

## INZ000109P

Group: A2

Mustafa Tayyip BAYRAM 257639

➔ QUERY PLAN FOR 1. QUERY

1	Plan hash value: 2419935489									
2										
3	-----									
4	Id	Operation	Name	Rows	Bytes	TempSpc	Cost (\$CPU)	Time		
5	-----									
6	0	SELECT STATEMENT		1	56		12M (2)	00:08:26		
7	1	SORT ORDER BY		1	56	6160K	12M (2)	00:08:26		
8	* 2	FILTER								
9	* 3	HASH JOIN RIGHT OUTER		97640	5339K		146 (3)	00:00:01		
10	4	TABLE ACCESS FULL	BRANDS	2000	22000		3 (0)	00:00:01		
11	* 5	HASH JOIN RIGHT OUTER		97640	4290K		142 (3)	00:00:01		
12	6	TABLE ACCESS FULL	CATEGORIES	15	225		3 (0)	00:00:01		
13	* 7	TABLE ACCESS FULL	PRODUCTS	97640	2860K		139 (3)	00:00:01		
14	8	SORT GROUP BY		1	10					
15	* 9	TABLE ACCESS FULL	PRODUCTS	3	30		138 (2)	00:00:01		
16	-----									
17										
18	Predicate Information (identified by operation id):									
19	-----									
20										
21	2 - filter( (SELECT COUNT(DISTINCT "LIST_PRICE") FROM "MUTABAY"."PRODUCTS"									
22	"PROD_INNER" WHERE "PROD_INNER"."BRAND_ID"=:B1 AND "PROD_INNER"."LIST_PRICE">:B2)=1)									
23	3 - access("BRANDS"."BRAND_ID" (+)="PROD_OUTER"."BRAND_ID")									
24	5 - access("CATEGORIES"."CATEGORY_ID" (+)="PROD_OUTER"."CATEGORY_ID")									
25	7 - filter("PROD_OUTER"."MODEL_YEAR"<2020 AND "PROD_OUTER"."LIST_PRICE">990000)									
26	9 - filter("PROD INNER"."BRAND ID"=:B1 AND "PROD INNER"."LIST PRICE">:B2)									

### ➔ QUERY PLAN FOR 2. QUERY

1	Plan hash value: 1057890652									
2										
3	-----									
4	Id	Operation	Name	Rows	Bytes	TempSpc	Cost (%CPU)	Time		
5	-----									
6	0	SELECT STATEMENT		72303	32M		19603	(1)	00:00:01	
7	1	SORT ORDER BY		72303	32M	58M	19603	(1)	00:00:01	
8	* 2	FILTER								
9	3	HASH GROUP BY		72303	32M	58M	19603	(1)	00:00:01	
10	* 4	VIEW	VW_FOJ_0	120K	54M		1572	(2)	00:00:01	
11	* 5	HASH JOIN FULL OUTER		120K	83M		1572	(2)	00:00:01	
12	6	INDEX FAST FULL SCAN	SYS_C007456	100K	488K		96	(2)	00:00:01	
13	7	VIEW	VW_FOJ_1	120K	82M		1473	(2)	00:00:01	
14	* 8	HASH JOIN FULL OUTER		120K	85M		1473	(2)	00:00:01	
15	9	TABLE ACCESS FULL	ORDER_ITEMS				2	(0)	00:00:01	
16	10	VIEW	VW_FOJ_2	120K	81M		1470	(2)	00:00:01	
17	* 11	HASH JOIN FULL OUTER		120K	84M		1470	(2)	00:00:01	
18	12	TABLE ACCESS FULL	ORDERS				2	(0)	00:00:01	
19	13	VIEW	VW_FOJ_3	120K	79M		1467	(1)	00:00:01	
20	* 14	HASH JOIN FULL OUTER		120K	40M		1467	(1)	00:00:01	
21	15	TABLE ACCESS FULL	STORES	20000	800K		103	(1)	00:00:01	
22	16	VIEW		120K	35M		1364	(1)	00:00:01	
23	17	WINDOW SORT		120K	3515K	5200K	1364	(1)	00:00:01	
24	18	TABLE ACCESS FULL	STAFFS	120K	3515K		379	(2)	00:00:01	
25	-----									
26										
27	Predicate Information (identified by operation id):									
28	-----									
29										
30	2 - filter(SUM("STAFFS"."SALARY")/COUNT("STAFFS"."SALARY")>1000 OR "STATE" IS NOT NULL OR									
31	"CITY"='Aberdeen' AND "ACTIVE"=1)									
32	4 - filter("STAFFS"."SALARY"<"STAFFS"."AVGSALARY" OR "ORDER_ITEMS"."DISCOUNT">0.05 OR									
33	"CUSTOMER_ID">1500)									
34	5 - access("ORDER_ITEMS"."PRODUCT_ID"="PRODUCTS"."PRODUCT_ID")									
35	8 - access("ORDERS"."ORDER_ID"="ORDER_ITEMS"."ORDER_ID")									
36	11 - access("STORES"."STORE_ID"="ORDERS"."STORE_ID")									
37	14 - access("STAFFS"."STORE ID"="STORES"."STORE ID")									

### ➔ QUERY PLAN FOR 3. QUERY

1	Plan hash value: 2590998993									
2										
3	-----									
4	Id	Operation	Name	Rows	Bytes	TempSpc	Cost (%CPU)	Time		
5	-----									
6	0	SELECT STATEMENT		6000	925K		2143	(1)	00:00:01	
7	* 1	FILTER								
8	2	SORT GROUP BY		6000	925K	21M	2143	(1)	00:00:01	
9	* 3	VIEW	VW_FOJ_0	120K	18M		530	(2)	00:00:01	
10	* 4	HASH JOIN FULL OUTER		120K	26M		530	(2)	00:00:01	
11	5	TABLE ACCESS FULL	STAFFS	120K	585K		377	(1)	00:00:01	
12	6	VIEW	VW_FOJ_1	100K	21M		151	(4)	00:00:01	
13	* 7	HASH JOIN FULL OUTER		100K	18M		151	(4)	00:00:01	
14	8	TABLE ACCESS FULL	CATEGORIES	15	225		3	(0)	00:00:01	
15	9	VIEW	VW_FOJ_2	100K	17M		147	(3)	00:00:01	
16	* 10	HASH JOIN FULL OUTER		100K	14M		147	(3)	00:00:01	
17	11	TABLE ACCESS FULL	BRANDS	2000	22000		3	(0)	00:00:01	
18	12	VIEW	VW_FOJ_3	100K	13M		143	(3)	00:00:01	
19	* 13	HASH JOIN FULL OUTER		100K	11M		143	(3)	00:00:01	
20	14	VIEW	VW_FOJ_4	1	92		4	(0)	00:00:01	
21	* 15	HASH JOIN FULL OUTER		1	118		4	(0)	00:00:01	
22	16	TABLE ACCESS FULL	ORDER_ITEMS				2	(0)	00:00:01	
23	17	TABLE ACCESS FULL	ORDERS	1	66		2	(0)	00:00:01	
24	18	TABLE ACCESS FULL	PRODUCTS	100K	2539K		138	(2)	00:00:01	
25	-----									
26										
27	Predicate Information (identified by operation id):									
28	-----									
29										
30	1 - filter(SUM("LIST_PRICE")/COUNT("LIST_PRICE")>10000)									
31	3 - filter("SHIPPED_DATE"-"ORDER_DATE">2 OR "SHIPPED_DATE"-"ORDER_DATE"<0 OR									
32	"SHIPPED_DATE"-"ORDER_DATE"<0)									
33	4 - access("STAFFS"."STAFF_ID"="ORDERS"."STAFF_ID")									
34	7 - access("CATEGORIES"."CATEGORY_ID"="PRODUCTS"."CATEGORY_ID")									
35	10 - access("BRANDS"."BRAND_ID"="PRODUCTS"."BRAND_ID")									
36	13 - access("PRODUCTS"."PRODUCT_ID"="ORDER_ITEMS"."PRODUCT_ID")									
37	15 - access("ORDERS"."ORDER ID"="ORDER_ITEMS"."ORDER ID")									

### ➔ QUERY PLAN FOR 4. QUERY

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1| Plan hash value: 651944871
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2										
3										
4	Id	Operation	Name	Rows	Bytes	TempSpc  Cost (%CPU)	Time			
5										
6	0	UPDATE STATEMENT		100K	390K		671 (2)	00:00:01		
7	1	UPDATE	PRODUCTS							
8	2	TABLE ACCESS FULL	PRODUCTS	100K	390K		138 (2)	00:00:01		
9	* 3	VIEW		1	26		532 (2)	00:00:01		
10	* 4	WINDOW BUFFER PUSHED RANK		1	13		532 (2)	00:00:01		
11	5	VIEW		1	13		532 (2)	00:00:01		
12	6	SORT UNIQUE		1	31		532 (2)	00:00:01		
13	7	NESTED LOOPS OUTER		1	31		5 (0)	00:00:01		
14	* 8	INDEX UNIQUE SCAN	SYS_C007431	1	5		1 (0)	00:00:01		
15	* 9	VIEW		1	26		526 (2)	00:00:01		
16	* 10	WINDOW BUFFER PUSHED RANK		169K	6638K		526 (2)	00:00:01		
17	* 11	VIEW	VW_FOJ_1	169K	6638K		526 (2)	00:00:01		
18	* 12	HASH JOIN FULL OUTER		169K	5476K	2368K	526 (2)	00:00:01		
19	13	TABLE ACCESS FULL	STOCKS	110K	1074K		104 (2)	00:00:01		
20	14	TABLE ACCESS FULL	PRODUCTS	100K	2246K		138 (2)	00:00:01		
21	* 15	VIEW	VW_FOJ_0	1	26		4 (0)	00:00:01		
22	* 16	HASH JOIN FULL OUTER		1	52		4 (0)	00:00:01		
23	17	TABLE ACCESS FULL	ORDER_ITEMS				2 (0)	00:00:01		
24	18	TABLE ACCESS FULL	ORDERS	1	26		2 (0)	00:00:01		
25										
26										
27	Predicate Information (identified by operation id):									
28										
29										
30	3 - filter("from\$_subquery\$_012"."rowlimit_\$\$_rownumber"<=1)									
31	4 - filter(ROW_NUMBER() OVER ( ORDER BY NULL )<=1)									
32	8 - access("STORES"."STORE_ID"= (SELECT "from\$_subquery\$_010"."STORE_ID" FROM (SELECT									
33	"STORE_ID" "STORE_ID",ROW_NUMBER() OVER ( ORDER BY NULL) "rowlimit_\$\$_rownumber" FROM (SELECT									
34	"STOCKS"."STORE_ID" "STORE_ID_0","PRODUCTS"."LIST_PRICE"									
35	"LIST_PRICE_1","PRODUCTS"."PRODUCT_NAME" "PRODUCT_NAME_2" FROM "MUTABAY"."STOCKS" "STOCKS" FULL									
36	OUTER JOIN "MUTABAY"."PRODUCTS" "PRODUCTS") "VW_FOJ_1" WHERE ROUND("LIST_PRICE")<990.000 OR									
37	UPPER(SUBSTR("PRODUCT_NAME",2,3)) LIKE 'D\$') "from\$_subquery\$_010" WHERE									
38	"from\$_subquery\$_010"."rowlimit_\$\$_rownumber"<=1))									
39	9 - filter("from\$_subquery\$_010"."rowlimit_\$\$_rownumber"<=1)									
40	10 - filter(ROW_NUMBER() OVER ( ORDER BY NULL)<=1)									
41	11 - filter(ROUND("LIST_PRICE")<990.000 OR UPPER(SUBSTR("PRODUCT_NAME",2,3)) LIKE 'D\$')									
42	12 - access("STOCKS"."PRODUCT_ID"="PRODUCTS"."PRODUCT_ID")									
43	15 - filter("ORDERS"."STORE_ID"(")="STORES"."STORE_ID")									
44	16 - access("ORDERS"."ORDER_ID"="ORDER_ITEMS"."ORDER_ID")									

## ➔ QUERY PLAN FOR 5. QUERY

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1| Plan hash value: 2100002809
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2										
3										
4	Id	Operation	Name	Rows	Bytes	Cost (\$CPU)	Time			
5										
6	0	UPDATE STATEMENT		1	13	660 (3)	00:00:01			
7	1	UPDATE	ORDER_ITEMS							
8	2	TABLE ACCESS FULL	ORDER_ITEMS	1	13	2 (0)	00:00:01			
9	* 3	VIEW		1	26	658 (3)	00:00:01			
10	* 4	WINDOW BUFFER PUSHED RANK		1	57	658 (3)	00:00:01			
11	* 5	HASH JOIN OUTER		1	57	658 (3)	00:00:01			
12	* 6	HASH JOIN		1	52	280 (5)	00:00:01			
13	7	VIEW	VW_NSO_1	1	13	5 (20)	00:00:01			
14	8	SORT UNIQUE		1	70	5 (20)	00:00:01			
15	* 9	HASH JOIN		1	70	4 (0)	00:00:01			
16	* 10	TABLE ACCESS FULL	ORDERS	1	44	2 (0)	00:00:01			
17	11	TABLE ACCESS FULL	ORDER_ITEMS	1	26	2 (0)	00:00:01			
18	12	VIEW	VW_FOJ_1	169K	6472K	273 (4)	00:00:01			
19	13	VIEW	VW_FOJ_2	169K	6804K	273 (4)	00:00:01			
20	* 14	HASH JOIN FULL OUTER		169K	11M	273 (4)	00:00:01			
21	15	INDEX FAST FULL SCAN	SYS_C007425	70000	341K	63 (2)	00:00:01			
22	16	VIEW	VW_FOJ_3	169K	10M	208 (4)	00:00:01			
23	* 17	HASH JOIN FULL OUTER		169K	14M	208 (4)	00:00:01			
24	18	TABLE ACCESS FULL	ORDERS			2 (0)	00:00:01			
25	19	VIEW	VW_FOJ_4	169K	6472K	205 (3)	00:00:01			
26	* 20	HASH JOIN FULL OUTER		169K	7302K	205 (3)	00:00:01			
27	21	TABLE ACCESS FULL	STOCKS	110K	537K	104 (2)	00:00:01			
28	22	VIEW	VW_FOJ_5	100K	3808K	99 (3)	00:00:01			
29	* 23	HASH JOIN FULL OUTER		100K	4296K	99 (3)	00:00:01			
30	24	TABLE ACCESS FULL	ORDER_ITEMS			2 (0)	00:00:01			
31	25	INDEX FAST FULL SCAN	SYS_C007456	100K	488K	96 (2)	00:00:01			
32	26	TABLE ACCESS FULL	STAFFS	120K	585K	377 (1)	00:00:01			
33										
34										
35	Predicate Information (identified by operation id):									
36	-----									
37										
38	3 - filter("from\$_subquery\$_017"."rowlimit_\$\$_rownumber"<=1)									
39	4 - filter(ROW_NUMBER() OVER ( ORDER BY NULL)<=1)									
40	5 - access("ORDERS"."STAFF_ID"="STAFFS"."STAFF_ID"(+))									
41	6 - access("from\$_subquery\$_012"."QCSJ_C000000000400000"="PRODUCT_ID")									
42	9 - access("ORDER_ID"="ORDER_ID")									
43	10 - filter("ORDER_STATUS"=1 AND "SHIPPED_DATE"-"REQUIRED_DATE"=1 OR "ORDER_STATUS"=2									
44	AND "SHIPPED_DATE"-"REQUIRED_DATE"=0)									
45	14 - access("ORDERS"."CUSTOMER_ID"="CUSTOMERS"."CUSTOMER_ID")									
46	17 - access("ORDER_ITEMS"."ORDER_ID"="ORDERS"."ORDER_ID")									
47	20 - access("STOCKS"."PRODUCT_ID"="PRODUCTS"."PRODUCT_ID")									
48	23 - access("ORDER_ITEMS"."PRODUCT ID"="PRODUCTS"."PRODUCT ID")									

### ➔ QUERY PLAN FOR 6. QUERY

1	Plan hash value: 817490074									
2										
3	-----									
4	Id	Operation	Name	Rows	Bytes	Cost (%CPU)	Time			
5	-----									
6	0	UPDATE STATEMENT		20000	371K	485 (1)	00:00:01			
7	1	UPDATE	STORES							
8	2	TABLE ACCESS FULL	STORES	20000	371K	102 (0)	00:00:01			
9	* 3	VIEW		1	142	383 (2)	00:00:01			
10	* 4	WINDOW BUFFER PUSHED RANK		1	130	383 (2)	00:00:01			
11	* 5	FILTER								
12	6	NESTED LOOPS		1	130	383 (2)	00:00:01			
13	7	NESTED LOOPS		1	130	383 (2)	00:00:01			
14	* 8	HASH JOIN		1	86	383 (2)	00:00:01			
15	9	MERGE JOIN CARTESIAN		1	34	381 (2)	00:00:01			
16	* 10	TABLE ACCESS FULL	ORDER_ITEMS	1	26	2 (0)	00:00:01			
17	11	BUFFER SORT		120K	937K	379 (2)	00:00:01			
18	* 12	TABLE ACCESS FULL	STAFFS	120K	937K	379 (2)	00:00:01			
19	13	TABLE ACCESS FULL	ORDERS	1	52	2 (0)	00:00:01			
20	* 14	INDEX UNIQUE SCAN	SYS_C007431	1		0 (0)	00:00:01			
21	* 15	TABLE ACCESS BY INDEX ROWID	STORES	1	44	0 (0)	00:00:01			
22	* 16	TABLE ACCESS FULL	ORDER_ITEMS	1	26	2 (0)	00:00:01			
23	17	SORT AGGREGATE		1	13					
24	18	TABLE ACCESS FULL	ORDER_ITEMS	1	13	2 (0)	00:00:01			
25	-----									
26										
27	Predicate Information (identified by operation id):									
28	-----									
29										
30	3 - filter("from\$_subquery\$_013"."rowlimit_\$\$_rownumber"<=1)									
31	4 - filter(ROW_NUMBER() OVER ( ORDER BY NULL )<=1)									
32	5 - filter("ORDERS"."ORDER_STATUS">=2 OR EXISTS (SELECT 0 FROM									
33	"MUTABAY"."ORDER_ITEMS" "ORDER_ITEMS" WHERE "ORDER_ID"=:B1 AND "DISCOUNT"> (SELECT									
34	SUM("DISCOUNT")/COUNT("DISCOUNT") FROM "MUTABAY"."ORDER_ITEMS" "ORDER_ITEMS")))									
35	8 - access("ORDERS"."STAFF_ID"="STAFFS"."STAFF_ID" AND									
36	"ORDERS"."ORDER_ID"="ORDER_ITEMS"."ORDER_ID")									
37	10 - filter("ORDER_ITEMS"."DISCOUNT">=0.4)									
38	12 - filter("STAFFS"."ACTIVE">=1)									
39	14 - access("ORDERS"."STORE_ID"="STORES"."STORE_ID")									
40	15 - filter("STORES"."STATE" IS NOT NULL OR "STORES"."STREET"='1 Fremont Point')									
41	16 - filter("ORDER_ID"=:B1 AND "DISCOUNT"> (SELECT SUM("DISCOUNT")/COUNT("DISCOUNT")									
42	FROM "MUTABAY"."ORDER_ITEMS" "ORDER_ITEMS"))									

### → QUERY PLAN FOR 7. QUERY

1	Plan hash value: 2745501732							
2								
3	-----							
4	Id	Operation	Name	Rows	Bytes	Cost (%CPU)	Time	
5	-----							
6	0	DELETE STATEMENT		1	26	278 (1)	00:00:01	
7	1	DELETE	ORDER_ITEMS					
8	* 2	TABLE ACCESS FULL	ORDER_ITEMS	1	26	2 (0)	00:00:01	
9	* 3	VIEW		1	26	276 (1)	00:00:01	
10	* 4	WINDOW BUFFER PUSHED RANK		1043	44849	276 (1)	00:00:01	
11	* 5	HASH JOIN RIGHT OUTER		1043	44849	276 (1)	00:00:01	
12	6	TABLE ACCESS FULL	ORDERS	1	26	2 (0)	00:00:01	
13	* 7	TABLE ACCESS FULL	CUSTOMERS	1043	17731	274 (1)	00:00:01	
14	-----							
15								
16	Predicate Information (identified by operation id):							
17	-----							
18								
19	2 - filter("ORDER_ITEMS"."ORDER_ID"= (SELECT "from\$_subquery\$_005"."ORDER_ID"							
20	FROM (SELECT "ORDERS"."ORDER_ID" "ORDER_ID",ROW_NUMBER() OVER ( ORDER BY NULL )							
21	"rowlimit_\$\$_rownumber" FROM "MUTABAY"."CUSTOMERS" "CUSTOMERS","MUTABAY"."ORDERS"							
22	"ORDERS" WHERE "CUSTOMERS"."CUSTOMER_ID"="ORDERS"."CUSTOMER_ID"(+) AND							
23	"CUSTOMERS"."STREET" LIKE 'A%') "from\$_subquery\$_005" WHERE							
24	"from\$_subquery\$_005"."rowlimit_\$\$_rownumber"<=1))							
25	3 - filter("from\$_subquery\$_005"."rowlimit_\$\$_rownumber"<=1)							
26	4 - filter(ROW_NUMBER() OVER ( ORDER BY NULL )<=1)							
27	5 - access("CUSTOMERS"."CUSTOMER_ID"="ORDERS"."CUSTOMER_ID"(+))							
28	7 - filter("CUSTOMERS"."STREET" LIKE 'A%')							