALE641 | Storage | 8 | Beijing | Beijing | China |
| 139 | Hitachi HUS724030ALE641 | Storage | 21 | Mexico City | Mexico City | Mexico |
| 139 | Hitachi HUS724030ALE641 | Storage | 93 | San Francisco | South San Francisco | United States of America |
| 139 | Hitachi HUS724030ALE641 | Storage | 47 | Toronto | Toronto | Canada |
| 139 | Hitachi HUS724030ALE641 | Storage | 34 | Sydney | Sydney | Australia |
| 235 | Hitachi A7K1000-1000 | Storage | 214 | San Francisco | South San Francisco | United States of America |
| 235 | Hitachi A7K1000-1000 | Storage | 137 | Mexico City | Mexico City | Mexico |
| 235 | Hitachi A7K1000-1000 | Storage | 164 | Toronto | Toronto | Canada |
| 235 | Hitachi A7K1000-1000 | Storage | 125 | Beijing | Beijing | China |
| 235 | Hitachi A7K1000-1000 | Storage | 150 | Sydney | Sydney | Australia |

1. VARIATION of Q5 Display Id, Name and Category Name for products which name starts on H, also Total Quantity in all warehouses excluding those located in Australia and China.

Sort by Product Id ascending.

SELECT product\_id "Id", product\_name "Prod Name" , category\_name "Cat Name", SUM(Quantity) "Total Qty"

FROM products JOIN product\_categories USING (category\_id)

JOIN inventories USING (product\_id)

JOIN warehouses USING (warehouse\_id)

JOIN locations USING (location\_id)

JOIN countries USING (country\_id)

WHERE product\_name LIKE 'H%'

AND country\_name NOT IN ('Australia','China')

GROUP BY product\_id, product\_name, category\_name

ORDER BY 1

|  |  |  |  |
| --- | --- | --- | --- |
| **Id** | **Prod Name** | **Cat Name** | **Total Qty** |
| 139 | Hitachi HUS724030ALE641 | Storage | 161 |
| 235 | Hitachi A7K1000-1000 | Storage | 515 |

1. VARIATION of Q6 Display Id, Name, Category Name and List Price for products which name starts on H, also Total Quantity in all warehouses in the world, but only for those product with Total Quantity less than 300. Sort by Product Id ascending.

SELECT product\_id "Id", product\_name "Prod Name" , category\_name "Cat Name", list\_price "Price" , SUM(Quantity) "Total Qty"

FROM products JOIN product\_categories USING (category\_id)

JOIN inventories USING (product\_id)

WHERE product\_name LIKE 'H%'

GROUP BY product\_id, product\_name, category\_name, list\_price

HAVING SUM(Quantity) < 300

ORDER BY 1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Id** | **Prod Name** | **Cat Name** | **Price** | **Total Qty** |
| 139 | Hitachi HUS724030ALE641 | Storage | 65.92 | 203 |