BQ 1: Location/Sales class summary for job quantity and amount

```sql
CREATE VIEW view_location_sales_class_summary AS
SELECT
    A.location_id
    ,B.location_name
    ,D.time_year AS contract_year
    ,D.time_month AS contract_month
    ,A.sales_class_id
    ,C.sales_class_desc
    ,C.base_price
    ,SUM(A.quantity_ordered) AS sum_quantity_ordered
    ,SUM(A.quantity_ordered * C.base_price) AS sum_job_amount
FROM
    w_job_f A
JOIN
    w_location_d B ON A.location_id = B.location_id
JOIN
    w_sales_class_d C ON A.sales_class_id = C.sales_class_id
JOIN
    w_time_d D ON A.contract_date = D.time_id
GROUP BY
    A.location_id
    ,B.location_name
    ,D.time_year
    ,D.time_month
    ,A.sales_class_id
    ,C.sales_class_desc
    ,C.base_price
ORDER BY
    A.location_id, contract_year ,contract_month ,A.sales_class_id;
```

Snapshot for BQ1

location_id	location_name	contract_year	contract_month	sales_class_id	sales_class_desc	base_price	sum_quantity_ordered	sum_job_amount
1	New York	2013	2	2	Credit Smart	1,6	1556900	2491040
1	New York	2013	2	3	Debit NoSmart	0,8	868900	695120
1	New York	2013	2	4	Credit NoSmart	0,8	1113700	890960
1	New York	2013	2	5	Prepaid NoSmart	0,8	961700	769360
1	New York	2013	3	1	Debit Smart	1,6	613000	980800
1	New York	2013	3	2	Credit Smart	1,6	828600	1325760
1	New York	2013	3	4	Credit NoSmart	0,8	1375800	1100640
1	New York	2013	3	5	Prepaid NoSmart	0,8	162700	130160
1	New York	2013	4	2	Credit Smart	1,6	754600	1207360
1	New York	2013	4	3	Debit NoSmart	0,8	697100	557680
1	New York	2013	4	4	Credit NoSmart	0,8	1225100	980080
1	New York	2013	4	5	Prepaid NoSmart	0,8	309500	247600
1	New York	2013	5	1	Debit Smart	1,6	537900	860640
1	New York	2013	5	2	Credit Smart	1,6	232400	371840

BQ 2: Location invoice revenue summary

```sql
CREATE VIEW view_location_invoice_revenue_summary AS
SELECT
     A.location_id
    ,E.location_name
    ,F.time_year AS contract_year
    ,F.time_month AS contract_month
    ,A.job_id
    ,A.unit_price
    ,A.quantity_ordered
    ,SUM(D.invoice_amount) AS sum_invoice_amount
    ,SUM(D.invoice_quantity) AS sum_invoice_quantity
FROM
    w_job_f A
JOIN
    w_sub_job_f B ON A.job_id = B.job_id
JOIN
    w_job_shipment_f C ON B.sub_job_id = C.sub_job_id
JOIN
    w_invoiceline_f D ON C.invoice_id = D.invoice_id
JOIN
    w_location_d E ON A.location_id = E.location_id
JOIN
    w_time_d F ON A.contract_date = F.time_id
GROUP BY
     A.location_id
    ,E.location_name
    ,F.time_year
    ,F.time_month
    ,A.job_id
    ,A.unit_price
    ,A.quantity_ordered
ORDER BY
    A.location_id, F.time_year, F.time_month, A.job_id;
```

Snapshot for BQ2

location_id	location_name	contract_year	contract_month	job_id	unit_price	quantity_ordered	sum_invoice_amount	sum_invoice_quantity
1	New York	2013	2	340280	0,74	961700	663410	839199
1	New York	2013	2	340782	1,58	179600	283768	179600
1	New York	2013	2	341331	0,74	1113700	710992	923432
1	New York	2013	2	341516	1,55	355800	551490	355800
1	New York	2013	2	341803	0,74	868900	562770	760500
1	New York	2013	2	342518	1,47	1021500	1048404	700936
1	New York	2013	3	340754	1,52	828600	1222840	792620
1	New York	2013	3	340997	1,52	613000	821864	540700
1	New York	2013	3	341144	0,78	439000	342420	439000
1	New York	2013	3	341275	0,79	162700	64227	81300
1	New York	2013	3	341897	0,74	936800	652458	831396
1	New York	2013	4	340410	0,76	697100	393756	506100
1	New York	2013	4	340918	1,49	754600	1124354	754600
1	New York	2013	4	341309	0,78	309500	197652	225059

BQ 3: Location subjob cost summary

```
CREATE VIEW view_location_subjob_cost_summary AS
SELECT
    A.location_id,
    B.location_name,
    D.time_year AS contract_year,
    D.time_month AS contract_month,
    A.job_id,
    COUNT(A.job_id) AS NoSubJob,
    SUM(A.cost_labor) AS sum_cost_labor,
    SUM(A.cost_material) AS sum_cost_material,
    SUM(A.machine_hours * E.rate_per_hour) AS sum_cost_machine,
    SUM(A.cost_overhead) AS sum_cost_overhead,
    (SUM(A.cost_labor) + SUM(A.cost_material) + SUM(A.machine_hours * E.rate_per_hour) +
SUM(A.cost_overhead)) AS sum_total,
    SUM(A.quantity_produced) AS sum_quantity_produced,
    ROUND((SUM(A.cost_labor) + SUM(A.cost_material) + SUM(A.machine_hours * E.rate_per_hour) +
SUM(A.cost_overhead)) / SUM(A.quantity_produced), 2) AS unit_cost
FROM
    w_sub_job_f A
JOIN
    w_location_d B ON A.location_id = B.location_id
JOIN
    w_job_f C ON A.job_id = C.job_id
JOIN
    w_time_d D ON C.contract_date = D.time_id
JOIN
    w_machine_type_d E ON A.machine_type_id = E.machine_type_id
GROUP BY
    A.location_id,
    B.location_name,
    D.time_year,
    D.time_month,
    A.job_id
ORDER BY
    A.location_id,
    contract_year,
    contract_month;
```

Snapshot for BQ3

location_id	location_name	contract_year	contract_month	job_id	nosubjob	sum_cost_labor	sum_cost_material	sum_cost_machine	sum_cost_overhead	sum_total	sum_quantity_produced	unit_cost
1	New York	2013	2	340280	3	122022,45	63582,58	60970	38025,56	284600,59	961700	0,3
1	New York	2013	2	340782	1	44267,81	15066,49	22120	32016,3	113470,6	179600	0,63
1	New York	2013	2	341331	3	154937,94	54492,32	68190	52018,62	329638,88	1113700	0,3
1	New York	2013	2	341516	1	112503,96	11803,65	77824	18462,12	220593,73	355800	0,62
1	New York	2013	2	341803	3	116489,91	27879,95	69050	43721,33	257141,19	868900	0,3
1	New York	2013	2	342518	11	283871,7	68400,95	162874	85198,96	600345,61	1021500	0,59
1	New York	2013	3	340754	7	279970,63	53864,32	107302	62469,34	503606,29	828600	0,61
1	New York	2013	3	340997	2	254708,23	28460,13	53100	36372,09	372640,45	613000	0,61
1	New York	2013	3	341144	2	72696,62	26023	28230	9990,33	136939,95	439000	0,31
1	New York	2013	3	341275	1	32390,32	7856,45	7700	3367,05	51313,82	162700	0,32
1	New York	2013	3	341897	3	121508	49860,12	73260	32573,72	277201,84	936800	0,3

BQ 4: Returns by location and sales class

```sql
create VIEW view_returns_by_sales_location_class AS
SELECT
    A.location_id
    ,B.location_name
    ,D.time_year AS invoice_sent_year
    ,D.time_month AS invoice_sent_month
    ,C.sales_class_id
    ,C.sales_class_desc
    ,SUM(A.quantity_shipped - A.invoice_quantity) AS sum_quantity_returned
    ,SUM(A.invoice_amount) AS sum_amount_return
FROM
    w_invoiceline_f A
JOIN
    w_location_d B ON A.location_id = B.location_id
JOIN
    w_sales_class_d C ON A.sales_class_id = C.sales_class_id
JOIN
    w_time_d D ON A.invoice_sent_date = D.time_id
GROUP BY
    A.location_id
    ,B.location_name
    ,invoice_sent_year
    ,invoice_sent_month
    ,C.sales_class_id
    ,C.sales_class_desc
ORDER BY
    A.location_id
    ,invoice_sent_year
    ,invoice_sent_month
    ,C.sales_class_id;
```

Snapshot for BQ4

location_id	location_name	invoice_sent_year	invoice_sent_month	sales_class_id	sales_class_desc	sum_quantity_returned	sum_amount_return
1	New York	2013	2	2	Credit Smart	0	37044
1	New York	2013	3	2	Credit Smart	12264	1295128
1	New York	2013	3	4	Credit NoSmart	37368	684426
1	New York	2013	3	5	Prepaid NoSmart	57301	663410
1	New York	2013	4	1	Debit Smart	0	821864
1	New York	2013	4	2	Credit Smart	11880	1630234
1	New York	2013	4	3	Debit NoSmart	0	562770
1	New York	2013	4	4	Credit NoSmart	0	124394
1	New York	2013	4	5	Prepaid NoSmart	994	119217
1	New York	2013	5	2	Credit Smart	0	144096
1	New York	2013	5	3	Debit NoSmart	0	152000
1	New York	2013	5	4	Credit NoSmart	68158	1475178
1	New York	2013	5	5	Prepaid NoSmart	27347	142662

BQ5: Last shipment delays involving date promised

```sql
CREATE VIEW view_last_shipment_delays_involving_date_promised AS
SELECT
    A.location_id
    ,D.location_name
    ,E.sales_class_id
    ,E.sales_class_desc
    ,C.job_id
    ,C.date_promised
    ,MAX(A.actual_ship_date) AS last_shipment_date
    ,SUM(A.actual_quantity) AS sum_delay_ship_qty
    ,C.quantity_ordered
    ,GETBUSDAYSDIFF(MAX(A.actual_ship_date), C.date_promised) AS
days_diff_last_shipment_promised
FROM w_job_shipment_f A
JOIN w_sub_job_f B ON A.sub_job_id = B.sub_job_id
JOIN w_job_f C ON B.job_id = C.job_id
JOIN w_location_d D ON A.location_id = D.location_id
JOIN w_sales_class_d E ON A.sales_class_id = E.sales_class_id
WHERE A.actual_ship_date > C.date_promised
GROUP BY
    A.location_id
    ,D.location_name
    ,E.sales_class_id
    ,E.sales_class_desc
    ,C.job_id
    ,C.date_promised
    ,C.quantity_ordered
ORDER BY
    A.location_id
    ,E.sales_class_id;
```

Snapshot for BQ5

location_id	location_name	sales_class_id	sales_class_desc	job_id	date_promised	last_shipment_date	sum_delay_ship_qty	quantity_ordered	days_diff_last_shipment_promised
1	New York	4	Credit NoSmart	342151	20150316	20150320	626600	635600	4
2	Atlanta	1	Debit Smart	341637	20141120	20141124	70700	353700	2
2	Atlanta	3	Debit NoSmart	340901	20150127	20150202	218700	364700	4
2	Atlanta	4	Credit NoSmart	341851	20141009	20141014	31600	47500	3
2	Atlanta	4	Credit NoSmart	341871	20140919	20140925	594400	674100	4
2	Atlanta	4	Credit NoSmart	342061	20130902	20130903	175400	1447800	1
3	Chicago	1	Debit Smart	340615	20150318	20150324	289800	501800	4
3	Chicago	1	Debit Smart	341425	20150113	20150116	305300	873200	3
3	Chicago	2	Credit Smart	341546	20140124	20140128	324000	422100	2
3	Chicago	3	Debit NoSmart	341061	20140410	20140411	132300	220500	1
3	Chicago	3	Debit NoSmart	341666	20141024	20141029	238200	816200	3
3	Chicago	5	Prepaid NoSmart	340832	20131122	20131125	491400	718700	1
3	Chicago	5	Prepaid NoSmart	341448	20130903	20130904	219800	1351200	1
3	Chicago	5	Prepaid NoSmart	341646	20141211	20141216	388400	777100	3
3	Chicago	6	Loyalty NoSmart	341076	20130326	20130403	967600	1017800	6
4	Dallas	1	Debit Smart	341491	20140710	20140716	1281300	1417800	4

BQ 6: First shipment delays involving shipped by date

```sql
CREATE VIEW view_first_shipment_delays_involving_shipped_by_date AS
SELECT
    A.location_id
    ,D.location_name
    ,E.sales_class_id
    ,E.sales_class_desc
    ,C.job_id
    ,MIN(A.actual_ship_date) AS first_shipment_date
    ,C.date_ship_by
    ,GETBUSDAYSDIFF(C.date_ship_by, MIN(A.actual_ship_date)) AS days_diff_first_shipment_ship_by
FROM w_job_shipment_f A
JOIN w_sub_job_f B ON A.sub_job_id = B.sub_job_id
JOIN w_job_f C ON B.job_id = C.job_id
JOIN w_location_d D ON A.location_id = D.location_id
JOIN w_sales_class_d E ON A.sales_class_id = E.sales_class_id
GROUP BY
    A.location_id
    ,D.location_name
    ,E.sales_class_id
    ,E.sales_class_desc
    ,C.job_id
    ,C.date_ship_by
ORDER BY
    A.location_id
    ,E.sales_class_id;
```

Snapshot for BQ6

location_id	location_name	sales_class_id	sales_class_desc	job_id	date_promised	last_shipment_date	sum_delay_ship_qty	quantity_ordered	days_diff_last_shipment_promised
1	New York	4	Credit NoSmart	342151	20150316	20150320	626600	635600	4
2	Atlanta	1	Debit Smart	341637	20141120	20141124	70700	353700	2
2	Atlanta	3	Debit NoSmart	340901	20150127	20150202	218700	364700	4
2	Atlanta	4	Credit NoSmart	341851	20141009	20141014	31600	47500	3
2	Atlanta	4	Credit NoSmart	341871	20140919	20140925	594400	674100	4
2	Atlanta	4	Credit NoSmart	342061	20130902	20130903	175400	1447800	1
3	Chicago	1	Debit Smart	340615	20150318	20150324	289800	501800	4
3	Chicago	1	Debit Smart	341425	20150113	20150116	305300	873200	3
3	Chicago	2	Credit Smart	341546	20140124	20140128	324000	422100	2
3	Chicago	3	Debit NoSmart	341061	20140410	20140411	132300	220500	1
3	Chicago	3	Debit NoSmart	341666	20141024	20141029	238200	816200	3
3	Chicago	5	Prepaid NoSmart	340832	20131122	20131125	491400	718700	1
3	Chicago	5	Prepaid NoSmart	341448	20130903	20130904	219800	1351200	1
3	Chicago	5	Prepaid NoSmart	341646	20141211	20141216	388400	777100	3
3	Chicago	6	Loyalty NoSmart	341076	20130326	20130403	967600	1017800	6
4	Dallas	1	Debit Smart	341491	20140710	20140716	1281300	1417800	4

AQ 1: Cumulative quantity for locations

```sql
SELECT
    location_name
    ,contract_year
    ,contract_month
    ,sum_job_amount
    ,SUM(sum_job_amount)
        OVER (PARTITION BY location_name, contract_year
            ORDER BY contract_month
            ROWS BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW) AS cumulative_sum_job_amount
FROM
    view_location_sales_class_summary;
```

Snapshot for AQ1

location_name	contract_year	contract_month	sum_job_amount	cumulative_sum_job_amount
Atlanta	2013	1	1216160	1216160
Atlanta	2013	2	192160	1408320
Atlanta	2013	2	1380960	2789280
Atlanta	2013	2	1464960	4254240
Atlanta	2013	2	117360	4371600
Atlanta	2013	3	1647360	6018960
Atlanta	2013	3	289040	6308000
Atlanta	2013	3	1155600	7463600

AQ2: Moving average of average amount ordered for locations

```sql
SELECT location_name
    ,contract_year
    ,contract_month
    ,ROUND(AVG(sum_job_amount)
        OVER (PARTITION BY location_name
            ORDER BY contract_year, contract_month
            ROWS BETWEEN 11 PRECEDING AND CURRENT ROW), 2) AS moving_avg_avg_job_amount
from view_location_sales_class_summary;
```

Snapshot for AQ2

location_name	contract_year	contract_month	sum_job_amount	moving_avg_avg_job_amount
Atlanta	2013	1	1216160	1216160
Atlanta	2013	2	192160	704160
Atlanta	2013	2	1380960	929760
Atlanta	2013	2	1464960	1063560
Atlanta	2013	2	117360	874320
Atlanta	2013	3	1647360	1003160
Atlanta	2013	3	289040	901142,86
Atlanta	2013	3	1155600	932950
Atlanta	2013	4	294160	861973,33
Atlanta	2013	4	1731200	948896
Atlanta	2013	4	1632480	1011040

AQ3: Rank locations by descending sum of annual profit

```sql
SELECT
    A.location_name
    ,A.contract_year
    ,A.contract_month
    ,SUM(A.sum_invoice_amount - B.sum_total) AS sum_of_profit
    ,RANK() OVER(PARTITION BY A.location_name, A.contract_year ORDER BY SUM(A.sum_invoice_amount
- B.sum_total) DESC) AS rank
FROM
    view_location_invoice_revenue_summary A
JOIN
    view_location_subjob_cost_summary B ON A.job_id = B.job_id
GROUP BY
    A.location_name
    ,A.contract_year
    ,A.contract_month;
```

Snapshot for AQ3

location_name	contract_year	contract_month	sum_of_profit	rank
Atlanta	2013	5	4642439,56	1
Atlanta	2013	10	4638494,15	2
Atlanta	2013	12	2891340,63	3
Atlanta	2013	7	2728561,98	4
Atlanta	2013	8	2433140,5	5
Atlanta	2013	4	2391323,89	6
Atlanta	2013	9	2076110,16	7
Atlanta	2013	6	1832835,33	8
Atlanta	2013	11	1543592,45	9
Atlanta	2013	3	1324696,13	10
Atlanta	2013	2	943651,17	11
Atlanta	2013	1	693255,39	12

AQ4: Rank locations by descending annual profit margin

```sql
SELECT
    A.location_name
    ,A.contract_year
    ,A.contract_month
    ,ROUND(SUM((A.sum_invoice_amount - B.sum_total) / A.sum_invoice_amount), 2) AS profit_margin
    ,RANK() OVER(PARTITION BY A.location_name, A.contract_year ORDER BY SUM(A.sum_invoice_amount
- B.sum_total) DESC) AS rank
FROM
    view_location_invoice_revenue_summary A
JOIN
    view_location_subjob_cost_summary B ON A.job_id = B.job_id
GROUP BY
    A.location_name
    ,A.contract_year
    ,A.contract_month;
```

Snapshot for AQ4

location_name	contract_year	contract_month	profit_margin	rank
Atlanta	2013	5	10,9	1
Atlanta	2013	10	6,87	2
Atlanta	2013	12	5,29	3
Atlanta	2013	7	5,54	4
Atlanta	2013	8	4,42	5
Atlanta	2013	4	5,31	6
Atlanta	2013	9	3,21	7
Atlanta	2013	6	3,52	8
Atlanta	2013	11	3,02	9
Atlanta	2013	3	3,18	10
Atlanta	2013	2	2,34	11
Atlanta	2013	1	0,6	12

AQ5: Percent rank of job profit margins for locations

```
CREATE VIEW view_aq5_percent_rank_of_job_profit_margin AS
SELECT
    A.location_name
    ,A.contract_year
    ,A.contract_month
    ,A.job_id
    ,SUM((A.sum_invoice_amount - B.sum_total) / A.sum_invoice_amount) AS profit_margin
    ,PERCENT_RANK() OVER(ORDER BY ROUND(SUM((A.sum_invoice_amount - B.sum_total) /
A.sum_invoice_amount), 2)) AS percent_rank_profit_margin
FROM
    view_location_invoice_revenue_summary A
JOIN
    view_location_subjob_cost_summary B ON A.job_id = B.job_id
GROUP BY
    A.location_name
    ,A.contract_year
    ,A.contract_month
    ,A.job_id;
```

Snapshot for AQ5

location_name	contract_year	contract_month	job_id	profit_margin	percent_rank_profit_margin
Los Angeles	2014	4	342030	-4,19	0
Los Angeles	2014	5	342239	-3,1	0,000393082
Montreal	2014	12	341769	-1,33	0,000786164
Dallas	2014	5	340876	-1,13	0,001179245
Los Angeles	2014	4	341016	-0,78	0,001572327
London	2014	1	340700	-0,75	0,001965409
Chicago	2013	8	340535	-0,6	0,002358491
Vancouver	2013	11	340971	-0,52	0,002751572
Chicago	2014	10	342188	-0,52	0,002751572
Vancouver	2014	11	341122	-0,31	0,003537736
Chicago	2013	10	340912	-0,23	0,003930818
Vancouver	2013	2	342462	-0,22	0,004323899
Montreal	2014	6	341446	-0,2	0,004716981

AQ6: Top 5% performers of percent rank of job profit margins for locations

```
SELECT * FROM view_aq5_percent_rank_of_job_profit_margin
WHERE percent_rank_profit_margin >= 0.95;
```

Snapshot for AQ6

location_name	contract_year	contract_month	job_id	profit_margin	percent_rank_profit_margin
Chicago	2013	7	340470	0,600180875	0,950078616
Dallas	2015	1	340571	0,600181075	0,950471698
Seattle	2014	10	341171	0,600182712	0,95086478
New York	2014	7	340993	0,600182827	0,951257862
Birmingham	2014	10	341102	0,600186076	0,951650943
London	2013	6	341453	0,600187638	0,952044025
Seattle	2013	6	341385	0,600192452	0,952437107
Atlanta	2013	11	341139	0,600193505	0,952830189
Dallas	2014	11	340250	0,600194025	0,95322327
New York	2013	11	340730	0,600194307	0,953616352
Los Angeles	2014	8	341336	0,600196153	0,954009434
Chicago	2013	11	342155	0,600196696	0,954402516

AQ7: Rank sales class by return quantities for each year

```sql
SELECT
    sales_class_desc
    ,invoice_sent_year
    ,SUM(sum_quantity_returned) AS total_sum_quantity_returned
    ,RANK() OVER (PARTITION BY sales_class_desc, invoice_sent_year ORDER BY
SUM(sum_quantity_returned) DESC) AS rank
FROM
    view_returns_by_sales_location_class
GROUP BY
    sales_class_desc
    ,invoice_sent_year;
```

Snapshot for AQ7

sales_class_desc	invoice_sent_year	total_sum_quantity_returned	rank
Credit NoSmart	2014	3611715	1
Credit NoSmart	2013	2250670	2
Credit NoSmart	2015	1251290	3
Credit Smart	2014	4148782	1
Credit Smart	2013	2083512	2
Credit Smart	2015	1137547	3
Debit NoSmart	2014	3522484	1
Debit NoSmart	2013	2576177	2
Debit NoSmart	2015	1007578	3
Debit Smart	2014	4356145	1
Debit Smart	2013	2449584	2

AQ8: Ratio to report of return quantities for sales classes by year

```sql
SELECT
    sales_class_desc,
    invoice_sent_year,
    SUM(sum_quantity_returned) AS total_sum_quantity_returned,
    ROUND(SUM(sum_quantity_returned) / SUM(SUM(sum_quantity_returned)) OVER (PARTITION BY
sales_class_desc), 3) AS ratio_to_report
FROM view_returns_by_sales_location_class
GROUP BY sales_class_desc, invoice_sent_year
ORDER BY sales_class_desc, invoice_sent_year;
```

Snapshot for AQ8

sales_class_desc	invoice_sent_year	total_sum_quantity_returned	ratio_to_report
Credit NoSmart	2013	2250670	0,316
Credit NoSmart	2014	3611715	0,508
Credit NoSmart	2015	1251290	0,176
Credit Smart	2013	2083512	0,283
Credit Smart	2014	4148782	0,563
Credit Smart	2015	1137547	0,154
Debit NoSmart	2013	2576177	0,363
Debit NoSmart	2014	3522484	0,496
Debit NoSmart	2015	1007578	0,142
Debit Smart	2013	2449584	0,336
Debit Smart	2014	4356145	0,597
Debit Smart	2015	489907	0,067
Loyalty NoSmart	2013	2497636	0,345
Loyalty NoSmart	2014	4127860	0,57
Loyalty NoSmart	2015	621037	0,086
Prepaid NoSmart	2013	3022158	0,4
Prepaid NoSmart	2014	3519854	0,465
Prepaid NoSmart	2015	1021765	0,135

AQ9: Rank locations by sum of business days delayed for the job shipped by date

```
SELECT
    A.location_name
    ,B.time_year AS year_of_date_ship_by
    ,SUM(A.days_diff_first_shipment_ship_by)
    ,RANK() OVER (PARTITION BY A.location_name ORDER BY SUM(A.days_diff_first_shipment_ship_by)
DESC) AS rank
FROM view_first_shipment_delays_involving_shipped_by_date A
JOIN w_time_d B ON A.date_ship_by = B.time_id
GROUP BY A.location_name, year_of_date_ship_by;
```

Snapshot for AQ9

location_name	year_of_date_ship_by	sum	rank
Atlanta	2014	1333	1
Atlanta	2013	1258	2
Atlanta	2015	458	3
Birmingham	2014	1343	1
Birmingham	2013	1089	2
Birmingham	2015	249	3
Chicago	2014	1480	1
Chicago	2013	905	2
Chicago	2015	414	3
Dallas	2014	1102	1
Dallas	2013	999	2
Dallas	2015	219	3
Denver	2014	1444	1
Denver	2013	1029	2
Denver	2015	243	3

AQ10: Rank locations by delay rate for jobs delayed on the last shipment date

```
SELECT
    A.location_name,
    B.time_year AS year_of_date_promised,
    COUNT(A.job_id) AS count_delayed_job,
    SUM(A.days_diff_last_shipment_promised) AS sum_diff_last_shipment_promised,
    RANK() OVER (PARTITION BY A.location_name ORDER BY SUM(A.days_diff_last_shipment_promised)
DESC) AS rank
FROM view_bq5_last_shipment_delays_involving_date_promised A
JOIN w_time_d B ON A.date_promised = B.time_id
GROUP BY A.location_name, B.time_year;
```

Snapshot for AQ10

location_name	year_of_date_promised	count_delayed_job	sum_diff_last_shipment_promised	rank
Atlanta	2014	3	9	1
Atlanta	2015	1	4	2
Atlanta	2013	1	1	3
Birmingham	2014	4	19	1
Birmingham	2013	2	4	2
Chicago	2014	4	9	1
Chicago	2013	3	8	2
Chicago	2015	2	7	3
Dallas	2014	1	4	1
Dallas	2013	3	4	1
Denver	2014	3	9	1
Denver	2013	3	6	2
London	2014	6	14	1
London	2013	3	11	2