

ByteWise Data Engineering

Task 05

Question 1

Write a query to calculate the percentage contribution of each item's amount to its order's total amount, grouped by order_id.

(Topics: Partition BY)

```
SELECT items.order_id, items.item_id, items.amount,
       (items.amount / SUM(items.amount) OVER (PARTITION BY
items.order_id)) * 100 AS "% contribution"
```

FROM task4_schema.items AS items

```
LEFT JOIN task4_schema.orders AS orders ON items.order_id =
orders.order_id
```

ORDER BY items.order id, items.item id

Data Output

Messages

Notifications

+

📄

▼

📁

▼

🗑️

📄

📄

📄

SQL

	order_id uuid	item_id uuid	amount numeric	% contribution numeric
1	0077622c-f789-402f-8f27-a8ef29b92f99	caadf311-7efb-47b9-bd48-ccd40e9d628	32.05	100.0000000000000000000000
2	007c6893-fc40-44f8-a794-741ad1bfd9c7	d7c40e3c-3c7c-48d1-a657-03e72e34e8...	52.99	100.0000000000000000000000
3	00860b6c-6b06-4694-8708-f7aa4375d5...	ccc44ebb-07d3-4d71-91c6-22c52bba1c...	99.77	46.78765709998124179300
4	00860b6c-6b06-4694-8708-f7aa4375d5...	d2d2243f-1e68-4e2d-8fb9-31c8d2862416	39.54	18.54248733821046707900
5	00860b6c-6b06-4694-8708-f7aa4375d5...	ed82300c-05b2-468f-8056-5a61c89a39...	73.93	34.66985556180829112700
6	00871b7a-6c23-4916-aeff-e22ee8e27ea9	68e9bbd1-10c4-4518-8320-e7cf83dc93a	65.86	100.0000000000000000000000
7	00aa2373-5f66-4165-8ebf-7724b31402...	90563a9f-0c7b-4e55-b7aa-3f3d7231bf15	26.53	72.48633879781420765000
8	00aa2373-5f66-4165-8ebf-7724b31402...	d444883b-5b94-4107-b7e8-18dd3a6c2b...	10.07	27.51366120218579235000

Total rows: 1000 of 1000

Query complete 00:00:00.119

Question 2:

Write a query to rank orders by their total amount within each customer, ordering them from highest to lowest total amount.
(Topics: Window functions like RANK, PARTITION BY, and ORDER BY)

```
SELECT customers.customer_id,  
       orders.order_id,  
       orders.total_amount,  
       RANK() OVER (PARTITION BY customers.customer_id ORDER BY  
orders.total_amount DESC) AS order_rank  
FROM task4_schema.orders AS orders  
LEFT JOIN task4_schema.customers AS customers  
ON orders.customer_id = customers.customer_id  
ORDER BY 3 DESC
```

Data Output Messages Notifications				
SQL				
	customer_id uuid	order_id uuid	total_amount numeric	order_rank bigint
1	a6155804-09db-489c-9865-d3b773614b...	c7371d32-f879-45df-8943-fd321f87335a	999.22	1
2	feea5f6d-b82f-4094-80e4-f4d84509b604	d02cdb84-46d3-45d5-ac38-05f203d109c1	998.98	1
3	3493b6b2-c66f-42f4-aaf2-945ec483738e	8d68ed2d-dca5-4fb2-89c7-6501d1433c7e	998.67	1
4	8e7c0529-d770-492f-ae7d-61ba1e44a7...	23b3c9a8-4c5d-47b8-8070-759207fba64a	997.62	1
5	ecbe0685-a708-448f-a044-ba9fb8cbf22d	2753d8e2-ba43-4ccd-ba5e-9f8153bbaaef	996.52	1
6	1d33107b-3e6d-4e72-81df-938638b0ca...	6808b582-b59f-459f-8163-690b36d861e5	996.26	1
7	6ae4829e-6917-479d-b3f9-d2b0bfbc0271	be4cd577-3036-4912-bfc3-e8324afd591f	996.08	1
8	37a08a10-ffeb-4423-aa9e-8c3de060e54f	68390e02-814d-4467-876d-750f19406af8	993.25	1
Total rows: 1000 of 1000 Query complete 00:00:00.150				

Question 3

Write a query to calculate the average price of products supplied by each supplier. Exclude suppliers who have no products in the result.

(Topics: JOINS, AGGREGATE FUNCTIONS, GROUP BY)

SELECT

 suppliers.supplier_id, suppliers.name,







 AVG(products.price) AS "Average Price"

FROM task4_schema.products

LEFT JOIN task4_schema.suppliers ON products.supplier_id =
suppliers.supplier_id

GROUP BY suppliers.supplier_id

HAVING COUNT(products.price) != 0

Data Output Messages Notifications			
      SQL			
	supplier_id [PK] uuid	name text	Average Price numeric
1	5df5cbc6-a978-4504-8a76-e317f5417...	Carrillo-Reid	382.5800000000000000
2	9fbb7f76-45d1-4246-a566-579de6b51...	Rodriguez, Thomas and Miller	146.6833333333333333
3	b88d8497-95b5-4594-87bd-738e8bdf...	Ruiz-Floyd	140.4600000000000000
4	022d2b35-c6d8-482e-a4e0-fe00e623f...	White, Christensen and Garcia	28.2100000000000000
5	99976110-98eb-4b98-8ef4-2914a5912...	Stone, Mata and Lewis	293.3250000000000000
6	48bcfa8c-bc82-4435-bada-74a46e49e...	Johnson, Wells and Parker	367.6500000000000000
7	52ab090d-0069-4c83-9b32-017fb026f...	Gordon LLC	134.3500000000000000
8	e7a71adf-f2c2-46b5-be94-6b662b00c...	Pacheco, Craig and James	184.7250000000000000
Total rows: 639 of 639 Query complete 00:00:00.188			

Question 4

Write a query to count the number of products in each category.

Include categories with zero products in the result set.

(WINDOW FUNCTIONS, AGGREGATE FUNCTIONS, JOINS, GROUP BY)

```
SELECT products.category,  
       COALESCE(count(products.category), 0) AS product_count  
FROM task4_schema.products  
GROUP BY products.category
```

Data Output Messages Notifications			
	category text	product_count bigint	
1	establish	2	
2	itself	1	
3	always	2	
4	assume	1	
5	instead	1	
6	page	1	
7	major	2	
8	entire	1	
9	trial	1	
10	security	1	
11	carry	1	

Question 5

Write a query to retrieve the total amount spent by each customer, along with their name and phone number. Ensure customers with no orders also appear with a total amount of 0.

(WINDOW FUNCTIONS, AGGREGATE FUNCTIONS, JOINS, GROUP BY)

SELECT

customers.customer_id,

customers.name,

customers.phone,

COALESCE(SUM(orders.total_amount), 0) AS "Total Amount"

FROM task4_schema.customers

LEFT JOIN task4_schema.orders

ON customers.customer_id = orders.customer_id

GROUP BY 1

Data Output Messages Notifications				
	customer_id [PK] uuid	name text	phone text	Total Amount numeric
1	eee175e7-f0be-47db-b9f3-e910989f6f36	Terry Larsen	391-499-8785x915	182.11
2	a54a7546-191e-42d1-84cc-378c29c75b6d	Monica Lopez	001-895-947-4715x23959	0
3	7ae3764a-d177-4f23-ac9f-c45e46d769c8	Vanessa Ryan	(691)226-2141x0477	1024.74
4	eb2e3a3f-af4e-476e-83e0-09f62c30a15f	April Hensley	256-720-9328	1871.91
5	e60b97f5-e146-4a9b-81b7-6f6e7256b98b	Tony Howard	541.274.8743x36275	253.09
6	ff52b73e-74b4-48f6-941b-40d324016105	John Rodriguez	+1-241-961-2475x635	329.38
7	f334ede7-953e-4d17-ab79-84891c0b1afc	Kevin Walters	517.631.7845x8966	284.65
8	e49224be-d0ac-4bed-baf4-490d331f99f6	Miguel Rodriguez	001-992-211-6514x15326	0
9	8f13c797-2a4e-42ea-ac11-3da437f45d25	Ryan Lester	8105302190	566.69
10	2571f8eb-edfd-408e-9db4-f97cb957ccf4	Joyce Harvey	(310)512-2206x5132	707.50