

```

1  -- Q2-1
2  SELECT Location_Name,Time_Year,Time_Month,
3         SUM(Quantity_Ordered*Unit_Price) AS AMT,
4         SUM(SUM(Quantity_Ordered*Unit_Price)) OVER (Partition by Location_Name,Time_Year Order By Time_Month ROWS UNBOUNDED PRECEDING) AS CUMSUMAMT
5  FROM W_JOB_F
6  INNER JOIN W_LOCATION_D ON W_JOB_F.Location_ID = W_LOCATION_D.Location_ID
7  INNER JOIN W_TIME_D ON W_TIME_D.Time_id = W_JOB_F.Contract_date
8  GROUP BY Location_Name,Time_Year,Time_Month;

```

Data Output Explain Messages Notifications

	location_name character varying (50)	time_year integer	time_month integer	amt numeric	cumsumamt numeric	
1	Atlanta	2013	1	1155352.00	1155352.00	
2	Atlanta	2013	2	3048906.00	4204258.00	
3	Atlanta	2013	3	2922105.00	7126363.00	
4	Atlanta	2013	4	4975735.00	12102098.00	
5	Atlanta	2013	5	9831206.00	21933304.00	
6	Atlanta	2013	6	3973659.00	25906963.00	
7	Atlanta	2013	7	6319335.00	32226298.00	
8	Atlanta	2013	8	5433568.00	37659866.00	
9	Atlanta	2013	9	4412602.00	42072468.00	
10	Atlanta	2013	10	9311690.00	51384158.00	
11	Atlanta	2013	11	3782459.00	55166617.00	
12	Atlanta	2013	12	6461598.00	61628215.00	
13	Atlanta	2014	1	3936734.00	3936734.00	
14	Atlanta	2014	2	4438584.00	8375318.00	
15	Atlanta	2014	3	4500688.00	12876006.00	
16	Atlanta	2014	4	1595461.00	14471467.00	
17	Atlanta	2014	5	7150255.00	21621722.00	
18	Atlanta	2014	6	3184466.00	24806188.00	
19	Atlanta	2014	7	6665852.00	31472040.00	
20	Atlanta	2014	8	4060674.00	35532714.00	
21	Atlanta	2014	9	5602631.00	41135345.00	
22	Atlanta	2014	10	8846687.00	49982032.00	
23	Atlanta	2014	11	5627090.00	55609122.00	
24	Atlanta	2014	12	10966477.00	66575599.00	

```

10 -- Q2-2
11 SELECT Location_Name,Time_Year,Time_Month,
12        AVG(Quantity_Ordered*Unit_Price) AS AVGAMT,
13        AVG(AVG(Quantity_Ordered*Unit_Price)) OVER (Partition by Location_Name Order By Time_Year,Time_Month ROWS 11 PRECEDING) AS AVGSUMAMT
14 FROM W_JOB_F
15 INNER JOIN W_LOCATION_D ON W_JOB_F.Location_ID = W_LOCATION_D.Location_ID
16 INNER JOIN W_TIME_D ON W_TIME_D.Time_id = W_JOB_F.Contract_date
17 GROUP BY Location_Name,Time_Year,Time_Month;|
18
19
20
21

```

Data Output Explain Messages Notifications

	location_name character varying (50)	time_year integer	time_month integer	avgamt numeric	avgsumamt numeric	
1	Atlanta	2013	1	1155352.000000000000	1155352.000000000000	
2	Atlanta	2013	2	508151.000000000000	831751.500000000000	
3	Atlanta	2013	3	487017.500000000000	716840.166666666667	
4	Atlanta	2013	4	497573.500000000000	662023.500000000000	
5	Atlanta	2013	5	491560.300000000000	627930.860000000000	
6	Atlanta	2013	6	567665.571428571429	617886.645238095238	
7	Atlanta	2013	7	526611.250000000000	604847.303061224490	
8	Atlanta	2013	8	603729.777777777778	604707.612400793651	
9	Atlanta	2013	9	735433.666666666667	619232.729541446208	
10	Atlanta	2013	10	716283.846153846154	628937.841202686203	
11	Atlanta	2013	11	630409.833333333333	629071.658669108669	
12	Atlanta	2013	12	646159.800000000000	630495.670446682947	
13	Atlanta	2014	1	562390.571428571429	581082.218065730566	
14	Atlanta	2014	2	739764.000000000000	600383.301399063899	
15	Atlanta	2014	3	562586.000000000000	606680.676399063899	
16	Atlanta	2014	4	319092.200000000000	591807.234732397233	
17	Atlanta	2014	5	550019.615384615385	596678.844347781848	
18	Atlanta	2014	6	636893.200000000000	602447.813395400896	
19	Atlanta	2014	7	605986.545454545455	609062.421349946350	
20	Atlanta	2014	8	580096.285714285714	607092.963677988678	
21	Atlanta	2014	9	622514.555555555556	597683.037752062752	

```
19 -- Q2-3
20 Select BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month,
21 SUM(SUMINVAMT - TOTALCOST) AS Profit,
22 RANK() OVER(Partition By BQ2.Time_Year Order by SUM(SUMINVAMT - TOTALCOST) DESC) AS Rank
23 FROM BQ2
24 INNER JOIN BQ3 ON BQ2.Job_id = BQ3.Job_id
25 GROUP BY BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month;
26
27
28
29
```

Data Output Explain Messages Notifications

	location_name character varying (50)	time_year integer	time_month integer	profit numeric	rank bigint
288	Montreal	2015	1	2008418.2200	7
289	Seattle	2015	1	1966420.7800	8
290	Dallas	2015	1	1950261.4300	9
291	Seattle	2015	2	1933268.5300	10
292	New York	2015	1	1749707.4200	11
293	London	2015	1	1492581.5900	12
294	Vancouver	2015	1	1415627.5400	13
295	New York	2015	2	1303548.3600	14
296	Denver	2015	3	1190875.8200	15
297	Denver	2015	1	1132045.9900	16
298	Denver	2015	2	1128222.9200	17
299	Toronto	2015	2	1036298.7400	18
300	Atlanta	2015	1	972276.4900	19
301	London	2015	2	830675.0500	20
302	Birmingham	2015	2	817644.1600	21
303	Los Angeles	2015	3	771359.7500	22
304	London	2015	3	534185.5600	23
305	Dallas	2015	2	471603.0200	24
306	Montreal	2015	3	465282.0300	25
307	Toronto	2015	3	409998.0800	26
308	Los Angeles	2015	2	403773.7800	27
309	Chicago	2015	3	366495.9300	28

```

27 -- Q2-4
28 SELECT BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month,
29        SUM(SUMINVMT - TOTALCOST)/SUM(SUMINVMT) AS ProfitMargin,
30        RANK() OVER(Partition By BQ2.Time_Year Order by SUM(SUMINVMT - TOTALCOST)/SUM(SUMINVMT) DESC) AS Rank
31 FROM BQ2
32 INNER JOIN BQ3 ON BQ2.Job_id = BQ3.Job_id
33 GROUP BY BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month;
34
35
36
37
38

```

Data Output Explain Messages Notifications

	location_name character varying (50)	time_year integer	time_month integer	profitmargin numeric	rank bigint	
1	Atlanta	2013		1 0.60003824808370089808	1	
2	Denver	2013		6 0.58110834217473907572	2	
3	Birmingham	2013		5 0.57989463794509094995	3	
4	London	2013	11	0.57809806955257045384	4	
5	Los Angeles	2013	9	0.57601209770271918727	5	
6	Chicago	2013	9	0.57463470966112456254	6	
7	Montreal	2013	2	0.57454867898173607136	7	
8	New York	2013	6	0.57379993766107390204	8	
9	Los Angeles	2013	1	0.57302096155624968871	9	
10	London	2013	2	0.57125935574922913308	10	
11	Vancouver	2013	8	0.57088773013117832854	11	
12	Birmingham	2013	11	0.57068273848098632680	12	
13	Montreal	2013	12	0.56973192313885816138	13	
14	London	2013	12	0.56864049556405149564	14	
15	New York	2013	3	0.56772393211051324357	15	
16	Birmingham	2013	9	0.56483422445660002834	16	
17	Montreal	2013	4	0.56472093839933288323	17	
18	Montreal	2013	10	0.56443219115032537239	18	
19	Dallas	2013	6	0.56421963129352070444	19	
20	Denver	2013	2	0.56233095610645420044	20	
21	Seattle	2013	11	0.56156973536136154279	21	
22	London	2013	10	0.56150817539217328543	22	

```

36 -- Q2-5
37 SELECT BQ2.Job_Id,BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month,
38        SUM(SUMINVAMT - TOTALCOST)/SUM(SUMINVAMT) AS ProfitMargin,
39        PERCENT_RANK() OVER(ORDER BY SUM(SUMINVAMT - TOTALCOST)/SUM(SUMINVAMT) DESC) AS PercentRank
40 FROM BQ2
41 INNER JOIN BQ3 ON BQ2.Job_id = BQ3.Job_id
42 GROUP BY BQ2.Job_Id,BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month;
43
44 -- Q2-6

```

Data Output Explain Messages Notifications

	Job_Id Integer	location_name character varying (50)	time_year Integer	time_month Integer	profitmargin numeric	percentrank double precision
1	340176	Vancouver	2013	8	0.60191111111111111111	0
2	342516	Atlanta	2013	5	0.60143025751072961373	0.00039308176100628933
3	341696	Los Angeles	2014	5	0.60126926782273603083	0.0007861635220125787
4	340464	Seattle	2014	2	0.60110590481786133960	0.0011792452830188679
5	340861	New York	2014	12	0.60102559347181008902	0.0015723270440251573
6	342419	New York	2014	4	0.60093503937007874016	0.0019654088050314465
7	342157	Los Angeles	2014	5	0.60080421575846833579	0.0023584905660377358
8	342536	Toronto	2013	9	0.60079487179487179487	0.002751572327044025
9	341963	London	2014	1	0.60079142857142857143	0.0031446540880503146
10	340878	Dallas	2014	4	0.60071939782823297137	0.003537735849056604
11	340698	New York	2013	12	0.60070035861020732895	0.003930817610062893
12	341239	Atlanta	2015	1	0.60069107559578530514	0.004323899371069182
13	341656	New York	2014	12	0.60065411889455895023	0.0047169811320754715
14	341783	Dallas	2014	10	0.60064088983050847458	0.005110062893081761
15	342360	Birmingham	2014	2	0.60063820224719101124	0.00550314465408805
16	340153	Birmingham	2014	4	0.60061494688922610015	0.00589622641509434
17	342335	Seattle	2013	8	0.60057365231415864327	0.006289308176100629
18	342542	Denver	2013	12	0.60054414414414414414	0.0066823899371069185
19	342386	Denver	2014	1	0.60053037240537240537	0.007075471698113208
20	340557	Seattle	2014	3	0.60052598781549173194	0.007468553459119497
21	342527	Toronto	2014	1	0.60051070321709954285	0.007861635220125786
22	340459	London	2014	5	0.60049022004889975550	0.008254716981132075
23	342443	Chicago	2014	8	0.60048754743833017078	0.008647798742138365
24	342077	Seattle	2013	4	0.60048516414141414141	0.009040880503144654

```

44 -- Q2-6
45 SELECT *
46 FROM(
47     SELECT BQ2.Job_Id,BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month,
48         SUM(SUMINVT - TOTALCOST)/SUM(SUMINVT) AS ProfitMargin,
49         PERCENT_RANK() OVER(ORDER BY SUM(SUMINVT - TOTALCOST)/SUM(SUMINVT) DESC) AS PercentRank
50     FROM BQ2
51     INNER JOIN BQ3 ON BQ2.Job_id = BQ3.Job_id
52     GROUP BY BQ2.Job_Id,BQ2.Location_Name,BQ2.Time_Year,BQ2.Time_Month
53 ) main
54 WHERE PercentRank < 0.05;
55

```

Data Output Explain Messages Notifications






	Job_id integer	location_name character varying (50)	time_year integer	time_month integer	profitmargin numeric	percentrank double precision
106	340863	New York	2014	8	0.60021294079817070992	0.041273584905660375
107	342408	Chicago	2014	11	0.60021107303305357112	0.041666666666666664
108	341154	London	2014	8	0.60021062219730941704	0.042059748427672954
109	340562	New York	2014	1	0.60020924116630735593	0.04245283018867924
110	342074	Denver	2014	1	0.60020891015661731671	0.04284591194968553
111	341208	Los Angeles	2014	5	0.60020595533498759305	0.04323899371069182
112	340740	Atlanta	2014	11	0.60020346320346320346	0.04363207547169811
113	342256	Montreal	2014	5	0.60020263917916252393	0.0440251572327044
114	341228	Atlanta	2013	5	0.60020120120120120120	0.04441823899371069
115	341219	London	2013	6	0.60019997684783237831	0.04481132075471698
116	342540	Denver	2013	10	0.60019805364394152748	0.04520440251572327
117	342155	Chicago	2013	11	0.60019669576059850374	0.04559748427672956
118	341336	Los Angeles	2014	8	0.60019615295634068150	0.045990566037735846
119	340730	New York	2013	11	0.60019430748869206044	0.046383647798742135
120	340250	Dallas	2014	11	0.60019402470765057370	0.046776729559748424
121	341139	Atlanta	2013	11	0.60019350475959287708	0.04716981132075472
122	341385	Seattle	2013	6	0.60019245206745206745	0.04756289308176101
123	341453	London	2013	6	0.60018763827433628319	0.0479559748427673
124	341102	Birmingham	2014	10	0.60018607594936708861	0.04834905660377359
125	340993	New York	2014	7	0.60018282710280373832	0.04874213836477988
126	341171	Seattle	2014	10	0.60018271215919878384	0.049135220125786166

```

56 -- Q2-7
57 SELECT Sales_Class_Desc,Time_Year,
58        SUM(Quantity_shipped - Invoice_Quantity) as QTYRETURNED,
59        RANK() OVER(Partition By Time_Year Order By SUM ( Quantity_shipped - Invoice_Quantity ) DESC) AS Rank
60 FROM W_INVOICELINE_F
61 INNER JOIN W_Sales_Class_D ON W_INVOICELINE_F.Sales_Class_Id = W_Sales_Class_D.Sales_Class_Id
62 INNER JOIN W_TIME_D ON W_INVOICELINE_F.INVOICE_SENT_DATE = W_TIME_D.TIME_ID
63 WHERE quantity_shipped - invoice_quantity > 0
64 GROUP BY Sales_Class_Desc,Time_Year;
65
66
67

```

Data Output Explain Messages Notifications

	 sales_class_desc character varying (250)	 time_year integer	 qtyreturned bigint	 rank bigint	
1	Prepaid NoSmart	2013	3022158	1	
2	Debit NoSmart	2013	2576177	2	
3	Loyalty NoSmart	2013	2497636	3	
4	Debit Smart	2013	2449584	4	
5	Credit NoSmart	2013	2250670	5	
6	Credit Smart	2013	2083512	6	
7	Debit Smart	2014	4356145	1	
8	Credit Smart	2014	4148782	2	
9	Loyalty NoSmart	2014	4127860	3	
10	Credit NoSmart	2014	3611715	4	
11	Debit NoSmart	2014	3522484	5	
12	Prepaid NoSmart	2014	3519854	6	
13	Credit NoSmart	2015	1251290	1	
14	Credit Smart	2015	1137547	2	
15	Prepaid NoSmart	2015	1021765	3	
16	Debit NoSmart	2015	1007578	4	
17	Loyalty NoSmart	2015	621037	5	
18	Debit Smart	2015	489907	6	

```

66 -- Q2-8
67 SELECT Sales_Class_Desc,Time_Year,
68        SUM ( Quantity_shipped - Invoice_Quantity ) as QTYRETURNED,
69        SUM ( Quantity_shipped - Invoice_Quantity )/SUM(SUM ( Quantity_shipped - Invoice_Quantity ))OVER(Partition By Time_Year) AS Ratio
70 FROM W_INVOICELINE_F
71 INNER JOIN W_Sales_Class_D ON W_INVOICELINE_F.Sales_Class_Id = W_Sales_Class_D.Sales_Class_Id
72 INNER JOIN W_TIME_D ON W_INVOICELINE_F.INVOICE_SENT_DATE = W_TIME_D.TIME_ID
73 WHERE quantity_shipped - invoice_quantity > 0
74 GROUP BY Sales_Class_Desc,Time_Year
75 ORDER BY Time_Year,QTYRETURNED;
76
77

```

Data Output Explain Messages Notifications

	sales_class_desc character varying (250)	time_year integer	qtyreturned bigint	ratio numeric
1	Credit Smart	2013	2083512	0.14002344261864305801
2	Credit NoSmart	2013	2250670	0.15125737773456614186
3	Debit Smart	2013	2449584	0.16462549035644917649
4	Loyalty NoSmart	2013	2497636	0.16785484850975524635
5	Debit NoSmart	2013	2576177	0.17313323481456695102
6	Prepaid NoSmart	2013	3022158	0.20310560596601942628
7	Prepaid NoSmart	2014	3519854	0.15115206700436813239
8	Debit NoSmart	2014	3522484	0.15126500632975534680
9	Credit NoSmart	2014	3611715	0.15509682722086809546
10	Loyalty NoSmart	2014	4127860	0.17726149189842846861
11	Credit Smart	2014	4148782	0.17815993926183200469
12	Debit Smart	2014	4356145	0.18706466828474795206
13	Debit Smart	2015	489907	0.08860481334837127907
14	Loyalty NoSmart	2015	621037	0.11232104760175391255
15	Debit NoSmart	2015	1007578	0.18223103695992348878
16	Prepaid NoSmart	2015	1021765	0.18479690453677653097
17	Credit Smart	2015	1137547	0.20573729220035578873
18	Credit NoSmart	2015	1251290	0.22630890535281899990


```

77 -- Q2-9
78 SELECT Location_Name,W_Time_D.Time_Year,
79        SUM(DAYSDIFF) AS SUMDAYSDIFF,
80        RANK() OVER(Partition By W_Time_D.Time_Year Order By SUM(DAYSDIFF) DESC) AS Rank,
81        DENSE_RANK() OVER(Partition By W_Time_D.Time_Year Order By SUM(DAYSDIFF) DESC) AS DenseRank
82 FROM BQ6
83 INNER JOIN W_Time_D ON W_Time_D.Time_Id = BQ6.Date_Ship_By
84 GROUP BY Location_Name,W_Time_D.Time_Year;
85
86

```

Data Output Explain Messages Notifications

	location_name character varying (50)	time_year integer	sumdaysdiff numeric	rank bigint	denserank bigint
1	Seattle	2013	47	1	1
2	Los Angeles	2013	23	2	2
3	Toronto	2013	19	3	3
4	Montreal	2013	18	4	4
5	Dallas	2013	11	5	5
6	Chicago	2013	10	6	6
7	London	2013	9	7	7
8	Denver	2013	8	8	8
9	Atlanta	2013	4	9	9
10	Birmingham	2013	4	9	9
11	New York	2013	2	11	10
12	Vancouver	2014	22	1	1
13	Seattle	2014	20	2	2
14	London	2014	16	3	3
15	Los Angeles	2014	16	3	3
16	Birmingham	2014	15	5	4
17	Toronto	2014	14	6	5
18	Denver	2014	11	7	6
19	Atlanta	2014	8	8	7
20	Chicago	2014	8	8	7
21	Dallas	2014	5	10	8
22	Montreal	2014	4	11	9
23	Los Angeles	2015	14	1	1

```

86 -- Q2-10
87 SELECT Location_Name,W_Time_D.Time_Year,
88        SUM(DAYSDIFF) AS SUMDAYSDIFF,Count(*) AS NoofJobs,
89        SUM(Quantity_Ordered - SumShipQty) / SUM(Quantity_Ordered) AS Delay_Rate,
90        RANK() OVER(Partition By W_Time_D.Time_Year Order By SUM(Quantity_Ordered - SumShipQty) / SUM(Quantity_Ordered) DESC) AS Rank
91 FROM BQ5
92 INNER JOIN W_Time_D ON W_Time_D.Time_Id = BQ5.Date_Promised
93 GROUP BY Location_Name,W_Time_D.Time_Year;
94
95

```

Data Output Explain Messages Notifications

	location_name character varying (50)	time_year integer	sumdaysdiff numeric	noofjobs bigint	delay_rate numeric	rank bigint
1	Atlanta	2013	1	1	0.87885066998204171847	1
2	Birmingham	2013	4	2	0.86775413049565947914	2
3	Dallas	2013	4	3	0.70729384879070653209	3
4	Denver	2013	6	3	0.62656353591160220994	4
5	Toronto	2013	18	4	0.62361553633742982855	5
6	Los Angeles	2013	37	8	0.49411030918649202531	6
7	Chicago	2013	8	3	0.45629432911228422450	7
8	London	2013	11	3	0.42922592997811816193	8
9	Montreal	2013	14	2	0.39278271918678526048	9
10	Seattle	2013	40	8	0.24225000000000000000	10
11	Denver	2014	9	3	0.70572916666666666667	1
12	Montreal	2014	10	3	0.59168290431750589683	2
13	Chicago	2014	9	4	0.51567601413301131535	3
14	Seattle	2014	28	6	0.50728173013908104566	4
15	Vancouver	2014	40	7	0.48505394359801449979	5
16	London	2014	14	6	0.48158513640639698965	6
17	Toronto	2014	4	2	0.41848363085435742046	7
18	Birmingham	2014	19	4	0.41356799138540229498	8
19	Atlanta	2014	9	3	0.35208778945410583093	9
20	Los Angeles	2014	11	2	0.23310393506264337392	10
21	Dallas	2014	4	1	0.09627592044011849344	11
22	Chicago	2015	7	2	0.56720000000000000000	1
23	Atlanta	2015	4	1	0.40032903756512201810	2