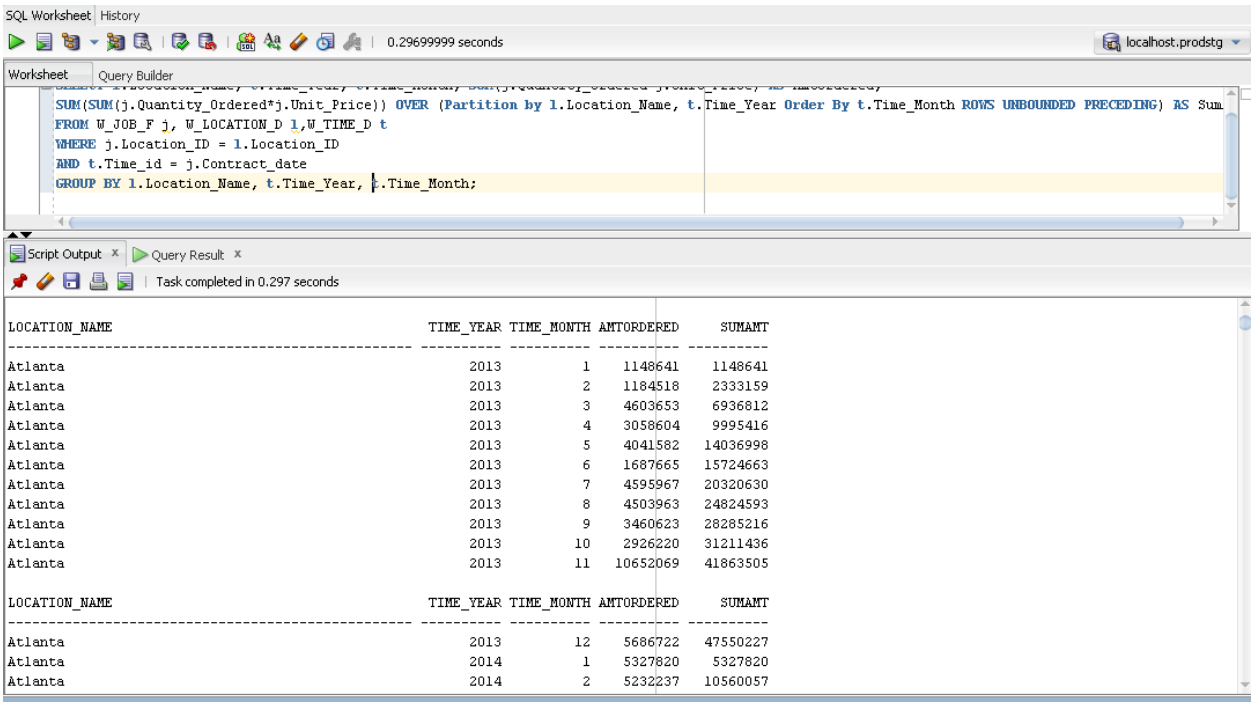
Analytic Queries

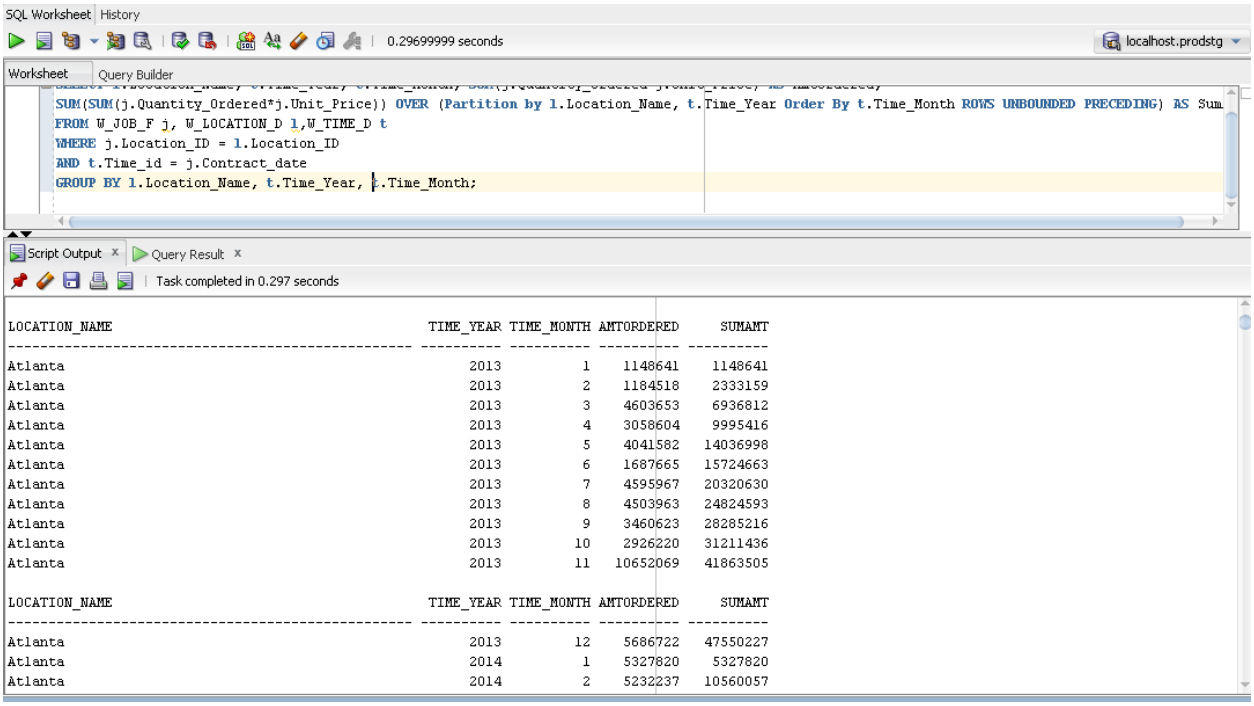
1. A1

```
SELECT l.Location_Name, t.Time_Year, t.Time_Month,
SUM(j.Quantity_Ordered*j.Unit_Price) AS AmtOrdered,
SUM(SUM(j.Quantity_Ordered*j.Unit_Price)) OVER (Partition by l.Location_Name,
t.Time_Year Order By t.Time_Month ROWS UNBOUNDED PRECEDING) AS SumAmt
FROM W_JOB_F j, W_LOCATION_D l,W_TIME_D t
WHERE j.Location_ID = l.Location_ID
AND t.Time_id = j.Contract_date
GROUP BY l.Location_Name, t.Time_Year, t.Time_Month;
```



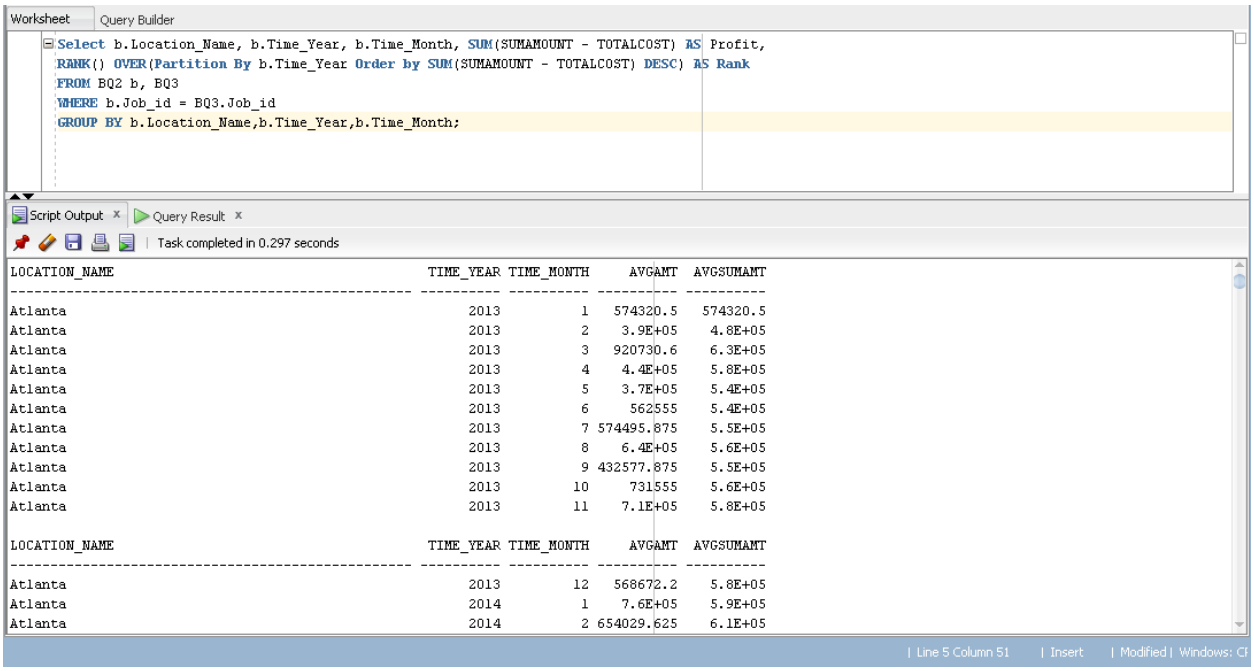
2. A2

```
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 j,W_LOCATION_D l,W_TIME_D t
WHERE j.Location_ID = l.Location_ID
AND t.Time_id = j.Contract_date
GROUP BY Location_Name,Time_Year,Time_Month;
```



3. A3

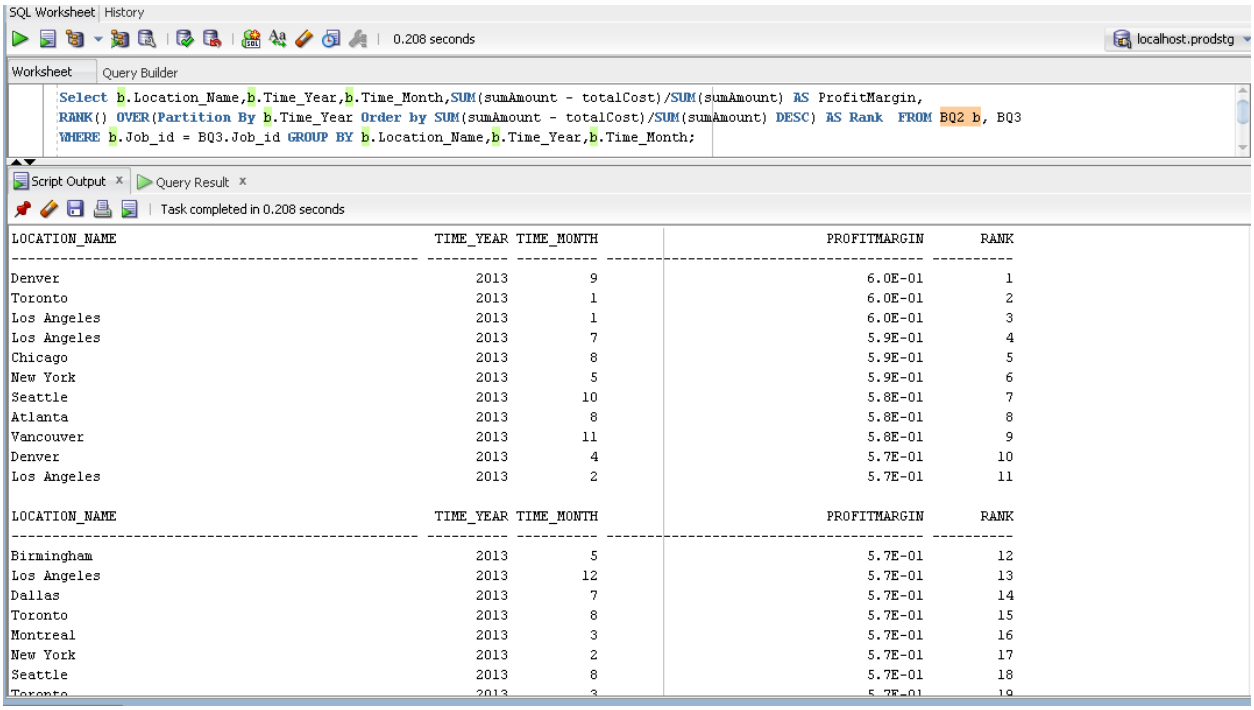
   Select b.Location_Name, b.Time_Year, b.Time_Month, SUM(SUMAMOUNT - TOTALCOST) AS Profit,
   RANK() OVER(Partition By b.Time_Year Order by SUM(SUMAMOUNT - TOTALCOST) DESC) AS Rank
   FROM BQ2 b, BQ3
   WHERE b.Job_id = BQ3.Job_id
   GROUP BY b.Location_Name,b.Time_Year,b.Time_Month;



```
Worksheet  Query Builder
Select b.Location_Name, b.Time_Year, b.Time_Month, SUM(SUMAMOUNT - TOTALCOST) AS Profit,
RANK() OVER(Partition By b.Time_Year Order by SUM(SUMAMOUNT - TOTALCOST) DESC) AS Rank
FROM BQ2 b, BQ3
WHERE b.Job_id = BQ3.Job_id
GROUP BY b.Location_Name,b.Time_Year,b.Time_Month;

Script Output  Query Result
Task completed in 0.297 seconds

LOCATION_NAME                                      TIME_YEAR TIME_MONTH     AVGAMT  AVGSUMAMT
-------------------------------------------------- --------- ---------- ---------- ----------
Atlanta                                                 2013          1   574320.5   574320.5
Atlanta                                                 2013          2    3.9E+05    4.8E+05
Atlanta                                                 2013          3   920730.6    6.3E+05
Atlanta                                                 2013          4    4.4E+05    5.8E+05
Atlanta                                                 2013          5    3.7E+05    5.4E+05
Atlanta                                                 2013          6     562555    5.4E+05
Atlanta                                                 2013          7 574495.875    5.5E+05
Atlanta                                                 2013          8    6.4E+05    5.6E+05
Atlanta                                                 2013          9 432577.875    5.5E+05
Atlanta                                                 2013         10     731555    5.6E+05
Atlanta                                                 2013         11    7.1E+05    5.8E+05

LOCATION_NAME                                      TIME_YEAR TIME_MONTH     AVGAMT  AVGSUMAMT
-------------------------------------------------- --------- ---------- ---------- ----------
Atlanta                                                 2013         12   568672.2    5.8E+05
Atlanta                                                 2014          1    7.6E+05    5.9E+05
Atlanta                                                 2014          2 654029.625    6.1E+05

Line 5 Column 51  Insert  Modified  Windows: Cr
```

4. A4

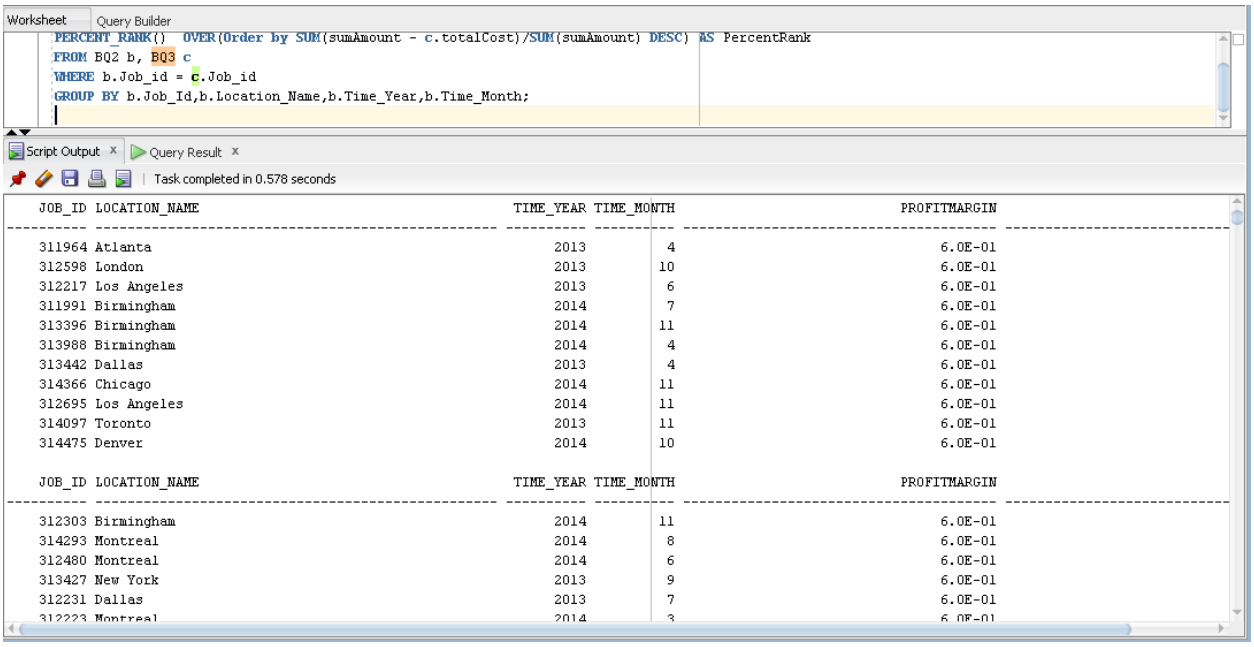
Select b.Location_Name,b.Time_Year,b.Time_Month,SUM(sumAmount - totalCost)/SUM(sumAmount) AS ProfitMargin,
RANK() OVER(Partition By b.Time_Year Order by SUM(sumAmount - totalCost)/SUM(sumAmount) DESC) AS Rank FROM BQ2 b, BQ3
WHERE b.Job_id = BQ3.Job_id GROUP BY b.Location_Name,b.Time_Year,b.Time_Month;



```
SQL Worksheet  History
0.208 seconds  localhost.prodstg
Worksheet  Query Builder
Select b.Location_Name,b.Time_Year,b.Time_Month,SUM(sumAmount - totalCost)/SUM(sumAmount) AS ProfitMargin,
RANK() OVER(Partition By b.Time_Year Order by SUM(sumAmount - totalCost)/SUM(sumAmount) DESC) AS Rank  FROM BQ2 b, BQ3
WHERE b.Job_id = BQ3.Job_id GROUP BY b.Location_Name,b.Time_Year,b.Time_Month;

Script Output  Query Result
Task completed in 0.208 seconds

LOCATION_NAME                                      TIME_YEAR TIME_MONTH PROFITMARGIN       RANK
-------------------------------------------------- --------- ---------- ---------- ----------
Denver                                                  2013          9    6.0E-01          1
Toronto                                                 2013          1    6.0E-01          2
Los Angeles                                             2013          1    6.0E-01          3
Los Angeles                                             2013          7    5.9E-01          4
Chicago                                                 2013          8    5.9E-01          5
New York                                                2013          5    5.9E-01          6
Seattle                                                 2013         10    5.8E-01          7
Atlanta                                                 2013          8    5.8E-01          8
Vancouver                                               2013         11    5.8E-01          9
Denver                                                  2013          4    5.7E-01         10
Los Angeles                                             2013          2    5.7E-01         11

LOCATION_NAME                                      TIME_YEAR TIME_MONTH PROFITMARGIN       RANK
-------------------------------------------------- --------- ---------- ---------- ----------
Birmingham                                              2013          5    5.7E-01         12
Los Angeles                                             2013         12    5.7E-01         13
Dallas                                                  2013          7    5.7E-01         14
Toronto                                                 2013          8    5.7E-01         15
Montreal                                                2013          3    5.7E-01         16
New York                                                2013          2    5.7E-01         17
Seattle                                                 2013          8    5.7E-01         18
Toronto                                                 2013          3    5.7E-01         19
```

5. A5

```
Select b.Job_Id,b.Location_Name,b.Time_Year,b.Time_Month,SUM(sumAmount -
c.totalCost)/SUM(sumAmount) AS ProfitMargin,
PERCENT_RANK()  OVER(Order by SUM(sumAmount - c.totalCost)/SUM(sumAmount)
DESC) AS PercentRank
FROM BQ2 b, BQ3 c
WHERE b.Job_id = c.Job_id
GROUP BY b.Job_Id,b.Location_Name,b.Time_Year,b.Time_Month;
```



Worksheet | Query Builder

```
PERCENT_RANK()  OVER(Order by SUM(sumAmount - c.totalCost)/SUM(sumAmount) DESC) AS PercentRank
FROM BQ2 b, BQ3 c
WHERE b.Job_id = c.Job_id
GROUP BY b.Job_Id,b.Location_Name,b.Time_Year,b.Time_Month;
```

Script Output | Query Result

Task completed in 0.578 seconds

JOB_ID	LOCATION_NAME	TIME_YEAR	TIME_MONTH	PROFITMARGIN
311964	Atlanta	2013	4	6.0E-01
312598	London	2013	10	6.0E-01
312217	Los Angeles	2013	6	6.0E-01
311991	Birmingham	2014	7	6.0E-01
313396	Birmingham	2014	11	6.0E-01
313988	Birmingham	2014	4	6.0E-01
313442	Dallas	2013	4	6.0E-01
314366	Chicago	2014	11	6.0E-01
312695	Los Angeles	2014	11	6.0E-01
314097	Toronto	2013	11	6.0E-01
314475	Denver	2014	10	6.0E-01

JOB_ID	LOCATION_NAME	TIME_YEAR	TIME_MONTH	PROFITMARGIN
312303	Birmingham	2014	11	6.0E-01
314293	Montreal	2014	8	6.0E-01
312480	Montreal	2014	6	6.0E-01
313427	New York	2013	9	6.0E-01
312231	Dallas	2013	7	6.0E-01
312223	Montreal	2014	3	6.0E-01

6. A6

```
Select *
FROM
  (
    Select b.Job_Id,b.Location_Name,b.Time_Year,b.Time_Month,SUM(sumAmount -
c.totalCost)/SUM(sumAmount) AS ProfitMargin,
    PERCENT_RANK()  OVER(Order by SUM(sumAmount - c.totalCost)/SUM(sumAmount)
DESC) AS PercentRank
    FROM BQ2 b,BQ3 c
    WHERE b.Job_id = c.Job_id
    GROUP BY b.Job_Id,b.Location_Name,b.Time_Year,b.Time_Month
  )
WHERE PercentRank < 0.05;
```

```
Select *
FROM
    (
        Select b.Job_Id,b.Location_Name,b.Time_Year,b.Time_Month,SUM(sumAmount - c.totalCost)/SUM(sumAmount) AS ProfitMargin,
        PERCENT_RANK()  OVER(Order by SUM(sumAmount - c.totalCost)/SUM(sumAmount) DESC) AS PercentRank
        FROM BQ2 b,BQ3 c
        WHERE b.Job_id = c.Job_id
        GROUP BY b.Job_Id,b.Location_Name,b.Time_Year,b.Time_Month
    )
WHERE PercentRank < 0.05;
```

Script Output | Query Result

Task completed in 0.203 seconds

JOB_ID	LOCATION_NAME	TIME_YEAR	TIME_MONTH	PROFITMARGIN
311964	Atlanta	2013	4	6.0E-01
312598	London	2013	10	6.0E-01
312217	Los Angeles	2013	6	6.0E-01
311991	Birmingham	2014	7	6.0E-01
313396	Birmingham	2014	11	6.0E-01
313988	Birmingham	2014	4	6.0E-01
313442	Dallas	2013	4	6.0E-01
314366	Chicago	2014	11	6.0E-01
312695	Los Angeles	2014	11	6.0E-01
314097	Toronto	2013	11	6.0E-01
314475	Denver	2014	10	6.0E-01

JOB_ID	LOCATION_NAME	TIME_YEAR	TIME_MONTH	PROFITMARGIN
312303	Birmingham	2014	11	6.0E-01

7. A7

```
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 i,W_Sales_Class_D s,W_TIME_D t
WHERE quantity_shipped - invoice_quantity > 0
AND i.INVOICE_SENT_DATE = t.TIME_ID
AND i.Sales_Class_Id = s.Sales_Class_Id
GROUP BY Sales_Class_Desc,Time_Year;
```

Worksheet | Query Builder

```
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 i,W_Sales_Class_D s,W_TIME_D t
 WHERE quantity_shipped - invoice_quantity > 0
 AND i.INVOICE_SENT_DATE = t.TIME_ID
 AND i.Sales_Class_Id = s.Sales_Class_Id
 GROUP BY Sales_Class_Desc,Time_Year;
```

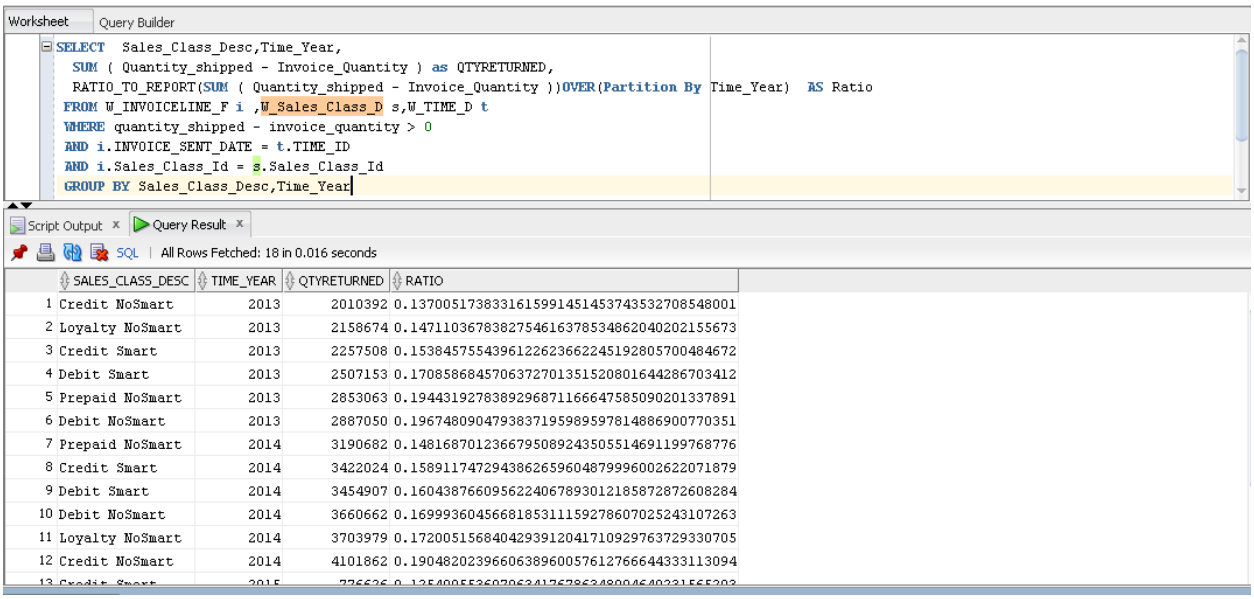
Script Output | Query Result

SQL | All Rows Fetched: 18 in 0.016 seconds

	SALES_CLASS_DESC	TIME_YEAR	QTYRETURNED	RATIO
1	Credit NoSmart	2013	2010392	0.13700517383316159914514537435327085480 01
2	Loyalty NoSmart	2013	2158674	0.14711036783827546163785348620402021556 73
3	Credit Smart	2013	2257508	0.15384575543961226236622451928057004846 72
4	Debit Smart	2013	2507153	0.17085868457063727013515208016442867034 12
5	Prepaid NoSmart	2013	2853063	0.19443192783892968711666475850902013378 91
6	Debit NoSmart	2013	2887050	0.19674809047938371959895978148869007703 51
7	Prepaid NoSmart	2014	3190682	0.14816870123667950892435055146911997687 76
8	Credit Smart	2014	3422024	0.15891174729438626596048799960026220718 79
9	Debit Smart	2014	3454907	0.16043876609562240678930121858728726082 84
10	Debit NoSmart	2014	3660662	0.16999360456681853111592786070252431072 63
11	Loyalty NoSmart	2014	3703979	0.17200515684042939120417109297637293307 05
12	Credit NoSmart	2014	4101862	0.19048202396606389600576127666443331130 94
13	Credit Smart	2015	776626	0.12540955369706341767863489046402315653 03

8. A8

```
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 i ,W_Sales_Class_D s,W_TIME_D t
 WHERE quantity_shipped - invoice_quantity > 0
 AND i.INVOICE_SENT_DATE = t.TIME_ID
 AND i.Sales_Class_Id = s.Sales_Class_Id
 GROUP BY Sales_Class_Desc,Time_Year
 ORDER BY Time_Year,QTYRETURNED;
```



9. A9

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

```
SELECT Location_Name, t.Time_Year,SUM(DAYSDIFF) AS SUMDAYSDIFF,
RANK() OVER(Partition By t.Time_Year Order By SUM(DAYSDIFF) DESC) AS Rank,
DENSE_RANK() OVER(Partition By t.Time_Year Order By SUM(DAYSDIFF) DESC) AS DenseRank
FROM BQ6 b,W_Time_D t
WHERE t.Time_Id = b.Date_Ship_By
```

Script Output | Query Result

Task completed in 0.219 seconds

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

LOCATION_NAME	TIME_YEAR	SUMDAYSDIFF	RANK	DENSERANK
Los Angeles	2014	19	3	3
Vancouver	2014	17	4	4
Toronto	2014	17	4	4

10. A10

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

```
SELECT Location_Name,t.Time_Year,SUM(DAYSDIFF) AS SUMDAYSDIFF,Count(*) AS NoJobs,
SUM(Quantity_Ordered - ShipQty) / SUM(Quantity_Ordered) AS Delay_Rate,
RANK() OVER(Partition By t.Time_Year Order By SUM(Quantity_Ordered - ShipQty) / SUM(Quantity_Ordered) DESC) AS Rank
FROM BQ5 b,W_Time_D t
WHERE t.Time_Id = b.Date_Promised
```

Script Output | Query Result

Task completed in 0.031 seconds

LOCATION_NAME	TIME_YEAR	SUMDAYSDIFF	NOJOBS	DELAY_RATE	RANK
Chicago	2013	7	2	6.8E-01	1
London	2013	11	2	6.7E-01	2
New York	2013	3	1	6.5E-01	3
Los Angeles	2013	15	3	3.7E-01	4
Dallas	2013	4	2	3.2E-01	5
Montreal	2013	36	6	3.0E-01	6
Seattle	2013	18	4	1.4E-01	7
Toronto	2013	4	1	1.2E-01	8
Birmingham	2013	9	1	1.3E-03	9
Atlanta	2014	3	1	8.9E-01	1
Dallas	2014	8	3	6.0E-01	2

LOCATION_NAME	TIME_YEAR	SUMDAYSDIFF	NOJOBS	DELAY_RATE	RANK
New York	2014	3	2	5.8E-01	3
Seattle	2014	41	11	5.3E-01	4
Montreal	2014	9	2	5.2E-01	5