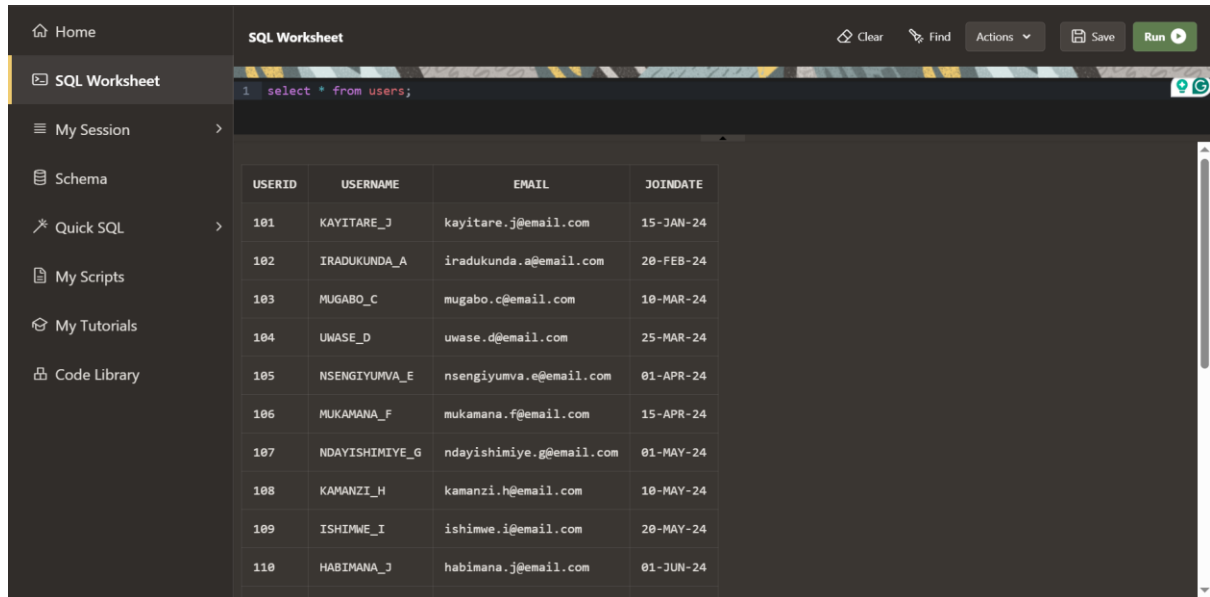


Screenshots of what is done

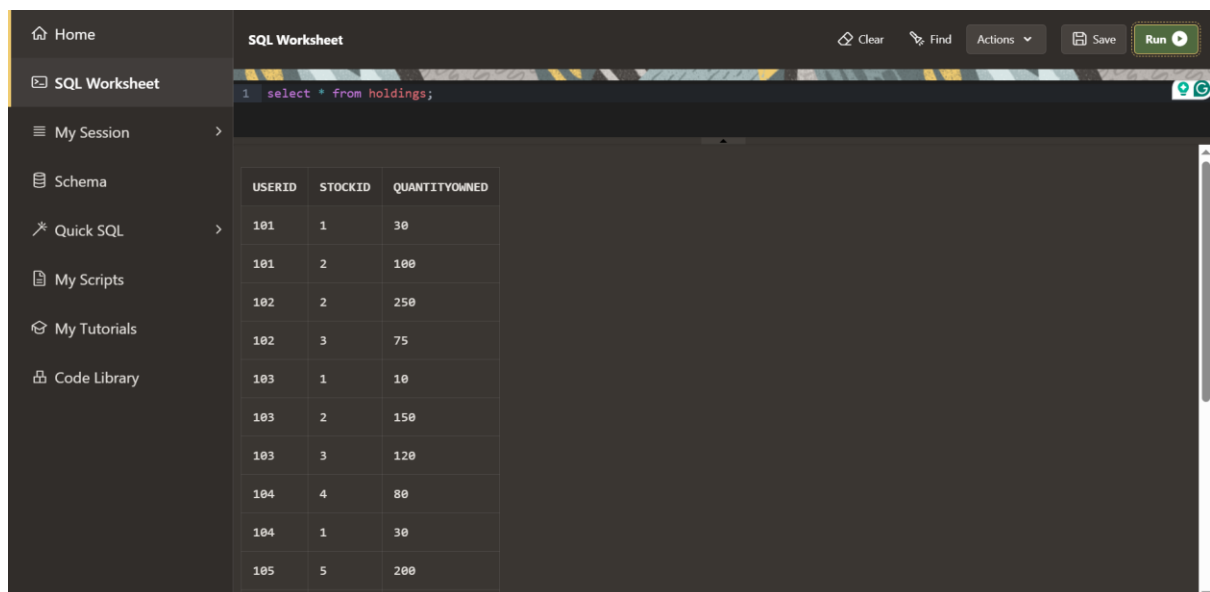
Values of table one(users):



The screenshot shows a web-based SQL interface with a sidebar on the left containing navigation links: Home, SQL Worksheet (selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled 'SQL Worksheet' and contains a text editor with the query '1 select * from users;'. Below the editor, a table of results is displayed with the following data:

USERID	USERNAME	EMAIL	JOINDATE
101	KAYITARE_J	kayitare.j@email.com	15-JAN-24
102	IRADUKUNDA_A	iradukunda.a@email.com	20-FEB-24
103	MUGABO_C	mugabo.c@email.com	10-MAR-24
104	UWASE_D	uwase.d@email.com	25-MAR-24
105	NSENGIYUMVA_E	nsengiyumva.e@email.com	01-APR-24
106	MUKAMANA_F	mukamana.f@email.com	15-APR-24
107	NDAYISHIMIYE_G	ndayishimiye.g@email.com	01-MAY-24
108	KAMANZI_H	kamanzi.h@email.com	10-MAY-24
109	ISHIMWE_I	ishimwe.i@email.com	20-MAY-24
110	HABIMANA_J	habimana.j@email.com	01-JUN-24

Values of table two(holdings):



The screenshot shows the same SQL interface as above, but with the query '1 select * from holdings;'. The resulting table has the following data:

USERID	STOCKID	QUANTITYOWNED
101	1	30
101	2	100
102	2	250
102	3	75
103	1	10
103	2	150
103	3	120
104	4	80
104	1	30
105	5	200

Values of table three (transactions):

The screenshot shows the SQL Worksheet interface with a sidebar on the left containing links to Home, SQL Worksheet, My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area displays the query `1 select * from transactions;` and its results in a table.

TRANSACTIONID	USERID	STOCKID	TYPE	QUANTITY	PRICE	TRANSACTIONDATE
1001	101	1	Buy	50	280	05-APR-24
1002	101	2	Buy	100	150	10-APR-24
1003	101	1	Sell	20	285	12-MAY-24
1004	102	2	Buy	200	152	15-APR-24
1005	102	3	Buy	75	140	20-MAY-24
1006	102	2	Buy	50	155	01-JUN-24
1007	103	1	Buy	10	288	25-MAY-24
1008	103	2	Buy	150	154	11-JUN-24
1009	103	3	Buy	120	142	01-JUL-24
1010	104	4	Buy	80	55	15-JUL-24

Values of table four (stock):

The screenshot shows the SQL Worksheet interface with the same sidebar. The main area displays the query `1 select * from stocks;` and its results in a table. Below the table is a 'Download CSV' button and the text '5 rows selected.'

STOCKID	SYMBOL	COMPANYNAME
1	BK	Bank of Kigali
2	MTNR	MTN Rwandacell
3	BLR	Bralirwa
4	IMB	I&M Bank
5	CHL	Crystal Ventures

Download CSV

5 rows selected.

Top 5 products per region/quarter → RANK()

Home	SQL Worksheet					
SQL Worksheet	<pre> 1 -- Top 5 investors by total portfolio value with ranking 2 WITH PortfolioValues AS (3 SELECT 4 u.UserID, 5 u.Username, 6 SUM(h.QuantityOwned * t.Price) as Total_Portfolio_Value 7 FROM Users u 8 JOIN Holdings h ON u.UserID = h.UserID 9 JOIN Transactions t ON h.StockID = t.StockID AND h.UserID = t.UserID 10 WHERE t.TransactionID = (11 SELECT MAX(t2.TransactionID) 12 FROM Transactions t2 13 WHERE t2.UserID = t.UserID AND t2.StockID = t.StockID 14) 15 GROUP BY u.UserID, u.Username </pre>					
My Session		USERID	USERNAME	TOTAL_PORTFOLIO_VALUE	ROW_RANK	RANK_POSITION
Schema		102	IRADUKUNDA_A	49250	1	1
Quick SQL		111	UMUTONI_K	48000	2	2
My Scripts		103	MUGABO_C	43020	3	3
My Tutorials		106	MUKAMANA_F	24670	4	4
Code Library		101	KAYITARE_J	23550	5	5

Top performing stocks by total volume:

Home	SQL Worksheet					
SQL Worksheet	<pre> 1 SELECT 2 s.Symbol, 3 s.CompanyName, 4 SUM(t.Quantity) as Total_Volume, 5 SUM(t.Quantity * t.Price) as Total_Value, 6 RANK() OVER (ORDER BY SUM(t.Quantity) DESC) as Volume_Rank, 7 RANK() OVER (ORDER BY SUM(t.Quantity * t.Price) DESC) as Value_Rank 8 FROM Stocks s 9 JOIN Transactions t ON s.StockID = t.StockID 10 GROUP BY s.StockID, s.Symbol, s.CompanyName 11 ORDER BY Total_Volume DESC; </pre>					
My Session		SYMBOL	COMPANYNAME	TOTAL_VOLUME	TOTAL_VALUE	VOLUME_RANK
Schema		MTNR	MTN Rwandacell	850	132150	1
Quick SQL		CML	Crystal Ventures	700	7500	2
My Scripts		BLR	Bralirwa	345	49290	3
My Tutorials		IMB	I&M Bank	300	16960	4
Code Library						

Running totals of daily trading activity:

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

Clear

Find

Actions

Save

Run

```
1 SELECT
2   TransactionDate,
3   COUNT(*) as Daily_Transactions,
4   SUM(quantity * Price) as Daily_Volume,
5   -- Running totals using SUM() OVER()
6   SUM(COUNT(*) OVER (ORDER BY TransactionDate) as Running_Transaction_Count,
7   SUM(SUM(quantity * Price) OVER (ORDER BY TransactionDate) as Running_Volume,
8   -- Moving averages (3-day window)
9   AVG(SUM(quantity * Price)) OVER (
10    ORDER BY TransactionDate
11    ROWS BETWEEN 2 PRECEDING AND CURRENT ROW
12  ) as Moving_Avg_3Day
13 FROM Transactions
14 GROUP BY TransactionDate
15 ORDER BY TransactionDate;
```

TRANSACTIONDATE	DAILY_TRANSACTIONS	DAILY_VOLUME	RUNNING_TRANSACTION_COUNT	RUNNING_VOLUME	MOVING_AVG_3DAY
05-APR-24	1	14000	1	14000	14000
10-APR-24	1	15000	2	29000	14500
15-APR-24	1	30400	3	59400	19800
12-MAY-24	1	5700	4	65100	17033.333

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

ClearFindActionsSaveRun

```
1 -- Month-over-month portfolio growth analysis
2 , WITH MonthlyPortfolio AS (
3     SELECT
4         TO_CHAR(TransactionDate, 'YYYY-MM') as Month,
5         UserID,
6         SUM(CASE WHEN Type = 'Buy' THEN Quantity * Price
7             ELSE -Quantity * Price END) as Monthly_Investment
8     FROM Transactions
9     GROUP BY TO_CHAR(TransactionDate, 'YYYY-MM'), UserID
10 )
11 SELECT
12     Month,
13     UserID,
14     Monthly_Investment,
15     -- Previous month comparison using LAG()
16     LAG(Monthly_Investment) OVER (
17         PARTITION BY UserID ORDER BY Month
```

MONTH	USERID	MONTHLY_INVESTMENT	PREVIOUS_MONTH	GROWTH_PERCENT	NEXT_MONTH
2024-04	101	29000	-	-	-5700
2024-05	101	-5700	29000	-119.66	-
2024-04	102	30400	-	-	10500
2024-05	102	10500	30400	-65.46	7750

Stock Price Trend Analysis:

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

ClearFindActionsSaveRun

```
1 -- Stock price trend analysis
2 , WITH StockPrices AS (
3     SELECT DISTINCT
4         StockID,
5         TransactionDate,
6         Price,
7         ROW_NUMBER() OVER (PARTITION BY StockID ORDER BY TransactionDate) as rn
8     FROM Transactions
9 )
10 SELECT
11     s.Symbol,
12     sp.TransactionDate,
13     sp.Price as Current_Price,
14     LAG(sp.Price) OVER (PARTITION BY sp.StockID ORDER BY sp.TransactionDate) as Previous_Price,
15     LEAD(sp.Price) OVER (PARTITION BY sp.StockID ORDER BY sp.TransactionDate) as Next_Price,
16     -- Price change calculations
17     CASE
```

SYMBOL	TRANSACTIONDATE	CURRENT_PRICE	PREVIOUS_PRICE	NEXT_PRICE	PRICE_CHANGE	PRICE_CHANGE_PERCENT
BK	05-APR-24	280	-	285	-	-
BK	12-MAY-24	285	280	288	5	1.79
BK	25-MAY-24	288	285	290	3	1.05
BK	01-JUL-24	290	288	292	2	.69

Home

SQL Worksheet

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SQL Worksheet

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Code Library

USERID	USERNAME	PORTFOLIO_VALUE	STOCK_DIVERSITY	TOTAL_TRANSACTIONS	CUSTOMER_TIER	TIER_NAME	PORTFOLIO_PERCENTILE	CUMULATIVE_DISTRIBUTION	ACTIVITY_TIER
102	IRADUKURU_A	152625	2	6	4	Platinum	1	1	3
103	MUGABO_C	133050	3	9	4	Platinum	.9473684210526315789473684210526315789474	.95	3
101	KAVITARE_J	74550	2	6	4	Platinum	.8947368421052631578947368421052631578947	.9	3
106	MUKAVWA_F	49400	2	4	4	Platinum	.8421052631578947368421052631578947368421	.85	3
111	UMUTOKI_K	48800	1	1	4	Platinum	.7894736842105263157894736842105263157895	.8	3
104	UMASE_D	26980	2	4	3	Gold	.7368421052631578947368421052631578947368	.75	3
107	NDAYISHIMYE_G	8000	1	1	3	Gold	.6842105263157894736842105263157894736842	.7	2
109	ISHIMBE_I	6960	1	1	3	Gold	.6315789473684210526315789473684210526316	.65	2
108	KAMUKIZI_H	5900	1	1	3	Gold	.5789473684210526315789473684210526315789	.6	2
110	HABITWAHA_Z	5500	1	1	3	Gold	.5263157894736842105263157894736842105263	.55	2
105	NYENGEYIMWA_E	4400	1	2	2	Silver	.4736842105263157894736842105263157894737	.5	3
118	KARAKWMA_R	0	0	0	1	Bronze	0	.45	1
119	SHENJA_S	0	0	0	1	Bronze	0	.45	1
117	KAGAME_Q	0	0	0	1	Bronze	0	.45	1
116	RUTAGENWA_P	0	0	0	1	Bronze	0	.45	1
113	DUKURUKI_M	0	0	0	2	Silver	0	.45	2
120	TUVISHIMU_T	0	0	0	2	Silver	0	.45	2
112	CYIZA_L	0	0	0	1	Bronze	0	.45	1
115	MUKESHIMANA_O	0	0	0	2	Silver	0	.45	1
114	GIHOTO_N	0	0	0	2	Silver	0	.45	1

Trading Activity Distribution:

[illegible]

