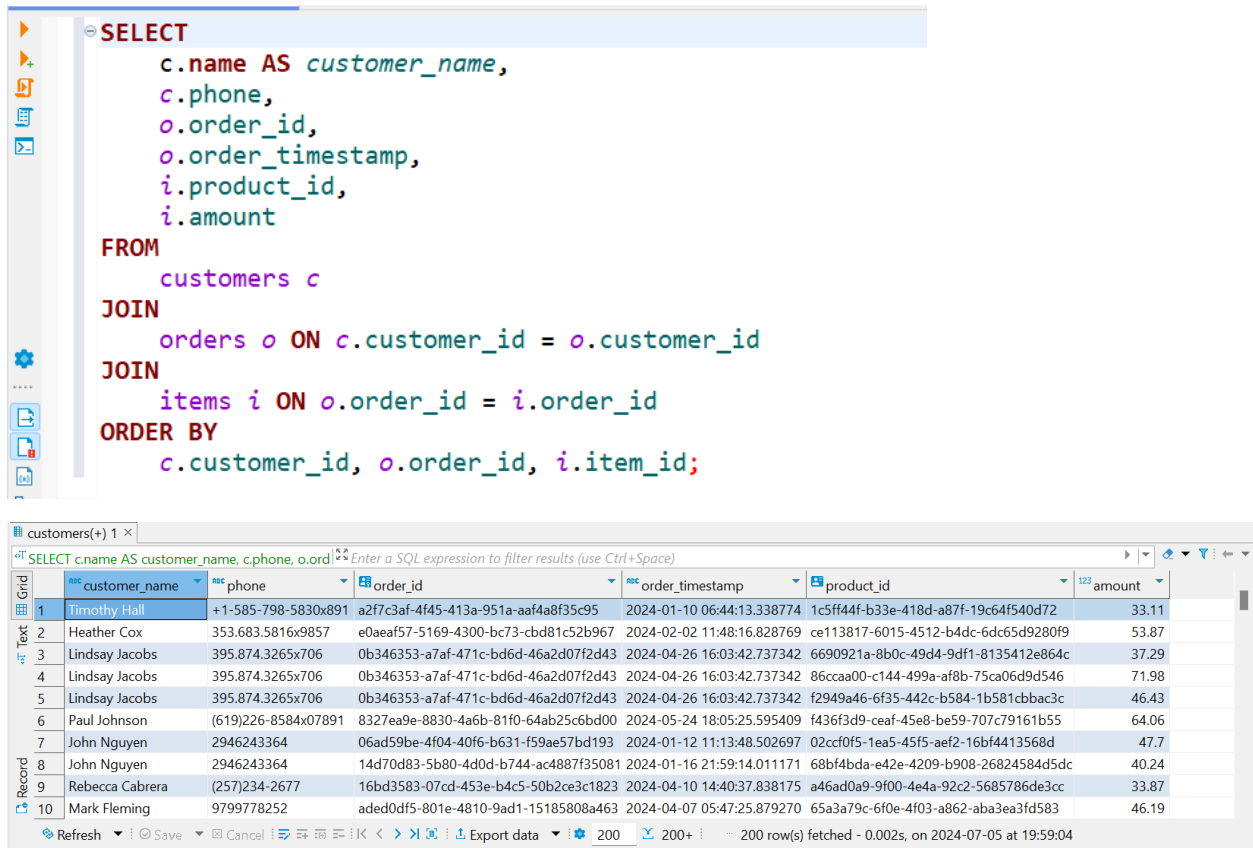


## BWT Task-05 Exercise

Submitted By: ABRAR SAEED

### Q1

Write a query to retrieve all orders placed by customers, including customer details (name, phone), order details (order ID, timestamp), and item details (product, amount).



```
SELECT
    c.name AS customer_name,
    c.phone,
    o.order_id,
    o.order_timestamp,
    i.product_id,
    i.amount
FROM
    customers c
JOIN
    orders o ON c.customer_id = o.customer_id
JOIN
    items i ON o.order_id = i.order_id
ORDER BY
    c.customer_id, o.order_id, i.item_id;
```

	customer_name	phone	order_id	order_timestamp	product_id	amount
1	Timothy Hall	+1-585-798-5830x891	a2f7c3af-4f45-413a-951a-aaf4a8f35c95	2024-01-10 06:44:13.338774	1c5ff44f-b33e-418d-a87f-19c64f540d72	33.11
2	Heather Cox	353.683.5816x9857	e0aeaf57-5169-4300-bc73-cbd81c52b967	2024-02-02 11:48:16.828769	ce113817-6015-4512-b4dc-6dc65d9280f9	53.87
3	Lindsay Jacobs	395.874.3265x706	0b346353-a7af-471c-bd6d-46a2d07f2d43	2024-04-26 16:03:42.737342	6690921a-8b0c-49d4-9df1-8135412e864c	37.29
4	Lindsay Jacobs	395.874.3265x706	0b346353-a7af-471c-bd6d-46a2d07f2d43	2024-04-26 16:03:42.737342	86ccaa00-c144-499a-af8b-75ca06d9d546	71.98
5	Lindsay Jacobs	395.874.3265x706	0b346353-a7af-471c-bd6d-46a2d07f2d43	2024-04-26 16:03:42.737342	f2949a46-6f35-442c-b584-1b581cbbac3c	46.43
6	Paul Johnson	(619)226-8584x07891	8327ea9e-8830-4a6b-81f0-64ab25c6bd00	2024-05-24 18:05:25.595409	f436f3d9-ceaf-45e8-be59-707c79161b55	64.06
7	John Nguyen	2946243364	06ad59be-4f04-40f6-b631-f59ae57bd193	2024-01-12 11:13:48.502697	02ccf0f5-1ea5-45f5-aef2-16bf4413568d	47.7
8	John Nguyen	2946243364	14d70d83-5b80-4d0d-b744-ac4887f35081	2024-01-16 21:59:14.011171	68bf4bda-e42e-4209-b908-26824584d5dc	40.24
9	Rebecca Cabrera	(257)234-2677	16bd3583-07cd-453e-b4c5-50b2ce3c1823	2024-04-10 14:40:37.838175	a46ad0a9-9f00-4e4a-92c2-5685786de3cc	33.87
10	Mark Fleming	9799778252	aded0df5-801e-4810-9ad1-15185808a463	2024-04-07 05:47:25.879270	65a3a79c-6f0e-4f03-a862-aba3ea3fd583	46.19

```
SELECT
    c.name AS customer_name,
    c.phone,
    o.order_id,
    o.order_timestamp,
    i.product_id,
    i.amount
FROM
    customers c
JOIN
    orders o ON c.customer_id = o.customer_id
JOIN
    items i ON o.order_id = i.order_id
ORDER BY
    c.customer_id, o.order_id, i.item_id;
```

## Q2

Write a query to fetch all products along with their suppliers' details (name, phone) and the corresponding category name.

```
SELECT DISTINCT
    p.product_id,
    p.name AS product_name,
    s.name AS supplier_name,
    s.phone AS supplier_phone,
    c.name AS category_name
FROM
    products p
JOIN
    suppliers s ON p.supplier_id = s.supplier_id
JOIN
    categories c ON c.name = s.category
ORDER BY
    p.product_id;
```

products(+) 1 x		SELECT DISTINCT p.product_id, p.name AS product_name, s.name AS supplier_name, s.phone AS supplier_phone, c.name AS category_name				
Grid	product_id	product_name	supplier_name	supplier_phone	category_name	
1	011f40b7-ecd3-45d0-bab5-7d327d1833b3	stage	Greene Group	555.331.0017x519	again	
2	012c0866-907b-48cb-a923-ebcb191c32a8	part	Ortega Group	643.992.4069x56421	discover	
3	01313974-18cd-4d1c-bdff-d035d914ff1c	blue	Jones, Dennis and Kelly	4093898454	agency	
4	01e38968-bb27-4882-b32d-0154b30777a9	authority	Robinson-Harris	+1-526-799-4613x856	whom	
5	01e9ca22-c5d6-4b87-8eb4-0de2f197937e	level	Johnson, Carlson and Henry	523.930.0753x5633	financial	
6	0212f33f-d87f-41f7-ba0e-4e58523e6a4f	by	Short, Johnson and Smith	(686)742-0431	catch	
7	02160d1c-aaf6-480c-9a75-2d85f72ee30d	finally	Roberts-Davis	873.371.9334x1079	during	
8	02859d26-c373-4a56-b134-167e3a2eb163	realize	Shelton Ltd	001-206-995-5410x403	election	

```
SELECT DISTINCT
    p.product_id,
    p.name AS product_name,
    s.name AS supplier_name,
    s.phone AS supplier_phone,
    c.name AS category_name
FROM
    products p
JOIN
    suppliers s ON p.supplier_id = s.supplier_id
JOIN
    categories c ON c.name = s.category
ORDER BY
    p.product_id;
```

### Q3

Write a query to retrieve details of all orders including the product name and amount ordered for each item.

```
SELECT
    o.order_id,
    o.order_timestamp,
    o.status,
    p.name AS product_name,
    i.amount AS amount
FROM
    orders o
JOIN
    items i ON o.order_id = i.order_id
JOIN
    products p ON i.product_id = p.product_id
ORDER BY
    o.order_id, i.item_id;
```

Enter a SQL expression to filter results (use Ctrl+Space)

	order_id	order_timestamp	status	product_name	amount
1	0077622c-f789-402f-8f27-a8ef29b92f99	2024-01-04 07:44:52.702814	Completed	will	32.05
2	007c6893-fc40-44f8-a794-741ad1bfd9c7	2024-06-09 00:25:09.386567	Cancelled	difference	52.99
3	00860b6c-6b06-4694-8708-f7aa4375d5e4	2024-03-08 06:58:18.346432	Pending	evidence	99.77
4	00860b6c-6b06-4694-8708-f7aa4375d5e4	2024-03-08 06:58:18.346432	Pending	difficult	39.54
5	00860b6c-6b06-4694-8708-f7aa4375d5e4	2024-03-08 06:58:18.346432	Pending	build	73.93
6	00871b7a-6c23-4916-aeff-e22ee8e27ea9	2024-05-29 11:27:53.906636	Completed	citizen	65.86
7	00aa2373-5f66-4165-8ebf-7724b314028a	2024-02-06 17:35:35.482997	Pending	major	26.53
8	00aa2373-5f66-4165-8ebf-7724b314028a	2024-02-06 17:35:35.482997	Pending	address	10.07
9	00ce4abc-b40a-4918-a245-5489bea00786	2024-05-31 07:51:38.545976	Completed	voice	89.47

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```
SELECT
    o.order_id,
    o.order_timestamp,
    o.status,
    p.name AS product_name,
    i.amount AS amount
FROM
    orders o
JOIN
    items i ON o.order_id = i.order_id
JOIN
    products p ON i.product_id = p.product_id
ORDER BY
    o.order_id, i.item_id;
```

## Q4

Write a query to retrieve all suppliers along with the city and country where they are located, and the products they supply.

```
select
  s.supplier_id , s.name as supplier_name,c.name as city, c.country, p.product_id , p.name as product_name
from
  suppliers s
join
  products p on s.supplier_id = p.supplier_id
join
  cities c on s.location = c.name
order by
  s.supplier_id ;
```

	supplier_id	supplier_name	city	country	product_id	product_name
1	01abe709-0567-47dc-ae92-3b077c44b868	Martin, Smith and Griffith	Kimberlyview	Sao Tome and Principe	b97c08e3-0223-4d84-8a4d-6951b2775180	enter
2	01abe709-0567-47dc-ae92-3b077c44b868	Martin, Smith and Griffith	Kimberlyview	Sao Tome and Principe	066e12f4-161d-46ba-acb9-fecc34dfdcd4	past
3	01abe709-0567-47dc-ae92-3b077c44b868	Martin, Smith and Griffith	Kimberlyview	Sao Tome and Principe	494c69e7-db73-42fd-9eef-7880822585a5	offer
4	032d0976-32b5-4aab-9141-82a7354912e9	Wright, Sloan and Fisher	Jessicabury	Niger	1c1e3ae7-4d53-427b-b16d-7107dccad439	market
5	032d0976-32b5-4aab-9141-82a7354912e9	Wright, Sloan and Fisher	Jessicabury	Niger	8f3c7650-9dcd-4bc1-aeaf-ac61ad56ea25	mother
6	063f7075-f3c0-4408-8410-e1e955f7aff5	Hall, Garcia and Wiggins	Lake Michael	Slovenia	426c868a-883c-4d88-b58c-f4d5f176662f	letter
7	063f7075-f3c0-4408-8410-e1e955f7aff5	Hall, Garcia and Wiggins	Lake Michael	Slovenia	bb6ad47e-b8fc-4f35-8b98-0cc546fee855	rock
8	063f7075-f3c0-4408-8410-e1e955f7aff5	Hall, Garcia and Wiggins	Lake Michael	Slovenia	69742e0a-b030-4db8-afe2-da951b2e2d27	his
9	16074104-fd09-4412-b3ce-3e97ca034704	Campbell, Wilson and Lop	Richardtown	Namibia	39bb3f78-3ae7-4f1f-a056-29a7726d74b6	in
10	24ff2a29-b19f-4293-8876-60655ce3789e	Hardy-Berger	Michaelland	Tunisia	503662dd-5198-4bda-a381-c55d4f7eab8e	almost
11	25f44dde-e853-470c-a7d0-9c2f40dd43ca	Carrillo LLC	Lake Jessica	Falkland Islands (Malvin	a457d911-ae78-4afb-ad3c-0121962d6a7f	account

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```
select
  s.supplier_id , s.name as supplier_name,c.name as city, c.country, p.product_id ,
p.name as product_name
from
  suppliers s
join
  products p on s.supplier_id = p.supplier_id
join
  cities c on s.location = c.name
order by
  s.supplier_id ;
```

## Q5

Write a query to fetch details of the most recent order (by timestamp) placed by each customer, including the product details for each item in the order. [This question will use a Window Function alongside Joins]

```
WITH recent_orders AS (
  SELECT
    o.order_id,
    o.customer_id,
    o.order_timestamp,
    ROW_NUMBER() OVER (PARTITION BY o.customer_id ORDER BY o.order_timestamp DESC) AS row
  FROM
    orders o
)
```

```

SELECT
    ro.customer_id,
    ro.order_id,
    ro.order_timestamp,
    p.name AS product_name,
    i.amount
FROM
    recent_orders ro
JOIN
    items i ON ro.order_id = i.order_id
JOIN
    products p ON i.product_id = p.product_id
WHERE
    ro.row = 1
ORDER BY
    ro.customer_id, ro.order_timestamp DESC;

```

	Grid	customer_id	order_id	order_timestamp	product_name	amount
1		003ee86f-4e17-4b39-bb6a-30897fe0a165	a2f7c3af-4f45-413a-951a-aaf4a8f35c95	2024-01-10 06:44:13.338774	hundred	33.11
2		017058e3-3c0b-4f2f-a359-06cba4a8b5ff	0b346353-a7af-471c-bd6d-46a2d07f2d43	2024-04-26 16:03:42.737342	address	71.98
3		017058e3-3c0b-4f2f-a359-06cba4a8b5ff	0b346353-a7af-471c-bd6d-46a2d07f2d43	2024-04-26 16:03:42.737342	speech	46.43
4		017058e3-3c0b-4f2f-a359-06cba4a8b5ff	0b346353-a7af-471c-bd6d-46a2d07f2d43	2024-04-26 16:03:42.737342	name	37.29
5		01e21aec-f14b-4290-b2c5-365415aa917f	8327ea9e-8830-4a6b-81f0-64ab25c6bd00	2024-05-24 18:05:25.595409	together	64.06
6		0367e393-082e-4db3-bea7-b8f222184f06	aded0df5-801e-4810-9ad1-15185808a463	2024-04-07 05:47:25.879270	mouth	46.19
7		04fabd69-1813-4b77-bafc-6bcc02ecaed6	3a87b3a8-1d97-4b95-9dd9-e13e313cd958	2024-04-05 04:42:38.836337	indeed	91.71
8		04fabd69-1813-4b77-bafc-6bcc02ecaed6	3a87b3a8-1d97-4b95-9dd9-e13e313cd958	2024-04-05 04:42:38.836337	detail	48.91
9		0598fa3b-b1f7-42fd-b052-e277a28c4eb7	30b6ee2c-a893-4888-a882-2b1d8ee0e80c	2024-06-05 03:56:44.103567	group	40.82

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```

WITH recent_orders AS (
    SELECT
        o.order_id,
        o.customer_id,
        o.order_timestamp,
        ROW_NUMBER() OVER (PARTITION BY o.customer_id ORDER BY o.order_timestamp
DESC) AS row
    FROM
        orders o
)
SELECT
    ro.customer_id,
    ro.order_id,
    ro.order_timestamp,
    p.name AS product_name,
    i.amount
FROM
    recent_orders ro
JOIN
    items i ON ro.order_id = i.order_id
JOIN
    products p ON i.product_id = p.product_id
WHERE
    ro.row = 1
ORDER BY
    ro.customer_id, ro.order_timestamp DESC;

```