

## TPC\_H Benchmark Queryset

/\* TPC\_H Query 1 - Pricing Summary Report \*/

```
SELECT L_RETURNFLAG, L_LINESTATUS, SUM(L_QUANTITY) AS SUM_QTY,
SUM(L_EXTENDEDPRICE) AS SUM_BASE_PRICE,
SUM(L_EXTENDEDPRICE*(1-L_DISCOUNT)) AS
SUM_DISC_PRICE,
SUM(L_EXTENDEDPRICE*(1-L_DISCOUNT)*(1+L_TAX)) AS SUM_CHARGE,
AVG(L_QUANTITY) AS
AVG_QTY,
AVG(L_EXTENDEDPRICE) AS AVG_PRICE, AVG(L_DISCOUNT) AS AVG_DISC, COUNT(*)
AS COUNT_ORDER
FROM LINEITEM
WHERE L_SHIPDATE <= date '1998-12-01' - integer '90'
GROUP BY L_RETURNFLAG, L_LINESTATUS
ORDER BY L_RETURNFLAG,L_LINESTATUS;
```

/\* TPC\_H Query 2 - Minimum Cost Supplier \*/

```
SELECT S_ACCTBAL, S_NAME, N_NAME, P_PARTKEY, P_MFGR, S_ADDRESS, S_PHONE,
S_COMMENT
FROM PART, SUPPLIER, PARTSUPP, NATION, REGION
WHERE P_PARTKEY = PS_PARTKEY AND S_SUPPKEY = PS_SUPPKEY AND P_SIZE = 15
AND
P_TYPE LIKE '%%BRASS' AND S_NATIONKEY = N_NATIONKEY AND N_REGIONKEY =
R_REGIONKEY AND
R_NAME = 'EUROPE' AND
PS_SUPPLYCOST = (SELECT MIN(PS_SUPPLYCOST) FROM PARTSUPP, SUPPLIER,
NATION, REGION
WHERE P_PARTKEY = PS_PARTKEY AND S_SUPPKEY = PS_SUPPKEY
AND S_NATIONKEY = N_NATIONKEY AND N_REGIONKEY = R_REGIONKEY AND R_NAME
= 'EUROPE')
ORDER BY S_ACCTBAL DESC, N_NAME, S_NAME, P_PARTKEY
LIMIT 100;
```

/\* TPC\_H Query 3 - Shipping Priority \*/

```
SELECT L_ORDERKEY, SUM(L_EXTENDEDPRICE*(1-L_DISCOUNT)) AS REVENUE,  
O_ORDERDATE,  
O_SHIPPRIORITY  
FROM CUSTOMER, ORDERS, LINEITEM  
WHERE C_MKTSEGMENT = 'BUILDING' AND C_CUSTKEY = O_CUSTKEY AND  
L_ORDERKEY = O_ORDERKEY  
AND  
O_ORDERDATE < '1995-03-15' AND L_SHIPDATE > '1995-03-15'  
GROUP BY L_ORDERKEY, O_ORDERDATE, O_SHIPPRIORITY  
ORDER BY REVENUE DESC, O_ORDERDATE  
LIMIT 10;
```

/\* TPC\_H Query 4 - Order Priority Checking \*/

```
SELECT O_ORDERPRIORITY, COUNT(*) AS ORDER_COUNT FROM ORDERS  
WHERE O_ORDERDATE >= DATE '1993-07-01' AND O_ORDERDATE < DATE '1993-07-01' +  
INTERVAL '3  
MONTH'  
AND EXISTS (SELECT * FROM LINEITEM WHERE L_ORDERKEY = O_ORDERKEY AND  
L_COMMITDATE <  
L_RECEIPTDATE)  
GROUP BY O_ORDERPRIORITY  
ORDER BY O_ORDERPRIORITY;
```

/\* TPC\_H Query 5 - Local Supplier Volume \*/

```
SELECT N_NAME, SUM(L_EXTENDEDPRICE*(1-L_DISCOUNT)) AS REVENUE  
FROM CUSTOMER, ORDERS, LINEITEM, SUPPLIER, NATION, REGION  
WHERE C_CUSTKEY = O_CUSTKEY AND L_ORDERKEY = O_ORDERKEY AND  
L_SUPPKEY = S_SUPPKEY  
AND C_NATIONKEY = S_NATIONKEY AND S_NATIONKEY = N_NATIONKEY AND  
N_REGIONKEY =  
R_REGIONKEY  
AND R_NAME = 'ASIA' AND O_ORDERDATE >= DATE '1994-01-01'  
AND O_ORDERDATE < DATE '1994-01-01' + INTERVAL '1 YEAR'  
GROUP BY N_NAME  
ORDER BY REVENUE DESC;
```

/\* TPC\_H Query 6 - Forecasting Revenue Change \*/

```
SELECT SUM(L_EXTENDEDPRICE*L_DISCOUNT) AS REVENUE
FROM LINEITEM
WHERE L_SHIPDATE >= '1994-01-01' AND L_SHIPDATE <DATE '1994-01-01' + INTERVAL '1
YEAR'
AND L_DISCOUNT BETWEEN .06 - 0.01 AND .06 + 0.01 AND L_QUANTITY < 24;
```

/\* TPC\_H Query 7 - Volume Shipping \*/

```
SELECT SUPP_NATION, CUST_NATION, L_YEAR, SUM(VOLUME) AS REVENUE
FROM ( SELECT N1.N_NAME AS SUPP_NATION, N2.N_NAME AS CUST_NATION,
DATE_PART('year',
L_SHIPDATE) AS L_YEAR,
L_EXTENDEDPRICE*(1-L_DISCOUNT) AS VOLUME
FROM SUPPLIER, LINEITEM, ORDERS, CUSTOMER, NATION N1, NATION N2
WHERE S_SUPPKEY = L_SUPPKEY AND O_ORDERKEY = L_ORDERKEY AND
C_CUSTKEY = O_CUSTKEY
AND S_NATIONKEY = N1.N_NATIONKEY AND C_NATIONKEY = N2.N_NATIONKEY AND
((N1.N_NAME = 'FRANCE' AND N2.N_NAME = 'GERMANY') OR
(N1.N_NAME = 'GERMANY' AND N2.N_NAME = 'FRANCE')) AND
L_SHIPDATE BETWEEN '1995-01-01' AND '1996-12-31' ) AS SHIPPING
GROUP BY SUPP_NATION, CUST_NATION, L_YEAR
ORDER BY SUPP_NATION, CUST_NATION, L_YEAR;
```

/\* TPC\_H Query 8 - National Market Share \*/

```
SELECT O_YEAR, SUM(CASE WHEN NATION = 'BRAZIL' THEN VOLUME ELSE 0
END)/SUM(VOLUME) AS
MKT_SHARE
FROM (SELECT date_part('year',O_ORDERDATE) AS O_YEAR,
L_EXTENDEDPRICE*(1-L_DISCOUNT) AS
VOLUME, N2.N_NAME AS NATION
FROM PART, SUPPLIER, LINEITEM, ORDERS, CUSTOMER, NATION N1, NATION N2,
REGION
WHERE P_PARTKEY = L_PARTKEY AND S_SUPPKEY = L_SUPPKEY AND L_ORDERKEY =
O_ORDERKEY
AND O_CUSTKEY = C_CUSTKEY AND C_NATIONKEY = N1.N_NATIONKEY AND
N1.N_REGIONKEY = R_REGIONKEY AND R_NAME = 'AMERICA' AND S_NATIONKEY =
N2.N_NATIONKEY
AND O_ORDERDATE BETWEEN '1995-01-01' AND '1996-12-31' AND P_TYPE= 'ECONOMY
ANODIZED
```

```
STEEL') AS ALL_NATIONS  
GROUP BY O_YEAR  
ORDER BY O_YEAR;
```

/\* TPC\_H Query 9 - Product Type Profit Measure \*/

```
SELECT NATION, O_YEAR, SUM(AMOUNT) AS SUM_PROFIT  
FROM (SELECT N_NAME AS NATION, date_part('year', O_ORDERDATE) AS O_YEAR,  
L_EXTENDEDPRICE*(1-L_DISCOUNT)-PS_SUPPLYCOST*L_QUANTITY AS AMOUNT  
FROM PART, SUPPLIER, LINEITEM, PARTSUPP, ORDERS, NATION  
WHERE S_SUPPKEY = L_SUPPKEY AND PS_SUPPKEY= L_SUPPKEY AND PS_PARTKEY  
= L_PARTKEY AND  
P_PARTKEY= L_PARTKEY AND O_ORDERKEY = L_ORDERKEY AND S_NATIONKEY =  
N_NATIONKEY AND  
P_NAME LIKE '%%green%%') AS PROFIT  
GROUP BY NATION, O_YEAR  
ORDER BY NATION, O_YEAR DESC;
```

/\* TPC\_H Query 10 - Returned Item Reporting \*/

```
SELECT C_CUSTKEY, C_NAME, SUM(L_EXTENDEDPRICE*(1-L_DISCOUNT)) AS  
REVENUE, C_ACCTBAL,  
N_NAME, C_ADDRESS, C_PHONE, C_COMMENT  
FROM CUSTOMER, ORDERS, LINEITEM, NATION  
WHERE C_CUSTKEY = O_CUSTKEY AND L_ORDERKEY = O_ORDERKEY AND  
O_ORDERDATE >= '1993-10-  
01' AND  
O_ORDERDATE < DATE '1993-10-01' + INTERVAL '3 MONTH' AND  
L_RETURNFLAG = 'R' AND C_NATIONKEY = N_NATIONKEY  
GROUP BY C_CUSTKEY, C_NAME, C_ACCTBAL, C_PHONE, N_NAME, C_ADDRESS,  
C_COMMENT  
ORDER BY REVENUE DESC  
LIMIT 20;
```

/\* TPC\_H Query 11 - Important Stock Identification \*/

```
SELECT PS_PARTKEY, SUM(PS_SUPPLYCOST*PS_AVAILQTY) AS VALUE  
FROM PARTSUPP, SUPPLIER, NATION  
WHERE PS_SUPPKEY = S_SUPPKEY AND S_NATIONKEY = N_NATIONKEY AND N_NAME  
= 'GERMANY'  
GROUP BY PS_PARTKEY  
HAVING SUM(PS_SUPPLYCOST*PS_AVAILQTY) > (SELECT  
SUM(PS_SUPPLYCOST*PS_AVAILQTY) *  
0.0001000000
```

```

FROM PARTSUPP, SUPPLIER, NATION
WHERE PS_SUPPKEY = S_SUPPKEY AND S_NATIONKEY = N_NATIONKEY AND N_NAME
= 'GERMANY')
ORDER BY VALUE DESC;

```

/\* TPC\_H Query 12 - Shipping Modes and Order Priority \*/

```

SELECT L_SHIPMODE,
SUM(CASE WHEN O_ORDERPRIORITY = '1-URGENT' OR O_ORDERPRIORITY = '2-HIGH'
THEN 1 ELSE 0
END) AS HIGH_LINE_COUNT,
SUM(CASE WHEN O_ORDERPRIORITY <> '1-URGENT' AND O_ORDERPRIORITY <>
'2-HIGH' THEN 1 ELSE 0
END ) AS LOW_LINE_COUNT
FROM ORDERS, LINEITEM
WHERE O_ORDERKEY = L_ORDERKEY AND L_SHIPMODE IN ('MAIL','SHIP')
AND L_COMMITDATE < L_RECEIPTDATE AND L_SHIPDATE < L_COMMITDATE AND
L_RECEIPTDATE >=
'1994-01-01'
AND L_RECEIPTDATE < DATE '1995-09-01' + INTERVAL '1 MONTH'
GROUP BY L_SHIPMODE
ORDER BY L_SHIPMODE;

```

/\* TPC\_H Query 13 - Customer Distribution \*/

```

SELECT C_COUNT, COUNT(*) AS CUSTDIST
FROM (SELECT C_CUSTKEY, COUNT(O_ORDERKEY)
FROM CUSTOMER left outer join ORDERS on C_CUSTKEY = O_CUSTKEY
AND O_COMMENT not like '%%special%%requests%%'
GROUP BY C_CUSTKEY) AS C_ORDERS (C_CUSTKEY, C_COUNT)
GROUP BY C_COUNT
ORDER BY CUSTDIST DESC, C_COUNT DESC;

```

/\* TPC\_H Query 14 - Promotion Effect \*/

```

SELECT 100.00* SUM(CASE WHEN P_TYPE LIKE 'PROMO%%' THEN
L_EXTENDEDPRICE*(1-L_DISCOUNT)
ELSE 0 END) / SUM(L_EXTENDEDPRICE*(1-L_DISCOUNT)) AS PROMO_REVENUE
FROM LINEITEM, PART
WHERE L_PARTKEY = P_PARTKEY AND L_SHIPDATE >= '1995-09-01' AND L_SHIPDATE <
DATE '1995-09-
01' + INTERVAL '1 MONTH';

```

/\* TPC\_H Query 15 - Create View for Top Supplier Query \*/

```
CREATE VIEW REVENUE0 (SUPPLIER_NO, TOTAL_REVENUE) AS
SELECT L_SUPPKEY, SUM(L_EXTENDEDPRICE*(1-L_DISCOUNT)) FROM LINEITEM
WHERE L_SHIPDATE >= '1996-01-01' AND L_SHIPDATE < DATE '1996-01-01' + INTERVAL '3
MONTH'
GROUP BY L_SUPPKEY;
```

```
SELECT S_SUPPKEY, S_NAME, S_ADDRESS, S_PHONE, TOTAL_REVENUE
FROM SUPPLIER, REVENUE0
WHERE S_SUPPKEY = SUPPLIER_NO AND TOTAL_REVENUE = (SELECT
MAX(TOTAL_REVENUE) FROM
REVENUE0)
ORDER BY S_SUPPKEY;
DROP VIEW REVENUE0;
```

/\* TPC\_H Query 16 - Parts/Supplier Relationship \*/

```
SELECT P_BRAND, P_TYPE, P_SIZE, COUNT(DISTINCT PS_SUPPKEY) AS
SUPPLIER_CNT
FROM PARTSUPP, PART
WHERE P_PARTKEY = PS_PARTKEY AND P_BRAND <> 'Brand#45' AND P_TYPE NOT LIKE
'MEDIUM
POLISHED%%'
AND P_SIZE IN (49, 14, 23, 45, 19, 3, 36, 9) AND PS_SUPPKEY NOT IN (SELECT
S_SUPPKEY FROM
SUPPLIER
WHERE S_COMMENT LIKE '%%Customer%%Complaints%%')
GROUP BY P_BRAND, P_TYPE, P_SIZE
ORDER BY SUPPLIER_CNT DESC, P_BRAND, P_TYPE, P_SIZE;
```

/\* TPC\_H Query 17 - Small-Quantity-Order Revenue \*/

```
SELECT SUM(L_EXTENDEDPRICE)/7.0 AS AVG_YEARLY FROM LINEITEM, PART
WHERE P_PARTKEY = L_PARTKEY AND P_BRAND = 'Brand#23' AND P_CONTAINER =
'MED BOX'
AND L_QUANTITY < (SELECT 0.2*AVG(L_QUANTITY) FROM LINEITEM WHERE
L_PARTKEY = P_PARTKEY);
```

/\* TPC\_H Query 18 - Large Volume Customer \*/

```
SELECT C_NAME, C_CUSTKEY, O_ORDERKEY, O_ORDERDATE, O_TOTALPRICE,
SUM(L_QUANTITY)
FROM CUSTOMER, ORDERS, LINEITEM
WHERE O_ORDERKEY IN (SELECT L_ORDERKEY FROM LINEITEM GROUP BY
L_ORDERKEY HAVING
SUM(L_QUANTITY) > 300) AND C_CUSTKEY = O_CUSTKEY AND O_ORDERKEY =
L_ORDERKEY
GROUP BY C_NAME, C_CUSTKEY, O_ORDERKEY, O_ORDERDATE, O_TOTALPRICE
ORDER BY O_TOTALPRICE DESC, O_ORDERDATE LIMIT 100;
```

/\* TPC\_H Query 19 - Discounted Revenue \*/

```
SELECT SUM(L_EXTENDEDPRICE* (1 - L_DISCOUNT)) AS REVENUE
FROM LINEITEM, PART
WHERE (P_PARTKEY = L_PARTKEY AND P_BRAND = 'Brand#12' AND P_CONTAINER IN
('SM CASE', 'SM
BOX', 'SM PACK', 'SM PKG') AND L_QUANTITY >= 1 AND L_QUANTITY <= 1 + 10 AND
P_SIZE BETWEEN 1
AND 5
AND L_SHIPMODE IN ('AIR', 'AIR REG') AND L_SHIPINSTRUCT = 'DELIVER IN PERSON')
OR (P_PARTKEY = L_PARTKEY AND P_BRAND = 'Brand#23' AND P_CONTAINER IN ('MED
BAG', 'MED
BOX', 'MED PKG', 'MED PACK') AND L_QUANTITY >=10 AND L_QUANTITY <=10 + 10 AND
P_SIZE
BETWEEN 1 AND 10
AND L_SHIPMODE IN ('AIR', 'AIR REG') AND L_SHIPINSTRUCT = 'DELIVER IN PERSON')
OR (P_PARTKEY = L_PARTKEY AND P_BRAND = 'Brand#34' AND P_CONTAINER IN ( 'LG
CASE', 'LG BOX',
'LG PACK', 'LG PKG') AND L_QUANTITY >=20 AND L_QUANTITY <= 20 + 10 AND P_SIZE
BETWEEN 1 AND
15
AND L_SHIPMODE IN ('AIR', 'AIR REG') AND L_SHIPINSTRUCT = 'DELIVER IN PERSON');
```

/\* TPC\_H Query 20 - Potential Part Promotion \*/

```
SELECT S_NAME, S_ADDRESS FROM SUPPLIER, NATION
WHERE S_SUPPKEY IN (SELECT PS_SUPPKEY FROM PARTSUPP
WHERE PS_PARTKEY IN (SELECT P_PARTKEY FROM PART WHERE P_NAME like
'forest%')) AND
PS_AVAILQTY > (SELECT 0.5*sum(L_QUANTITY) FROM LINEITEM WHERE L_PARTKEY =
PS_PARTKEY AND
L_SUPPKEY = PS_SUPPKEY AND L_SHIPDATE >= '1994-01-01' AND
L_SHIPDATE < DATE '1994-01-01' + INTERVAL '1 YEAR')) AND S_NATIONKEY =
N_NATIONKEY AND
N_NAME = 'CANADA'
ORDER BY S_NAME;
```

/\* TPC\_H Query 21 - Suppliers Who Kept Orders Waiting \*/

```
SELECT S_NAME, COUNT(*) AS NUMWAIT
FROM SUPPLIER, LINEITEM L1, ORDERS, NATION WHERE S_SUPPKEY = L1.L_SUPPKEY
AND
O_ORDERKEY = L1.L_ORDERKEY AND O_ORDERSTATUS = 'F' AND L1.L_RECEIPTDATE >
L1.L_COMMITDATE
AND EXISTS (SELECT * FROM LINEITEM L2 WHERE L2.L_ORDERKEY = L1.L_ORDERKEY
AND L2.L_SUPPKEY <> L1.L_SUPPKEY) AND
NOT EXISTS (SELECT * FROM LINEITEM L3 WHERE L3.L_ORDERKEY = L1.L_ORDERKEY
AND
L3.L_SUPPKEY <> L1.L_SUPPKEY AND L3.L_RECEIPTDATE > L3.L_COMMITDATE) AND
S_NATIONKEY = N_NATIONKEY AND N_NAME = 'SAUDI ARABIA'
GROUP BY S_NAME
ORDER BY NUMWAIT DESC, S_NAME LIMIT 100;
```

/\* TPC\_H Query 22 - Global Sales Opportunity \*/

```
SELECT CNTRYCODE, COUNT(*) AS NUMCUST, SUM(C_ACCTBAL) AS TOTACCTBAL
FROM (SELECT SUBSTRING(C_PHONE,1,2) AS CNTRYCODE, C_ACCTBAL
FROM CUSTOMER WHERE SUBSTRING(C_PHONE,1,2) IN ('13', '31', '23', '29', '30', '18', '17'))
AND
C_ACCTBAL > (SELECT AVG(C_ACCTBAL) FROM CUSTOMER WHERE C_ACCTBAL >
0.00 AND
SUBSTRING(C_PHONE,1,2) IN ('13', '31', '23', '29', '30', '18', '17')) AND
NOT EXISTS ( SELECT * FROM ORDERS WHERE O_CUSTKEY = C_CUSTKEY)) AS
CUSTSALE
GROUP BY CNTRYCODE
ORDER BY CNTRYCODE;
```



