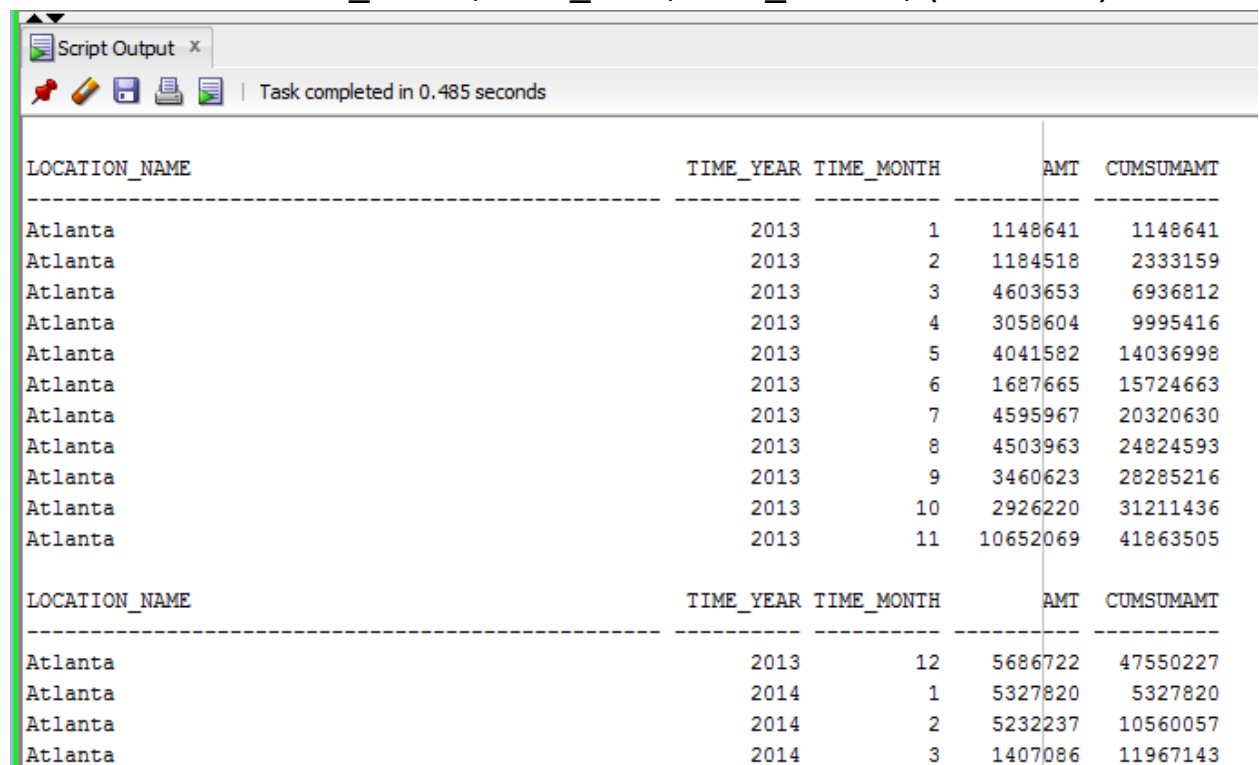


Module 4 Analytic Queries (Capstone Project)

1. AQ1

```
SELECT
Location_Name,Time_Year,Time_Month,SUM(Quantity_Ordered*
Unit_Price) AS AMT,
SUM(SUM(Quantity_Ordered*Unit_Price)) OVER (Partition by
Location_Name,Time_Year Order By Time_Month ROWS
UNBOUNDED PRECEDING) AS CUMSUMAMT
FROM W_JOB_F,W_LOCATION_D,W_TIME_D
WHERE W_JOB_F.Location_ID = W_LOCATION_D.Location_ID
AND W_TIME_D.Time_id = W_JOB_F.Contract_date
GROUP BY Location_Name,Time_Year,Time_Month; (388 rows)
```



LOCATION_NAME	TIME_YEAR	TIME_MONTH	AMT	CUMSUMAMT
Atlanta	2013	1	1148641	1148641
Atlanta	2013	2	1184518	2333159
Atlanta	2013	3	4603653	6936812
Atlanta	2013	4	3058604	9995416
Atlanta	2013	5	4041582	14036998
Atlanta	2013	6	1687665	15724663
Atlanta	2013	7	4595967	20320630
Atlanta	2013	8	4503963	24824593
Atlanta	2013	9	3460623	28285216
Atlanta	2013	10	2926220	31211436
Atlanta	2013	11	10652069	41863505
Atlanta	2013	12	5686722	47550227
Atlanta	2014	1	5327820	5327820
Atlanta	2014	2	5232237	10560057
Atlanta	2014	3	1407086	11967143

2. AQ2

```
SELECT
Location_Name,Time_Year,Time_Month,AVG(Quantity_Ordered*
Unit_Price) AS AVGAMT,
```

```

AVG(AVG(Quantity_Ordered*Unit_Price)) OVER (Partition by
Location_Name Order By Time_Year,Time_Month ROWS 11
PRECEDING) AS AVGSUMAMT
FROM W_JOB_F,W_LOCATION_D,W_TIME_D
WHERE W_JOB_F.Location_ID = W_LOCATION_D.Location_ID
AND W_TIME_D.Time_id = W_JOB_F.Contract_date
GROUP BY Location_Name,Time_Year,Time_Month;

```

Script Output x

Task completed in 0.515 seconds

LOCATION_NAME	TIME_YEAR	TIME_MONTH	AVGAMT	AVGSUMAMT
Atlanta	2013	1	574320.5	574320.5
Atlanta	2013	2	394839.333	484579.917
Atlanta	2013	3	920730.6	629963.478
Atlanta	2013	4	436943.429	581708.465
Atlanta	2013	5	367416.545	538850.081
Atlanta	2013	6	562555	542800.901
Atlanta	2013	7	574495.875	547328.755
Atlanta	2013	8	643423.286	559340.571
Atlanta	2013	9	432577.875	545255.827
Atlanta	2013	10	731555	563885.744
Atlanta	2013	11	710137.933	577181.398
Atlanta	2013	12	568672.2	576472.298

3. AQ3

Select

```

BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month,SUM(SUM
INVAMT - TOTALCOST) AS Profit,
RANK() OVER(Partition By BQ2.Time_Year Order by
SUM(SUMINVAMT - TOTALCOST) DESC) AS Rank
FROM BQ2,BQ3
WHERE BQ2.Job_id = BQ3.Job_id
GROUP BY
BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month;
(312 rows)

```

Task completed in 1.016 seconds

LOCATION_NAME	TIME_YEAR	TIME_MONTH	PROFIT	RANK
Birmingham	2013	9	4989805.92	1
London	2013	6	4909788.55	2
Denver	2013	5	4901295.68	3
Atlanta	2013	11	4869216.3	4
Vancouver	2013	10	4825869.76	5
Montreal	2013	9	4821761.91	6
Toronto	2013	7	4748999.74	7
Vancouver	2013	8	4731994.92	8
Denver	2013	3	4705947.69	9
Seattle	2013	4	4690827.26	10
Denver	2013	11	4630393.63	11

4. AQ4

Select

BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month,SUM(SUM
INVAMT - TOTALCOST)/SUM(SUMINVAMT) AS ProfitMargin,
RANK() OVER(Partition By BQ2.Time_Year Order by
SUM(SUMINVAMT - TOTALCOST)/SUM(SUMINVAMT) DESC) AS
Rank FROM BQ2,BQ3
WHERE BQ2.Job_id = BQ3.Job_id GROUP BY
BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month;

Script Output x
Task completed in 1.047 seconds

LOCATION_NAME	TIME_YEAR	TIME_MONTH	PROFITMARGIN	RANK
Denver	2013	9	.600099905	1
Toronto	2013	1	.600024579	2
Los Angeles	2013	1	.599851949	3
Los Angeles	2013	7	.587485673	4
Chicago	2013	8	.587244558	5
New York	2013	5	.585807045	6
Seattle	2013	10	.577112055	7
Atlanta	2013	8	.575782406	8
Vancouver	2013	11	.575419526	9
Denver	2013	4	.574671135	10
Los Angeles	2013	2	.572882606	11

LOCATION_NAME	TIME_YEAR	TIME_MONTH	PROFITMARGIN	RANK
Birmingham	2013	5	.570622888	12
Los Angeles	2013	12	.57003757	13

5. AQ5

Select

BQ2.Job_Id,BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month,SUM(SUMINVAMT - TOTALCOST)/SUM(SUMINVAMT) AS

ProfitMargin,

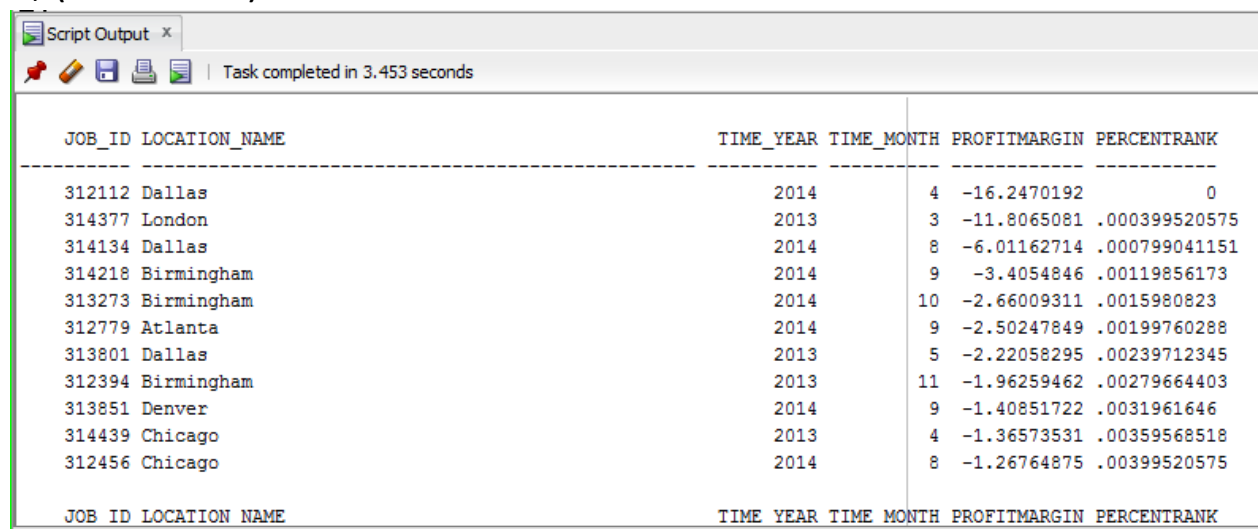
PERCENT_RANK() OVER(ORDER BY SUM(SUMINVAMT - TOTALCOST)/SUM(SUMINVAMT) DESC) AS PercentRank

FROM BQ2,BQ3

WHERE BQ2.Job_id = BQ3.Job_id

GROUP BY

BQ2.Job_Id,BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month; (2504 rows)



Script Output x

Task completed in 3.453 seconds

JOB_ID	LOCATION_NAME	TIME_YEAR	TIME_MONTH	PROFITMARGIN	PERCENTRANK
312112	Dallas	2014	4	-16.2470192	0
314377	London	2013	3	-11.8065081	.000399520575
314134	Dallas	2014	8	-6.01162714	.000799041151
314218	Birmingham	2014	9	-3.4054846	.00119856173
313273	Birmingham	2014	10	-2.66009311	.0015980823
312779	Atlanta	2014	9	-2.50247849	.00199760288
313801	Dallas	2013	5	-2.22058295	.00239712345
312394	Birmingham	2013	11	-1.96259462	.00279664403
313851	Denver	2014	9	-1.40851722	.0031961646
314439	Chicago	2013	4	-1.36573531	.00359568518
312456	Chicago	2014	8	-1.26764875	.00399520575

6. AQ6

Select *

FROM

(

Select

BQ2.Job_Id,BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month,SUM(SUMINVAMT - TOTALCOST)/SUM(SUMINVAMT) AS

ProfitMargin,

```

PERCENT_RANK() OVER(Order by SUM(SUMINVAMT -
TOTALCOST)/SUM(SUMINVAMT) DESC) AS PercentRank
FROM BQ2,BQ3
WHERE BQ2.Job_id = BQ3.Job_id
GROUP BY
BQ2.Job_Id,BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Mont
h
)
WHERE PercentRank < 0.05;

```

Script Output x | Task completed in 1.031 seconds

JOB_ID	LOCATION_NAME	TIME_YEAR	TIME_MONTH	PROFITMARGIN	PERCENTRANK
311964	Atlanta	2013	4	.601971678	0
312598	London	2013	10	.601870787	.000399520575
312217	Los Angeles	2013	6	.601702896	.000799041151
311991	Birmingham	2014	7	.601465553	.00119856173
313396	Birmingham	2014	11	.601360258	.0015980823
313988	Birmingham	2014	4	.601281955	.00199760288
313442	Dallas	2013	4	.601226886	.00239712345
314366	Chicago	2014	11	.60112912	.00279664403
312695	Los Angeles	2014	11	.60108011	.0031961646
314097	Toronto	2013	11	.601053425	.00359568518
314475	Denver	2014	10	.601006393	.00399520575
312303	Birmingham	2014	11	.600870395	.00439472633
314293	Montreal	2014	8	.600868571	.0047942469
312480	Montreal	2014	6	.600738197	.00519376748

7. AQ7

```

SELECT Sales_Class_Desc,Time_Year,
SUM ( Quantity_shipped - Invoice_Quantity ) as QTYRETURNED,
RANK() OVER(Partition By Time_Year Order By SUM (
Quantity_shipped - Invoice_Quantity ) DESC) AS Rank
FROM W_INVOICELINE_F,W_Sales_Class_D,W_TIME_D
WHERE quantity_shipped - invoice_quantity > 0
AND W_INVOICELINE_F.INVOICE_SENT_DATE =
W_TIME_D.TIME_ID

```

AND W_INVOICELINE_F.Sales_Class_Id =
W_Sales_Class_D.Sales_Class_Id
GROUP BY Sales_Class_Desc,Time_Year;

Columns	Data	Grants	Dependencies	Details	Triggers	SQL	Errors
						Sort..	Filter:
	SALES_CLASS_DESC	TIME_YEAR	QTYRETURNED	RANK			
1	Debit NoSmart	2013	2887050	1			
2	Prepaid NoSmart	2013	2853063	2			
3	Debit Smart	2013	2507153	3			
4	Credit Smart	2013	2257508	4			
5	Loyalty NoSmart	2013	2158674	5			
6	Credit NoSmart	2013	2010392	6			
7	Credit NoSmart	2014	4101862	1			
8	Loyalty NoSmart	2014	3703979	2			
9	Debit NoSmart	2014	3660662	3			
10	Debit Smart	2014	3454907	4			
11	Credit Smart	2014	3422024	5			
12	Prepaid NoSmart	2014	3190682	6			
13	Prepaid NoSmart	2015	1386776	1			
14	Loyalty NoSmart	2015	1207201	2			
15	Debit Smart	2015	1046166	3			
16	Debit NoSmart	2015	910278	4			
17	Credit NoSmart	2015	865671	5			
18	Credit Smart	2015	776626	6			

8. AQ8

```
SELECT Sales_Class_Desc,Time_Year,
SUM ( Quantity_shipped - Invoice_Quantity ) as QTYRETURNED,
RATIO_TO_REPORT(SUM ( Quantity_shipped - Invoice_Quantity
))OVER(Partition By Time_Year) AS Ratio
FROM W_INVOICELINE_F,W_Sales_Class_D,W_TIME_D
WHERE quantity_shipped - invoice_quantity > 0
AND W_INVOICELINE_F.INVOICE_SENT_DATE =
W_TIME_D.TIME_ID
AND W_INVOICELINE_F.Sales_Class_Id =
W_Sales_Class_D.Sales_Class_Id
GROUP BY Sales_Class_Desc,Time_Year
```

ORDER BY Time_Year,QTYRETURNED;

Columns Data Grants Dependencies Details Triggers SQL Errors				
Sort.. Filter:				
	SALES_CLASS_DESC	TIME_YEAR	QTYRETURNED	RATIO
1	Credit NoSmart	2013	2010392	0.1370051738331615991451453743532708548001
2	Loyalty NoSmart	2013	2158674	0.1471103678382754616378534862040202155673
3	Credit Smart	2013	2257508	0.1538457554396122623662245192805700484672
4	Debit Smart	2013	2507153	0.1708586845706372701351520801644286703412
5	Prepaid NoSmart	2013	2853063	0.1944319278389296871166647585090201337891
6	Debit NoSmart	2013	2887050	0.1967480904793837195989597814886900770351
7	Prepaid NoSmart	2014	3190682	0.1481687012366795089243505514691199768776
8	Credit Smart	2014	3422024	0.1589117472943862659604879996002622071879
9	Debit Smart	2014	3454907	0.1604387660956224067893012185872872608284
10	Debit NoSmart	2014	3660662	0.1699936045668185311159278607025243107263
11	Loyalty NoSmart	2014	3703979	0.1720051568404293912041710929763729330705
12	Credit NoSmart	2014	4101862	0.1904820239660638960057612766644333113094
13	Credit Smart	2015	776626	0.1254095536079634176786348094649231565203
14	Credit NoSmart	2015	865671	0.139788538732104384536805971142235121961
15	Debit NoSmart	2015	910278	0.1469916763527743391512418295165386184225
16	Debit Smart	2015	1046166	0.168934868340525113528502347434519059321
17	Loyalty NoSmart	2015	1207201	0.1949387974714818275271052226179199504967
18	Prepaid NoSmart	2015	1386776	0.2239365654951509175777098198238640932786


9. AQ9

```

SELECT Location_Name,W_Time_D.Time_Year,SUM(DAYSDIFF) AS
SUMDAYSDIFF,
RANK() OVER(Partition By W_Time_D.Time_Year Order By
SUM(DAYSDIFF) DESC) AS Rank,
DENSE_RANK() OVER(Partition By W_Time_D.Time_Year Order By
SUM(DAYSDIFF) DESC) AS DenseRank
FROM BQ6,W_Time_D
WHERE W_Time_D.Time_Id = BQ6.Date_Ship_By
GROUP BY Location_Name,W_Time_D.Time_Year;
(27 rows)

```

Script Output x Query Result x

 SQL | All Rows Fetched: 27 in 0.25 seconds

	LOCATION_NAME	TIME_YEAR	SUMDAYSDIFF	RANK	DENSERANK
1	Seattle	2013	24	1	1
2	Montreal	2013	20	2	2
3	Birmingham	2013	15	3	3
4	Chicago	2013	12	4	4
5	London	2013	9	5	5
6	Los Angeles	2013	8	6	6
7	Dallas	2013	7	7	7
8	Toronto	2013	4	8	8
9	New York	2013	2	9	9
10	Seattle	2014	39	1	1
11	Birmingham	2014	26	2	2
12	Los Angeles	2014	19	3	3
13	Vancouver	2014	17	4	4
14	Toronto	2014	17	4	4

10. AQ10

```

SELECT Location_Name,W_Time_D.Time_Year,SUM(DAYSDIFF) AS
SUMDAYSDIFF,Count(*) AS NoofJobs,
SUM(Quantity_Ordered - SumShipQty) / SUM(Quantity_Ordered)
AS Delay_Rate,
RANK() OVER(Partition By W_Time_D.Time_Year Order By
SUM(Quantity_Ordered - SumShipQty) / SUM(Quantity_Ordered)
DESC) AS Rank
FROM BQ5,W_Time_D
WHERE W_Time_D.Time_Id = BQ5.Date_Promised
GROUP BY Location_Name,W_Time_D.Time_Year;
(27 rows)

```


Script Output x Query Result x						
SQL All Rows Fetched: 27 in 1.078 seconds						
	LOCATION_NAME	TIME_YEAR	SUMDAYSDIFF	NOOFJOBS	DELAY_RATE	RANK
1	Chicago	2013	7	2	0.6831937799043062200956937799043062200957	1
2	London	2013	11	2	0.6715128354241089972584531029326244080751	2
3	New York	2013	3	1	0.6501584786053882725832012678288431061807	3
4	Los Angeles	2013	15	3	0.3747337458160056800892585454914291510295	4
5	Dallas	2013	4	2	0.3171726589359594429229065905250276790397	5
6	Montreal	2013	36	6	0.3030475512866121190560891734851179888533	6
7	Seattle	2013	18	4	0.1445486204125368336458612376105009375837	7
8	Toronto	2013	4	1	0.117450465504893769396037240391501551683	8
9	Birmingham	2013	9	1	0.001274697259400892288081580624601657106437	9
10	Atlanta	2014	3	1	0.8946557831510857846912059140612967811489	1
11	Dallas	2014	8	3	0.5975430336913344122406944240105929086362	2
12	New York	2014	3	2	0.5761371127224785761371127224785761371127	3