TASK 3: SQL for Data Analysis

1. Select

```
13      -- 1. SELECT, WHERE, ORDER BY, GROUP BY
14      -- Select all columns from International Sale Report
15 •    SELECT * FROM InternationalSaleReport;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

index	DATE	Months	CUSTOMER	Style	SKU	Size	PCS	RATE	gross_amt
0	06-05-21	Jun-21	REVATHY LOGANATHAN	MEN5004	MEN5004-KR-L	L	1	616.56	617
1	06-05-21	Jun-21	REVATHY LOGANATHAN	MEN5004	MEN5004-KR-XL	XL	1	616.56	617
2	06-05-21	Jun-21	REVATHY LOGANATHAN	MEN5004	MEN5004-KR-XXL	XXL	1	616.56	617
3	06-05-21	Jun-21	REVATHY LOGANATHAN	MEN5009	MEN5009-KR-L	L	1	616.56	617
4	06-05-21	Jun-21	REVATHY LOGANATHAN	MEN5011	MEN5011-KR-L	L	1	616.56	617
5	06-05-21	Jun-21	REVATHY LOGANATHAN	MEN5025	MEN5025-KR-L	L	1	649.03	649
6	06-05-21	Jun-21	REVATHY LOGANATHAN	MEN5015	MEN5015-KR-XL	XL	1	616.56	617
7	06-05-21	Jun-21	REVATHY LOGANATHAN	MEN5022	MEN5022-KR-XXL	XXL	1	649.03	649
8	06-05-21	Jun-21	REVATHY LOGANATHAN	MEN5014	MEN5014-KR-S	S	1	649.03	649
9	06-05-21	Jun-21	REVATHY LOGANATHAN	MEN5013	MEN5013-KR-S	S	1	649.03	649

2. Where

```
17      -- Select sales only in June 2021
18 •    SELECT customer, style, pcs, gross_amt, months
19      FROM InternationalSaleReport
20      WHERE months = 'Jun-21'
21      ORDER BY gross_amt DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer	style	pcs	gross_amt	months
SYEDA MORSHED	MEN5021	15	9735	Jun-21
AMANI CONCEPT TRADING LLC (KAPDA)	J0284	4	5559	Jun-21
AMANI CONCEPT TRADING LLC (KAPDA)	J0284	4	5559	Jun-21
AMANI CONCEPT TRADING LLC (KAPDA)	J0284	4	5559	Jun-21
AMANI CONCEPT TRADING LLC (KAPDA)	J0239	4	5075	Jun-21
AMANI CONCEPT TRADING LLC (KAPDA)	J0239	4	5075	Jun-21
AMANI CONCEPT TRADING LLC (KAPDA)	J0239	4	5075	Jun-21
AMANI CONCEPT TRADING LLC (KAPDA)	J0241	4	4834	Jun-21
AMANI CONCEPT TRADING LLC (KAPDA)	J0241	4	4834	Jun-21
AMANI CONCEPT TRADING LLC (KAPDA)	J0241	4	4834	Jun-21

3. Group

```
23      -- Group sales by Customer and find their total sales
24      SELECT customer, SUM(gross_amt) AS total_sales
25      FROM InternationalSaleReport
26      GROUP BY customer
27      ORDER BY total_sales DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Conte

customer	total_sales
MULBERRIES BOUTIQUE	2094070.5
AMANI CONCEPT TRADING LLC (KAPDA)	930451
VAHARSHA BOUTIQUE	527214
GALAXY GROUP OF COMPANIES PVT. LTD	445058
RIVAAN LLC	443042
SURE FASHIONS LLC	403253
BHANU SALEINE NAUNITHAM	356998
COTTON CLOSET LTD	345265
VISHA DEVAN	321028
NIRUSAH TAILORING	316470

4. Joins

1. Inner Join

```
29      -- 2. JOINS (INNER JOIN, LEFT JOIN, RIGHT JOIN)
30
31      -- INNER JOIN: Matching sales by SKU
32      SELECT a.order_id, a.sku, a.amount, i.customer, i.gross_amt
33      FROM AmazonSaleReport a
34      INNER JOIN InternationalSaleReport i
35      ON a.sku = i.sku;
36
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

order_id	sku	amount	customer	gross_amt
405-8078784-5731545	SET389-KR-NP-S	647.62	MULBERRIES BOUTIQUE	1000
405-8078784-5731545	SET389-KR-NP-S	647.62	MULBERRIES BOUTIQUE	1000
405-8078784-5731545	SET389-KR-NP-S	647.62	Jan-22	60
405-8078784-5731545	SET389-KR-NP-S	647.62	Jan-22	60
404-0687676-7273146	JNE3371-KR-XL	329	RIVAAN LLC	528
404-0687676-7273146	JNE3371-KR-XL	329	Sep-21	3
403-9615377-8133951	J0341-DR-L	753.33	M/S CHARISMAKURTIES(DUBAI)	1404
403-9615377-8133951	J0341-DR-L	753.33	MULBERRIES BOUTIQUE	781
403-9615377-8133951	J0341-DR-L	753.33	AVIN	775
403-9615377-8133951	J0341-DR-L	753.33	AVIN	775

2. Left Join

```
37    -- LEFT JOIN: All Amazon orders, matched with International sales
38    SELECT a.order_id, a.sku, i.customer, i.gross_amt
39    FROM AmazonSaleReport a
40    LEFT JOIN InternationalSaleReport i
41    ON a.sku = i.sku;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows

order_id	sku	customer	gross_amt
405-8078784-5731545	SET389-KR-NP-S	MULBERRIES BOUTIQUE	1000
405-8078784-5731545	SET389-KR-NP-S	MULBERRIES BOUTIQUE	1000
405-8078784-5731545	SET389-KR-NP-S	Jan-22	60
405-8078784-5731545	SET389-KR-NP-S	Jan-22	60
171-9198151-1101146	JNE3781-KR-XXXL	NULL	NULL
404-0687676-7273146	JNE3371-KR-XL	RIVAAN LLC	528
404-0687676-7273146	JNE3371-KR-XL	Sep-21	3
403-9615377-8133951	J0341-DR-L	M/S CHARISMAKURTIES(DUBAI)	1404
403-9615377-8133951	J0341-DR-L	MULBERRIES BOUTIQUE	781
403-9615377-8133951	J0341-DR-L	AVIN	775

3. Right Join

```
43    -- RIGHT JOIN: All International sales, matched with Amazon orders
44    SELECT a.order_id, a.sku, i.customer, i.gross_amt
45    FROM AmazonSaleReport a
46    RIGHT JOIN InternationalSaleReport i
47    ON a.sku = i.sku;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows

order_id	sku	customer	gross_amt
407-0954721-9675544	MEN5004-KR-L	REVATHY LOGANATHAN	617
407-2411763-9743510	MEN5004-KR-L	REVATHY LOGANATHAN	617
407-3606223-5513913	MEN5004-KR-XL	REVATHY LOGANATHAN	617
171-6433977-7334732	MEN5004-KR-XL	REVATHY LOGANATHAN	617
408-6206339-7301152	MEN5004-KR-XL	REVATHY LOGANATHAN	617
406-7455558-9750768	MEN5004-KR-XL	REVATHY LOGANATHAN	617
408-8489677-5577933	MEN5004-KR-XL	REVATHY LOGANATHAN	617
403-5209693-1173944	MEN5004-KR-XL	REVATHY LOGANATHAN	617
406-8893390-7200349	MEN5009-KR-L	REVATHY LOGANATHAN	617
402-1632400-3825120	MEN5015-KR-XL	REVATHY LOGANATHAN	617

5. SubQueries

```
50      -- 3. Subqueries
51      -- Subquery to find customers whose total sales > 5000
52      SELECT customer, total_sales
53      FROM (
54          SELECT customer, SUM(gross_amt) AS total_sales
55          FROM InternationalSaleReport
56          GROUP BY customer
57      ) AS sales_summary
58      WHERE total_sales > 5000;
59
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer	total_sales
REVATHY LOGANATHAN	197381
FARIA ESSOPP	27989
MANGALAM SHOP	65504
THANA NAGISSWARY L MARIMUTHU	25195
MR.ALWAR MURALI	6460
RAZIA ROSEANE NASER	54390
SIRI PADALA	10129
FUSION FASHIONS CORP.	271675
MIZNA WAHEEDH	18332

6. Aggregation Function

1. Sum()

```
60      -- 4. Aggregate Functions (SUM, AVG)
61      -- Total sales amount
62      SELECT SUM(gross_amt) AS total_gross_sales FROM InternationalSaleReport;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

total_gross_sales
16395599.19

2. Avg()

```
64      -- Average number of pieces sold per order
65      SELECT AVG(pcs) AS avg_pieces_sold FROM InternationalSaleReport;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

avg_pieces_sold
402.21806902805645

```
67      -- Amazon sales: Average order amount
68 •    SELECT AVG(amount) AS avg_order_amount FROM AmazonSaleReport;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

avg_order_amount
623.1038511681954

7. Views

-- Create a view for high-value international sales

CREATE VIEW HighValueInternationalSales AS

SELECT customer, style, pcs, gross_amt

FROM InternationalSaleReport

WHERE gross_amt > 1000;

53 16:21:40 CREATE VIEW HighValueInternationalSales AS SELECT customer, style, pcs, gross_amt FROM InternationalSale... 0 row(s) affected

-- Create a view for Amazon Delivered Orders

CREATE VIEW AmazonDeliveredOrders AS

SELECT order_id, sku, amount

FROM AmazonSaleReport

WHERE status LIKE '%Delivered%';

54 16:21:48 CREATE VIEW AmazonDeliveredOrders AS SELECT order_id, sku, amount FROM AmazonSaleReport WHERE st... 0 row(s) affected

8. Indexes (to speed up queries)

-- Index on SKU to speed up JOINs

CREATE INDEX idx_sku_international ON InternationalSaleReport(sku(50));

56 16:23:22 CREATE INDEX idx_sku_international ON InternationalSaleReport(sku(50))

-- Index on Amazon order date for faster date-based queries

CREATE INDEX idx_order_date_amazon ON AmazonSaleReport(date(20));

62 16:24:59 CREATE INDEX idx_order_date_amazon ON AmazonSaleReport(date(20))