

## /\* Tutorial 2: Sample queries on TPC-DS

## Prerequisites

This tutorial requires the Snowflake provided snowflake\_sample\_data database. If you don't have this database already in your account please add it by following these instructions: <https://docs.snowflake.net/manuals/user-guide/sample-data-using.html>

Details on the queries and dataset can be found in the TPC-DS Benchmark specification at [http://www.tpc.org/tpc\\_documents\\_current\\_versions/pdf/tpc-ds\\_v2.5.0.pdf](http://www.tpc.org/tpc_documents_current_versions/pdf/tpc-ds_v2.5.0.pdf)

The business questions answered by these queries are described in Appendix B: Business Questions

TPC also provides tools to generate all 99 queries with varied parameter values. The full benchmark kit can be downloaded at [http://www.tpc.org/tpc\\_documents\\_current\\_versions/current\\_specifications.asp](http://www.tpc.org/tpc_documents_current_versions/current_specifications.asp)

This is a sample set of the 99 queries used in the TPC-DS benchmark.

\*/

use schema snowflake\_sample\_data.tpcds\_sf10tcl;

```
-- TPC-DS_query1
with customer_total_return as
(select sr_customer_sk as ctr_customer_sk
,sr_store_sk as ctr_store_sk
,sum(SR_RETURN_AMT_INC_TAX) as ctr_total_return
from store_returns
,date_dim
where sr_returned_date_sk = d_date_sk
and d_year=1999
group by sr_customer_sk
,sr_store_sk)
select c_customer_id
from customer_total_return ctr1
,store
,customer
where ctr1.ctr_total_return > (select avg(ctr_total_return)*1.2
from customer_total_return ctr2
where ctr1.ctr_store_sk = ctr2.ctr_store_sk)
and s_store_sk = ctr1.ctr_store_sk
and s_state = 'NM'
and ctr1.ctr_customer_sk = c_customer_sk
order by c_customer_id
limit 100;
```

```
-- TPC-DS_query2
with wscs as
(select sold_date_sk
,sales_price
from (select ws_sold_date_sk sold_date_sk
,ws_ext_sales_price sales_price
from web_sales
union all
select cs_sold_date_sk sold_date_sk
,cs_ext_sales_price sales_price
from catalog_sales) x ),
wsWSCS as
(select d_week_seq,
sum(case when (d_day_name='Sunday') then sales_price else null end) sun_sales,
sum(case when (d_day_name='Monday') then sales_price else null end) mon_sales,
sum(case when (d_day_name='Tuesday') then sales_price else null end) tue_sales,
```

```

sum(case when (d_day_name='Wednesday') then sales_price else null end) wed_sales,
sum(case when (d_day_name='Thursday') then sales_price else null end) thu_sales,
sum(case when (d_day_name='Friday') then sales_price else null end) fri_sales,
sum(case when (d_day_name='Saturday') then sales_price else null end) sat_sales
from wscs
,date_dim
where d_date_sk = sold_date_sk
group by d_week_seq)
select d_week_seq1
,round(sun_sales1/sun_sales2,2)
,round(mon_sales1/mon_sales2,2)
,round(tue_sales1/tue_sales2,2)
,round(wed_sales1/wed_sales2,2)
,round(thu_sales1/thu_sales2,2)
,round(fri_sales1/fri_sales2,2)
,round(sat_sales1/sat_sales2,2)
from
(select wswscs.d_week_seq d_week_seq1
,sun_sales sun_sales1
,mon_sales mon_sales1
,tue_sales tue_sales1
,wed_sales wed_sales1
,thu_sales thu_sales1
,fri_sales fri_sales1
,sat_sales sat_sales1
from wswscs,date_dim
where date_dim.d_week_seq = wswscs.d_week_seq and
d_year = 1999) y,
(select wswscs.d_week_seq d_week_seq2
,sun_sales sun_sales2
,mon_sales mon_sales2
,tue_sales tue_sales2
,wed_sales wed_sales2
,thu_sales thu_sales2
,fri_sales fri_sales2
,sat_sales sat_sales2
from wswscs
,date_dim
where date_dim.d_week_seq = wswscs.d_week_seq and
d_year = 1999+1) z
where d_week_seq1=d_week_seq2-53
order by d_week_seq1;

```

-- TPC-DS\_query3

```

select dt.d_year
,item.i_brand_id brand_id
,item.i_brand brand
,sum(ss_ext_discount_amt) sum_agg
from date_dim dt
,store_sales
,item
where dt.d_date_sk = store_sales.ss_sold_date_sk
and store_sales.ss_item_sk = item.i_item_sk
and item.i_manufact_id = 540
and dt.d_moy=12
group by dt.d_year
,item.i_brand
,item.i_brand_id
order by dt.d_year
,sum_agg desc
,brand_id
limit 100;

```

-- TPC-DS\_query4

```

with year_total as (
select c_customer_id customer_id
,c_first_name customer_first_name
,c_last_name customer_last_name

```

```

,c_preferred_cust_flag customer_preferred_cust_flag
,c_birth_country customer_birth_country
,c_login customer_login
,c_email_address customer_email_address
,d_year dyear
,sum((((ss_ext_list_price-ss_ext_wholesale_cost-ss_ext_discount_amt)+ss_ext_sales_price)/2) year_total
,'s' sale_type
from customer
,store_sales
,date_dim
where c_customer_sk = ss_customer_sk
and ss_sold_date_sk = d_date_sk
group by c_customer_id
,c_first_name
,c_last_name
,c_preferred_cust_flag
,c_birth_country
,c_login
,c_email_address
,d_year
union all
select c_customer_id customer_id
,c_first_name customer_first_name
,c_last_name customer_last_name
,c_preferred_cust_flag customer_preferred_cust_flag
,c_birth_country customer_birth_country
,c_login customer_login
,c_email_address customer_email_address
,d_year dyear
,sum((((cs_ext_list_price-cs_ext_wholesale_cost-cs_ext_discount_amt)+cs_ext_sales_price)/2) ) year_total
,'c' sale_type
from customer
,catalog_sales
,date_dim
where c_customer_sk = cs_bill_customer_sk
and cs_sold_date_sk = d_date_sk
group by c_customer_id
,c_first_name
,c_last_name
,c_preferred_cust_flag
,c_birth_country
,c_login
,c_email_address
,d_year
union all
select c_customer_id customer_id
,c_first_name customer_first_name
,c_last_name customer_last_name
,c_preferred_cust_flag customer_preferred_cust_flag
,c_birth_country customer_birth_country
,c_login customer_login
,c_email_address customer_email_address
,d_year dyear
,sum((((ws_ext_list_price-ws_ext_wholesale_cost-ws_ext_discount_amt)+ws_ext_sales_price)/2) ) year_total
,'w' sale_type
from customer
,web_sales
,date_dim
where c_customer_sk = ws_bill_customer_sk
and ws_sold_date_sk = d_date_sk
group by c_customer_id
,c_first_name
,c_last_name
,c_preferred_cust_flag
,c_birth_country
,c_login
,c_email_address
,d_year

```

```

)
select
t_s_secyear.customer_id
,t_s_secyear.customer_first_name
,t_s_secyear.customer_last_name
,t_s_secyear.customer_login
from year_total t_s_firstyear
,year_total t_s_secyear
,year_total t_c_firstyear
,year_total t_c_secyear
,year_total t_w_firstyear
,year_total t_w_secyear
where t_s_secyear.customer_id = t_s_firstyear.customer_id
and t_s_firstyear.customer_id = t_c_secyear.customer_id
and t_s_firstyear.customer_id = t_c_firstyear.customer_id
and t_s_firstyear.customer_id = t_w_firstyear.customer_id
and t_s_firstyear.customer_id = t_w_secyear.customer_id
and t_s_firstyear.sale_type = 's'
and t_c_firstyear.sale_type = 'c'
and t_w_firstyear.sale_type = 'w'
and t_s_secyear.sale_type = 's'
and t_c_secyear.sale_type = 'c'
and t_w_secyear.sale_type = 'w'
and t_s_firstyear.dyear = 1999
and t_s_secyear.dyear = 1999+1
and t_c_firstyear.dyear = 1999
and t_c_secyear.dyear = 1999+1
and t_w_firstyear.dyear = 1999
and t_w_secyear.dyear = 1999+1
and t_s_firstyear.year_total > 0
and t_c_firstyear.year_total > 0
and t_w_firstyear.year_total > 0
and case when t_c_firstyear.year_total > 0 then t_c_secyear.year_total / t_c_firstyear.year_total else null end
> case when t_s_firstyear.year_total > 0 then t_s_secyear.year_total / t_s_firstyear.year_total else null end
and case when t_c_firstyear.year_total > 0 then t_c_secyear.year_total / t_c_firstyear.year_total else null end
> case when t_w_firstyear.year_total > 0 then t_w_secyear.year_total / t_w_firstyear.year_total else null end
order by t_s_secyear.customer_id
,t_s_secyear.customer_first_name
,t_s_secyear.customer_last_name
,t_s_secyear.customer_login
limit 100;

```

-- TPC-DS\_query5

```

with ssr as
(select s_store_id,
sum(sales_price) as sales,
sum(profit) as profit,
sum(return_amt) as returns,
sum(net_loss) as profit_loss
from
( select ss_store_sk as store_sk,
ss_sold_date_sk as date_sk,
ss_ext_sales_price as sales_price,
ss_net_profit as profit,
cast(0 as decimal(7,2)) as return_amt,
cast(0 as decimal(7,2)) as net_loss
from store_sales
union all
select sr_store_sk as store_sk,
sr_returned_date_sk as date_sk,
cast(0 as decimal(7,2)) as sales_price,
cast(0 as decimal(7,2)) as profit,
sr_return_amt as return_amt,
sr_net_loss as net_loss
from store_returns
) salesreturns,
date_dim,
store

```

```

where date_sk = d_date_sk
and d_date between cast('2002-08-09' as date)
and dateadd(day, 14, cast('2002-08-09' as date))
and store_sk = s_store_sk
group by s_store_id)
,
csr as
(select cp_catalog_page_id,
sum(sales_price) as sales,
sum(profit) as profit,
sum(return_amt) as returns,
sum(net_loss) as profit_loss
from
( select cs_catalog_page_sk as page_sk,
cs_sold_date_sk as date_sk,
cs_ext_sales_price as sales_price,
cs_net_profit as profit,
cast(0 as decimal(7,2)) as return_amt,
cast(0 as decimal(7,2)) as net_loss
from catalog_sales
union all
select cr_catalog_page_sk as page_sk,
cr_returned_date_sk as date_sk,
cast(0 as decimal(7,2)) as sales_price,
cast(0 as decimal(7,2)) as profit,
cr_return_amount as return_amt,
cr_net_loss as net_loss
from catalog_returns
) salesreturns,
date_dim,
catalog_page
where date_sk = d_date_sk
and d_date between cast('2002-08-09' as date)
and dateadd(day, 14, cast('2002-08-09' as date))
and page_sk = cp_catalog_page_sk
group by cp_catalog_page_id)
,
wsr as
(select web_site_id,
sum(sales_price) as sales,
sum(profit) as profit,
sum(return_amt) as returns,
sum(net_loss) as profit_loss
from
( select ws_web_site_sk as wsr_web_site_sk,
ws_sold_date_sk as date_sk,
ws_ext_sales_price as sales_price,
ws_net_profit as profit,
cast(0 as decimal(7,2)) as return_amt,
cast(0 as decimal(7,2)) as net_loss
from web_sales
union all
select ws_web_site_sk as wsr_web_site_sk,
wr_returned_date_sk as date_sk,
cast(0 as decimal(7,2)) as sales_price,
cast(0 as decimal(7,2)) as profit,
wr_return_amt as return_amt,
wr_net_loss as net_loss
from web_returns left outer join web_sales on
( wr_item_sk = ws_item_sk
and wr_order_number = ws_order_number)
) salesreturns,
date_dim,
web_site
where date_sk = d_date_sk
and d_date between cast('2002-08-09' as date)
and dateadd(day, 14, cast('2002-08-09' as date))
and wsr_web_site_sk = web_site_sk

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```

group by web_site_id)
select channel
, id
, sum(sales) as sales
, sum(returns) as returns
, sum(profit) as profit
from
(select 'store channel' as channel
, 'store' || s_store_id as id
, sales
, returns
, (profit - profit_loss) as profit
from ssr
union all
select 'catalog channel' as channel
, 'catalog_page' || cp_catalog_page_id as id
, sales
, returns
, (profit - profit_loss) as profit
from csr
union all
select 'web channel' as channel
, 'web_site' || web_site_id as id
, sales
, returns
, (profit - profit_loss) as profit
from wsr
) x
group by rollup (channel, id)
order by channel
, id
limit 100;

```

```

-- TPC-DS_query6
select a.ca_state state, count(*) cnt
from customer_address a
, customer c
, store_sales s
, date_dim d
, item i
where a.ca_address_sk = c.c_current_addr_sk
and c.c_customer_sk = s.ss_customer_sk
and s.ss_sold_date_sk = d.d_date_sk
and s.ss_item_sk = i.i_item_sk
and d.d_month_seq =
(select distinct (d_month_seq)
from date_dim
where d_year = 2002
and d_moy = 7 )
and i.i_current_price > 1.2 *
(select avg(j.i_current_price)
from item j
where j.i_category = i.i_category)
group by a.ca_state
having count(*) >= 10
order by cnt, a.ca_state
limit 100;

```

```

-- TPC-DS_query7
select i_item_id,
avg(ss_quantity) agg1,
avg(ss_list_price) agg2,
avg(ss_coupon_amt) agg3,
avg(ss_sales_price) agg4
from store_sales, customer_demographics, date_dim, item, promotion
where ss_sold_date_sk = d_date_sk and
ss_item_sk = i_item_sk and
ss_cdemo_sk = cd_demo_sk and

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ss_promo_sk = p_promo_sk and
cd_gender = 'M' and
cd_marital_status = 'M' and
cd_education_status = '4 yr Degree' and
(p_channel_email = 'N' or p_channel_event = 'N') and
d_year = 2001
group by i_item_id
order by i_item_id
limit 100;

```

```

-- TPC-DS_query8
select s_store_name
,sum(ss_net_profit)
from store_sales
,date_dim
,store,
(select ca_zip
from (
SELECT substr(ca_zip,1,5) ca_zip
FROM customer_address
WHERE substr(ca_zip,1,5) IN (
'10338','56623','51423','26456','19500','65832',
'17178','68879','49935','49849','93956',
'71765','45100','50587','68389','41899',
'98316','56217','94686','59350','32857',
'14925','31266','37817','27519','20787',
'26967','49045','39397','32010','23144',
'53580','15491','74151','18442','51916',
'17730','22824','28290','21657','45460',
'39386','21133','35017','19894','21759',
'79293','86733','76777','41688','13810',
'49053','17992','13395','19869','40785',
'63897','65049','27388','94701','41482',
'97923','23951','88284','61718','94317',
'72294','63544','31306','41242','28830',
'75535','86189','88177','16147','12902',
'48271','54036','20936','27802','96741',
'70286','75710','16034','90285','22058',
'52590','40584','62441','64039','68999',
'64327','33844','52497','88495','25989',
'67814','13767','83194','99395','35524',
'89640','48834','51875','71073','25383',
'19129','57805','47962','61905','19557',
'74159','98032','13917','50936','47993',
'41606','17592','11470','28216','19732',
'97958','60997','85688','96863','16605',
'10898','31340','71340','72902','98949',
'74440','53057','30323','76166','27195',
'11204','32771','38189','83221','22295',
'15325','20844','65549','69207','71903',
'63929','56922','25733','75482','14986',
'79223','73692','98769','70275','33793',
'13057','30142','95737','30072','32097',
'25845','50282','19289','92221','59533',
'37375','29706','48186','22385','55809',
'17416','10592','55385','71829','91975',
'73557','38036','10448','95252','51386',
'14190','15247','39907','79438','78053',
'66623','27720','84139','74147','58637',
'11434','36573','10081','53536','41724',
'97898','36752','50384','87352','35696',
'69486','50026','27837','42592','58865',
'80523','53682','65423','77611','98529',
'13909','13727','52190','36152','48355',
'62496','16527','18143','98830','75198',
'73043','64043','63042','67797','50656',
'27700','60687','57905','94404','15733',
'80809','74562','84493','67977','11213',

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```
'19125','84496','16435','97510','46040',
'33968','20256','42332','16480','54277',
'82819','93799','69101','57689','42821',
'68073','49342','46915','25825','92332',
'20219','96577','49463','19221','35814',
'64783','97303','52061','24357','58167',
'56286','64474','99847','53626','39703',
'24880','24365','50652','29611','90638',
'59246','27171','30483','11708','38630',
'81914','48269','11720','88662','68844',
'54838','93795','38102','33481','97546',
'49306','97216','49032','14270','72418',
'32540','53208','15588','29990','10407',
'92334','48543','51495','77996','53686',
'14827','30978','30482','86296','48869',
'59600','29495','24775','34645','19763',
'98602','20456','10468','13887','65714',
'74740','37096','96240','44111','54109',
'62693','87874','64295','62027','86027',
'54341','68582','67809','44159','97913',
'79150','38974','64754','73946','20840',
'16138','58939','20428','19890','70842',
'78648','55576','37267','40470','12957',
'57553','53593','34067','22555','79719',
'25809','28496','11083','87624','83622',
'84898','28678','14297','79461','22910',
'87129','49941','64817','93905','39721',
'81837','18753','86432','67821','66080',
'28246','13466','16363','56950','35446',
'58326','11760','33962','28399','45848',
'52560','66894','15169','20988','85925',
'38582','34825','94227','56758','24801',
'14128','14012','35824','49784')
intersect
select ca_zip
from (SELECT substr(ca_zip,1,5) ca_zip,count(*) cnt
FROM customer_address, customer
WHERE ca_address_sk = c_current_addr_sk and
c_preferred_cust_flag='Y'
group by ca_zip
having count(*) > 10)A1)A2) V1
where ss_store_sk = s_store_sk
and ss_sold_date_sk = d_date_sk
and d_qoy = 1 and d_year = 2002
and (substr(s_zip,1,2) = substr(V1.ca_zip,1,2))
group by s_store_name
order by s_store_name
limit 100;
```

```
-- TPC-DS_query9
select case when (select count(*)
from store_sales
where ss_quantity between 1 and 20) > 177560856
then (select avg(ss_ext_discount_amt)
from store_sales
where ss_quantity between 1 and 20)
else (select avg(ss_net_paid_inc_tax)
from store_sales
where ss_quantity between 1 and 20) end bucket1 ,
case when (select count(*)
from store_sales
where ss_quantity between 21 and 40) > 165030289
then (select avg(ss_ext_discount_amt)
from store_sales
where ss_quantity between 21 and 40)
else (select avg(ss_net_paid_inc_tax)
from store_sales
where ss_quantity between 21 and 40) end bucket2,
```



```

case when (select count(*)
from store_sales
where ss_quantity between 41 and 60) > 357290662
then (select avg(ss_ext_discount_amt)
from store_sales
where ss_quantity between 41 and 60)
else (select avg(ss_net_paid_inc_tax)
from store_sales
where ss_quantity between 41 and 60) end bucket3,
case when (select count(*)
from store_sales
where ss_quantity between 61 and 80) > 205197751
then (select avg(ss_ext_discount_amt)
from store_sales
where ss_quantity between 61 and 80)
else (select avg(ss_net_paid_inc_tax)
from store_sales
where ss_quantity between 61 and 80) end bucket4,
case when (select count(*)
from store_sales
where ss_quantity between 81 and 100) > 80111186
then (select avg(ss_ext_discount_amt)
from store_sales
where ss_quantity between 81 and 100)
else (select avg(ss_net_paid_inc_tax)
from store_sales
where ss_quantity between 81 and 100) end bucket5
from reason
where r_reason_sk = 1
;

```

-- TPC-DS\_query10

```

select
cd_gender,
cd_marital_status,
cd_education_status,
count(*) cnt1,
cd_purchase_estimate,
count(*) cnt2,
cd_credit_rating,
count(*) cnt3,
cd_dep_count,
count(*) cnt4,
cd_dep_employed_count,
count(*) cnt5,
cd_dep_college_count,
count(*) cnt6
from
customer c, customer_address ca, customer_demographics
where
c.c_current_addr_sk = ca.ca_address_sk and
ca_county in ('Polk County', 'Denton County', 'Union County', 'Swisher County', 'Cherokee County') and
cd_demo_sk = c.c_current_cdemo_sk and
exists (select *
from store_sales, date_dim
where c.c_customer_sk = ss_customer_sk and
ss_sold_date_sk = d_date_sk and
d_year = 2002 and
d_moy between 3 and 3+3) and
exists (select *
from web_sales, date_dim
where c.c_customer_sk = ws_bill_customer_sk and
ws_sold_date_sk = d_date_sk and
d_year = 2002 and
d_moy between 3 AND 3+3) or
exists (select *
from catalog_sales, date_dim
where c.c_customer_sk = cs_ship_customer_sk and

```

```

cs_sold_date_sk = d_date_sk and
d_year = 2002 and
d_moy between 3 and 3+3))
group by cd_gender,
cd_marital_status,
cd_education_status,
cd_purchase_estimate,
cd_credit_rating,
cd_dep_count,
cd_dep_employed_count,
cd_dep_college_count
order by cd_gender,
cd_marital_status,
cd_education_status,
cd_purchase_estimate,
cd_credit_rating,
cd_dep_count,
cd_dep_employed_count,
cd_dep_college_count
limit 100;

```

```

-- TPC-DS_query11
with year_total as (
select c_customer_id customer_id
,c_first_name customer_first_name
,c_last_name customer_last_name
,c_preferred_cust_flag customer_preferred_cust_flag
,c_birth_country customer_birth_country
,c_login customer_login
,c_email_address customer_email_address
,d_year dyear
,sum(ss_ext_list_price-ss_ext_discount_amt) year_total
,'s' sale_type
from customer
,store_sales
,date_dim
where c_customer_sk = ss_customer_sk
and ss_sold_date_sk = d_date_sk
group by c_customer_id
,c_first_name
,c_last_name
,c_preferred_cust_flag
,c_birth_country
,c_login
,c_email_address
,d_year
union all
select c_customer_id customer_id
,c_first_name customer_first_name
,c_last_name customer_last_name
,c_preferred_cust_flag customer_preferred_cust_flag
,c_birth_country customer_birth_country
,c_login customer_login
,c_email_address customer_email_address
,d_year dyear
,sum(ws_ext_list_price-ws_ext_discount_amt) year_total
,'w' sale_type
from customer
,web_sales
,date_dim
where c_customer_sk = ws_bill_customer_sk
and ws_sold_date_sk = d_date_sk
group by c_customer_id
,c_first_name
,c_last_name
,c_preferred_cust_flag
,c_birth_country
,c_login

```

```
,c_email_address
,d_year
)
select
t_s_secyear.customer_id
,t_s_secyear.customer_first_name
,t_s_secyear.customer_last_name
,t_s_secyear.customer_login
from year_total t_s_firstyear
,year_total t_s_secyear
,year_total t_w_firstyear
,year_total t_w_secyear
where t_s_secyear.customer_id = t_s_firstyear.customer_id
and t_s_firstyear.customer_id = t_w_secyear.customer_id
and t_s_firstyear.customer_id = t_w_firstyear.customer_id
and t_s_firstyear.sale_type = 's'
and t_w_firstyear.sale_type = 'w'
and t_s_secyear.sale_type = 's'
and t_w_secyear.sale_type = 'w'
and t_s_firstyear.dyear = 1999
and t_s_secyear.dyear = 1999+1
and t_w_firstyear.dyear = 1999
and t_w_secyear.dyear = 1999+1
and t_s_firstyear.year_total > 0
and t_w_firstyear.year_total > 0
and case when t_w_firstyear.year_total > 0 then t_w_secyear.year_total / t_w_firstyear.year_total else 0.0 end
> case when t_s_firstyear.year_total > 0 then t_s_secyear.year_total / t_s_firstyear.year_total else 0.0 end
order by t_s_secyear.customer_id
,t_s_secyear.customer_first_name
,t_s_secyear.customer_last_name
,t_s_secyear.customer_login
limit 100;
```

-- TPC-DS\_query12

```
select i_item_id
,i_item_desc
,i_category
,i_class
,i_current_price
,sum(ws_ext_sales_price) as itemrevenue
,sum(ws_ext_sales_price)*100/sum(sum(ws_ext_sales_price)) over
(partition by i_class) as revenueratio
from
web_sales
,item
,date_dim
where
ws_item_sk = i_item_sk
and i_category in ('Shoes', 'Children', 'Electronics')
and ws_sold_date_sk = d_date_sk
and d_date between cast('2002-04-12' as date)
and dateadd(day,30,to_date('2002-04-12'))
group by
i_item_id
,i_item_desc
,i_category
,i_class
,i_current_price
order by
i_category
,i_class
,i_item_id
,i_item_desc
,revenueratio
limit 100;
```

-- TPC-DS\_query13

```
select avg(ss_quantity)
```

```
,avg(ss_ext_sales_price)
,avg(ss_ext_wholesale_cost)
,sum(ss_ext_wholesale_cost)
from store_sales
,store
,customer_demographics
,household_demographics
,customer_address
,date_dim
where s_store_sk = ss_store_sk
and ss_sold_date_sk = d_date_sk and d_year = 2001
and((ss_hdemo_sk=hd_demo_sk
and cd_demo_sk = ss_cdemo_sk
and cd_marital_status = 'D'
and cd_education_status = '2 yr Degree'
and ss_sales_price between 100.00 and 150.00
and hd_dep_count = 3
)or
(ss_hdemo_sk=hd_demo_sk
and cd_demo_sk = ss_cdemo_sk
and cd_marital_status = 'U'
and cd_education_status = 'Primary'
and ss_sales_price between 50.00 and 100.00
and hd_dep_count = 1
) or
(ss_hdemo_sk=hd_demo_sk
and cd_demo_sk = ss_cdemo_sk
and cd_marital_status = 'W'
and cd_education_status = 'Secondary'
and ss_sales_price between 150.00 and 200.00
and hd_dep_count = 1
))
and((ss_addr_sk = ca_address_sk
and ca_country = 'United States'
and ca_state in ('MI', 'MN', 'NC')
and ss_net_profit between 100 and 200
) or
(ss_addr_sk = ca_address_sk
and ca_country = 'United States'
and ca_state in ('GA', 'OH', 'MT')
and ss_net_profit between 150 and 300
) or
(ss_addr_sk = ca_address_sk
and ca_country = 'United States'
and ca_state in ('MS', 'AK', 'OK')
and ss_net_profit between 50 and 250
))
;
```

```
-- TPC-DS_query14
with cross_items as
(select i_item_sk ss_item_sk
from item,
(select iss.i_brand_id brand_id
,iss.i_class_id class_id
,iss.i_category_id category_id
from store_sales
,item iss
,date_dim d1
where ss_item_sk = iss.i_item_sk
and ss_sold_date_sk = d1.d_date_sk
and d1.d_year between 1998 AND 1998 + 2
intersect
select ics.i_brand_id
,ics.i_class_id
,ics.i_category_id
from catalog_sales
,item ics
```

```

,date_dim d2
where cs_item_sk = ics.i_item_sk
and cs_sold_date_sk = d2.d_date_sk
and d2.d_year between 1998 AND 1998 + 2
intersect
select iws.i_brand_id
,iws.i_class_id
,iws.i_category_id
from web_sales
,item iws
,date_dim d3
where ws_item_sk = iws.i_item_sk
and ws_sold_date_sk = d3.d_date_sk
and d3.d_year between 1998 AND 1998 + 2)
where i_brand_id = brand_id
and i_class_id = class_id
and i_category_id = category_id
),
avg_sales as
(select avg(quantity*list_price) average_sales
from (select ss_quantity quantity
,ss_list_price list_price
from store_sales
,date_dim
where ss_sold_date_sk = d_date_sk
and d_year between 1998 and 1998 + 2
union all
select cs_quantity quantity
,cs_list_price list_price
from catalog_sales
,date_dim
where cs_sold_date_sk = d_date_sk
and d_year between 1998 and 1998 + 2
union all
select ws_quantity quantity
,ws_list_price list_price
from web_sales
,date_dim
where ws_sold_date_sk = d_date_sk
and d_year between 1998 and 1998 + 2) x)
select channel, i_brand_id,i_class_id,i_category_id,sum(sales), sum(number_sales)
from(
select 'store' channel, i_brand_id,i_class_id
,i_category_id,sum(ss_quantity*ss_list_price) sales
, count(*) number_sales
from store_sales
,item
,date_dim
where ss_item_sk in (select ss_item_sk from cross_items)
and ss_item_sk = i_item_sk
and ss_sold_date_sk = d_date_sk
and d_year = 1998+2
and d_moy = 11
group by i_brand_id,i_class_id,i_category_id
having sum(ss_quantity*ss_list_price) > (select average_sales from avg_sales)
union all
select 'catalog' channel, i_brand_id,i_class_id,i_category_id, sum(cs_quantity*cs_list_price) sales, count(*) number_sales
from catalog_sales
,item
,date_dim
where cs_item_sk in (select ss_item_sk from cross_items)
and cs_item_sk = i_item_sk
and cs_sold_date_sk = d_date_sk
and d_year = 1998+2
and d_moy = 11
group by i_brand_id,i_class_id,i_category_id
having sum(cs_quantity*cs_list_price) > (select average_sales from avg_sales)
union all

```

```

select 'web' channel, i_brand_id,i_class_id,i_category_id, sum(ws_quantity*ws_list_price) sales , count(*) number_sales
from web_sales
,item
,date_dim
where ws_item_sk in (select ss_item_sk from cross_items)
and ws_item_sk = i_item_sk
and ws_sold_date_sk = d_date_sk
and d_year = 1998+2
and d_moy = 11
group by i_brand_id,i_class_id,i_category_id
having sum(ws_quantity*ws_list_price) > (select average_sales from avg_sales)
) y
group by rollup (channel, i_brand_id,i_class_id,i_category_id)
order by channel,i_brand_id,i_class_id,i_category_id
limit 100;

```

```

-- TPC-DS_query14P2
with cross_items as
(select i_item_sk ss_item_sk
from item,
(select iss.i_brand_id brand_id
,iss.i_class_id class_id
,iss.i_category_id category_id
from store_sales
,item iss
,date_dim d1
where ss_item_sk = iss.i_item_sk
and ss_sold_date_sk = d1.d_date_sk
and d1.d_year between 1998 AND 1998 + 2
intersect
select ics.i_brand_id
,ics.i_class_id
,ics.i_category_id
from catalog_sales
,item ics
,date_dim d2
where cs_item_sk = ics.i_item_sk
and cs_sold_date_sk = d2.d_date_sk
and d2.d_year between 1998 AND 1998 + 2
intersect
select iws.i_brand_id
,iws.i_class_id
,iws.i_category_id
from web_sales
,item iws
,date_dim d3
where ws_item_sk = iws.i_item_sk
and ws_sold_date_sk = d3.d_date_sk
and d3.d_year between 1998 AND 1998 + 2) x
where i_brand_id = brand_id
and i_class_id = class_id
and i_category_id = category_id
),
avg_sales as
(select avg(quantity*list_price) average_sales
from (select ss_quantity quantity
,ss_list_price list_price
from store_sales
,date_dim
where ss_sold_date_sk = d_date_sk
and d_year between 1998 and 1998 + 2
union all
select cs_quantity quantity
,cs_list_price list_price
from catalog_sales
,date_dim
where cs_sold_date_sk = d_date_sk
and d_year between 1998 and 1998 + 2

```

```

union all
select ws_quantity quantity
,ws_list_price list_price
from web_sales
,date_dim
where ws_sold_date_sk = d_date_sk
and d_year between 1998 and 1998 + 2) x)
select this_year.channel ty_channel
,this_year.i_brand_id ty_brand
,this_year.i_class_id ty_class
,this_year.i_category_id ty_category
,this_year.sales ty_sales
,this_year.number_sales ty_number_sales
,last_year.channel ly_channel
,last_year.i_brand_id ly_brand
,last_year.i_class_id ly_class
,last_year.i_category_id ly_category
,last_year.sales ly_sales
,last_year.number_sales ly_number_sales
from
(select 'store' channel, i_brand_id, i_class_id, i_category_id
,sum(ss_quantity*ss_list_price) sales, count(*) number_sales
from store_sales
,item
,date_dim
where ss_item_sk in (select ss_item_sk from cross_items)
and ss_item_sk = i_item_sk
and ss_sold_date_sk = d_date_sk
and d_week_seq = (select d_week_seq
from date_dim
where d_year = 1998 + 1
and d_moy = 12
and d_dom = 28)
group by i_brand_id, i_class_id, i_category_id
having sum(ss_quantity*ss_list_price) > (select average_sales from avg_sales)) this_year,
(select 'store' channel, i_brand_id, i_class_id
,i_category_id, sum(ss_quantity*ss_list_price) sales, count(*) number_sales
from store_sales
,item
,date_dim
where ss_item_sk in (select ss_item_sk from cross_items)
and ss_item_sk = i_item_sk
and ss_sold_date_sk = d_date_sk
and d_week_seq = (select d_week_seq
from date_dim
where d_year = 1998
and d_moy = 12
and d_dom = 28)
group by i_brand_id, i_class_id, i_category_id
having sum(ss_quantity*ss_list_price) > (select average_sales from avg_sales)) last_year
where this_year.i_brand_id = last_year.i_brand_id
and this_year.i_class_id = last_year.i_class_id
and this_year.i_category_id = last_year.i_category_id
order by this_year.channel, this_year.i_brand_id, this_year.i_class_id, this_year.i_category_id
limit 100;

```

```

-- TPC-DS_query15
select ca_zip
,sum(cs_sales_price)
from catalog_sales
,customer
,customer_address
,date_dim
where cs_bill_customer_sk = c_customer_sk
and c_current_addr_sk = ca_address_sk
and ( substr(ca_zip,1,5) in ('85669', '86197','88274','83405','86475',
'85392', '85460', '80348', '81792')
or ca_state in ('CA','WA','GA')

```

```

or cs_sales_price > 500)
and cs_sold_date_sk = d_date_sk
and d_qoy = 2 and d_year = 2000
group by ca_zip
order by ca_zip
limit 100;

```

```
-- TPC-DS_query16
```

```

select
count(distinct cs_order_number) as "order count"
,sum(cs_ext_ship_cost) as "total shipping cost"
,sum(cs_net_profit) as "total net profit"
from
catalog_sales cs1
,date_dim
,customer_address
,call_center
where
d_date between '2000-3-01' and
dateadd(day,60,to_date('2000-3-01'))
and cs1.cs_ship_date_sk = d_date_sk
and cs1.cs_ship_addr_sk = ca_address_sk
and ca_state = 'AL'
and cs1.cs_call_center_sk = cc_call_center_sk
and cc_county in ('Luce County','Ziebach County','San Miguel County','Dauphin County',
'Marshall County'
)
and exists (select *
from catalog_sales cs2
where cs1.cs_order_number = cs2.cs_order_number
and cs1.cs_warehouse_sk <> cs2.cs_warehouse_sk)
and not exists(select *
from catalog_returns cr1
where cs1.cs_order_number = cr1.cr_order_number)
order by count(distinct cs_order_number)
limit 100;

```

```
-- TPC-DS_query17
```

```

select i_item_id
,i_item_desc
,s_state
,count(ss_quantity) as store_sales_quantitycount
,avg(ss_quantity) as store_sales_quantityave
,stddev_samp(ss_quantity) as store_sales_quantitystdev
,stddev_samp(ss_quantity)/avg(ss_quantity) as store_sales_quantitycov
,count(sr_return_quantity) as store_returns_quantitycount
,avg(sr_return_quantity) as store_returns_quantityave
,stddev_samp(sr_return_quantity) as store_returns_quantitystdev
,stddev_samp(sr_return_quantity)/avg(sr_return_quantity) as store_returns_quantitycov
,count(cs_quantity) as catalog_sales_quantitycount ,avg(cs_quantity) as catalog_sales_quantityave
,stddev_samp(cs_quantity) as catalog_sales_quantitystdev
,stddev_samp(cs_quantity)/avg(cs_quantity) as catalog_sales_quantitycov
from store_sales
,store_returns
,catalog_sales
,date_dim d1
,date_dim d2
,date_dim d3
,store
,item
where d1.d_quarter_name = '1999Q1'
and d1.d_date_sk = ss_sold_date_sk
and i_item_sk = ss_item_sk
and s_store_sk = ss_store_sk
and ss_customer_sk = sr_customer_sk
and ss_item_sk = sr_item_sk
and ss_ticket_number = sr_ticket_number
and sr_returned_date_sk = d2.d_date_sk

```



```

and d2.d_quarter_name in ('1999Q1','1999Q2','1999Q3')
and sr_customer_sk = cs_bill_customer_sk
and sr_item_sk = cs_item_sk
and cs_sold_date_sk = d3.d_date_sk
and d3.d_quarter_name in ('1999Q1','1999Q2','1999Q3')
group by i_item_id
,i_item_desc
,s_state
order by i_item_id
,i_item_desc
,s_state
limit 100;

```

```

-- TPC-DS_query18
select i_item_id,
ca_country,
ca_state,
ca_county,
avg( cast(cs_quantity as decimal(12,2))) agg1,
avg( cast(cs_list_price as decimal(12,2))) agg2,
avg( cast(cs_coupon_amt as decimal(12,2))) agg3,
avg( cast(cs_sales_price as decimal(12,2))) agg4,
avg( cast(cs_net_profit as decimal(12,2))) agg5,
avg( cast(c_birth_year as decimal(12,2))) agg6,
avg( cast(cd1.cd_dep_count as decimal(12,2))) agg7
from catalog_sales, customer_demographics cd1,
customer_demographics cd2, customer, customer_address, date_dim, item
where cs_sold_date_sk = d_date_sk and
cs_item_sk = i_item_sk and
cs_bill_cdemo_sk = cd1.cd_demo_sk and
cs_bill_customer_sk = c_customer_sk and
cd1.cd_gender = 'F' and
cd1.cd_education_status = 'Secondary' and
c_current_cdemo_sk = cd2.cd_demo_sk and
c_current_addr_sk = ca_address_sk and
c_birth_month in (1,9,11,4,12,6) and
d_year = 1998 and
ca_state in ('IL','WA','KY'
,'ND','VT','NC','NJ')
group by rollup (i_item_id, ca_country, ca_state, ca_county)
order by ca_country,
ca_state,
ca_county,
i_item_id
limit 100;

```

```

-- TPC-DS_query19
select i_brand_id brand_id, i_brand brand, i_manufact_id, i_manufact,
sum(ss_ext_sales_price) ext_price
from date_dim, store_sales, item, customer, customer_address, store
where d_date_sk = ss_sold_date_sk
and ss_item_sk = i_item_sk
and i_manager_id=8
and d_moy=11
and d_year=1999
and ss_customer_sk = c_customer_sk
and c_current_addr_sk = ca_address_sk
and substr(ca_zip,1,5) <> substr(ss_zip,1,5)
and ss_store_sk = s_store_sk
group by i_brand
,i_brand_id
,i_manufact_id
,i_manufact
order by ext_price desc
,i_brand
,i_brand_id
,i_manufact_id
,i_manufact

```

```
limit 100 ;
```

```
-- TPC-DS_query20
select i_item_id
,i_item_desc
,i_category
,i_class
,i_current_price
,sum(cs_ext_sales_price) as itemrevenue
,sum(cs_ext_sales_price)*100/sum(sum(cs_ext_sales_price)) over
(partition by i_class) as revenueratio
from catalog_sales
,item
,date_dim
where cs_item_sk = i_item_sk
and i_category in ('Men', 'Electronics', 'Music')
and cs_sold_date_sk = d_date_sk
and d_date between cast('2001-03-09' as date)
and dateadd(day,30,to_date('2001-03-09'))
group by i_item_id
,i_item_desc
,i_category
,i_class
,i_current_price
order by i_category
,i_class
,i_item_id
,i_item_desc
,revenueratio
limit 100;
```

```
-- TPC-DS_query21
select *
from(select w_warehouse_name
,i_item_id
,sum(case when (cast(d_date as date) < cast ('2000-05-19' as date))
then inv_quantity_on_hand
else 0 end) as inv_before
,sum(case when (cast(d_date as date) >= cast ('2000-05-19' as date))
then inv_quantity_on_hand
else 0 end) as inv_after
from inventory
,warehouse
,item
,date_dim
where i_current_price between 0.99 and 1.49
and i_item_sk = inv_item_sk
and inv_warehouse_sk = w_warehouse_sk
and inv_date_sk = d_date_sk
and d_date between dateadd(day,-30,to_date('2000-05-19'))
and dateadd(day,30,to_date('2000-05-19'))
group by w_warehouse_name, i_item_id) x
where (case when inv_before > 0
then inv_after / inv_before
else null
end) between 2.0/3.0 and 3.0/2.0
order by w_warehouse_name
,i_item_id
limit 100;
```

```
-- TPC-DS_query22
select i_product_name
,i_brand
,i_class
,i_category
,avg(inv_quantity_on_hand) qoh
from inventory
,date_dim
```

```

,item
where inv_date_sk=d_date_sk
and inv_item_sk=i_item_sk
and d_month_seq between 1190 and 1190 + 11
group by rollup(i_product_name
,i_brand
,i_class
,i_category)
order by qoh, i_product_name, i_brand, i_class, i_category
limit 100;

-- TPC-DS_query23
with frequent_ss_items as
(select substr(i_item_desc,1,30) itemdesc,i_item_sk item_sk,d_date solddate,count(*) cnt
from store_sales
,date_dim
,item
where ss_sold_date_sk = d_date_sk
and ss_item_sk = i_item_sk
and d_year in (2000,2000+1,2000+2,2000+3)
group by substr(i_item_desc,1,30),i_item_sk,d_date
having count(*) >4),
max_store_sales as
(select max(csales) tpcds_cmax
from (select c_customer_sk,sum(ss_quantity*ss_sales_price) csales
from store_sales
,customer
,date_dim
where ss_customer_sk = c_customer_sk
and ss_sold_date_sk = d_date_sk
and d_year in (2000,2000+1,2000+2,2000+3)
group by c_customer_sk)),
best_ss_customer as
(select c_customer_sk,sum(ss_quantity*ss_sales_price) ssales
from store_sales
,customer
where ss_customer_sk = c_customer_sk
group by c_customer_sk
having sum(ss_quantity*ss_sales_price) > (95/100.0) * (select
*
from
max_store_sales))
select sum(sales)
from (select cs_quantity*cs_list_price sales
from catalog_sales
,date_dim
where d_year = 2000
and d_moy = 2
and cs_sold_date_sk = d_date_sk
and cs_item_sk in (select item_sk from frequent_ss_items)
and cs_bill_customer_sk in (select c_customer_sk from best_ss_customer)
union all
select ws_quantity*ws_list_price sales
from web_sales
,date_dim
where d_year = 2000
and d_moy = 2
and ws_sold_date_sk = d_date_sk
and ws_item_sk in (select item_sk from frequent_ss_items)
and ws_bill_customer_sk in (select c_customer_sk from best_ss_customer))
limit 100;

-- TPC-DS_query23P2
with frequent_ss_items as
(select substr(i_item_desc,1,30) itemdesc,i_item_sk item_sk,d_date solddate,count(*) cnt
from store_sales
,date_dim
,item

```

```

where ss_sold_date_sk = d_date_sk
and ss_item_sk = i_item_sk
and d_year in (2000,2000 + 1,2000 + 2,2000 + 3)
group by substr(i_item_desc,1,30),i_item_sk,d_date
having count(*) >4),
max_store_sales as
(select max(csales) tpcds_cmax
from (select c_customer_sk,sum(ss_quantity*ss_sales_price) csales
from store_sales
,customer
,date_dim
where ss_customer_sk = c_customer_sk
and ss_sold_date_sk = d_date_sk
and d_year in (2000,2000+1,2000+2,2000+3)
group by c_customer_sk)),
best_ss_customer as
(select c_customer_sk,sum(ss_quantity*ss_sales_price) ssales
from store_sales
,customer
where ss_customer_sk = c_customer_sk
group by c_customer_sk
having sum(ss_quantity*ss_sales_price) > (95/100.0) * (select
*
from max_store_sales))
select c_last_name,c_first_name,sales
from (select c_last_name,c_first_name,sum(cs_quantity*cs_list_price) sales
from catalog_sales
,customer
,date_dim
where d_year = 2000
and d_moy = 2
and cs_sold_date_sk = d_date_sk
and cs_item_sk in (select item_sk from frequent_ss_items)
and cs_bill_customer_sk in (select c_customer_sk from best_ss_customer)
and cs_bill_customer_sk = c_customer_sk
group by c_last_name,c_first_name
union all
select c_last_name,c_first_name,sum(ws_quantity*ws_list_price) sales
from web_sales
,customer
,date_dim
where d_year = 2000
and d_moy = 2
and ws_sold_date_sk = d_date_sk
and ws_item_sk in (select item_sk from frequent_ss_items)
and ws_bill_customer_sk in (select c_customer_sk from best_ss_customer)
and ws_bill_customer_sk = c_customer_sk
group by c_last_name,c_first_name)
order by c_last_name,c_first_name,sales
limit 100;

```

```

-- TPC-DS_query24
with ssales as
(select c_last_name
,c_first_name
,s_store_name
,ca_state
,s_state
,i_color
,i_current_price
,i_manager_id
,i_units
,i_size
,sum(ss_net_paid_inc_tax) netpaid
from store_sales
,store_returns
,store
,item

```

```
,customer
,customer_address
where ss_ticket_number = sr_ticket_number
and ss_item_sk = sr_item_sk
and ss_customer_sk = c_customer_sk
and ss_item_sk = i_item_sk
and ss_store_sk = s_store_sk
and c_current_addr_sk = ca_address_sk
and c_birth_country <> upper(ca_country)
and s_zip = ca_zip
and s_market_id=8
group by c_last_name
,c_first_name
,s_store_name
,ca_state
,s_state
,i_color
,i_current_price
,i_manager_id
,i_units
,i_size)
select c_last_name
,c_first_name
,s_store_name
,sum(netpaid) paid
from ssales
where i_color = 'cornsilk'
group by c_last_name
,c_first_name
,s_store_name
having sum(netpaid) > (select 0.05*avg(netpaid)
from ssales)
order by c_last_name
,c_first_name
,s_store_name
;
```

```
-- TPC-DS_query24P2
with ssales as
(select c_last_name
,c_first_name
,s_store_name
,ca_state
,s_state
,i_color
,i_current_price
,i_manager_id
,i_units
,i_size
,sum(ss_net_paid_inc_tax) netpaid
from store_sales
,store_returns
,store
,item
,customer
,customer_address
where ss_ticket_number = sr_ticket_number
and ss_item_sk = sr_item_sk
and ss_customer_sk = c_customer_sk
and ss_item_sk = i_item_sk
and ss_store_sk = s_store_sk
and c_current_addr_sk = ca_address_sk
and c_birth_country <> upper(ca_country)
and s_zip = ca_zip
and s_market_id = 8
group by c_last_name
,c_first_name
,s_store_name
```

```
,ca_state
,s_state
,i_color
,i_current_price
,i_manager_id
,i_units
,i_size)
select c_last_name
,c_first_name
,s_store_name
,sum(netpaid) paid
from ssales
where i_color = 'lime'
group by c_last_name
,c_first_name
,s_store_name
having sum(netpaid) > (select 0.05*avg(netpaid)
from ssales)
order by c_last_name
,c_first_name
,s_store_name
;
```

```
-- TPC-DS_query25
select
i_item_id
,i_item_desc
,s_store_id
,s_store_name
,min(ss_net_profit) as store_sales_profit
,min(sr_net_loss) as store_returns_loss
,min(cs_net_profit) as catalog_sales_profit
from
store_sales
,store_returns
,catalog_sales
,date_dim d1
,date_dim d2
,date_dim d3
,store
,item
where
d1.d_moy = 4
and d1.d_year = 2002
and d1.d_date_sk = ss_sold_date_sk
and i_item_sk = ss_item_sk
and s_store_sk = ss_store_sk
and ss_customer_sk = sr_customer_sk
and ss_item_sk = sr_item_sk
and ss_ticket_number = sr_ticket_number
and sr_returned_date_sk = d2.d_date_sk
and d2.d_moy between 4 and 10
and d2.d_year = 2002
and sr_customer_sk = cs_bill_customer_sk
and sr_item_sk = cs_item_sk
and cs_sold_date_sk = d3.d_date_sk
and d3.d_moy between 4 and 10
and d3.d_year = 2002
group by
i_item_id
,i_item_desc
,s_store_id
,s_store_name
order by
i_item_id
,i_item_desc
,s_store_id
,s_store_name
```

```
limit 100;
```

```
-- TPC-DS_query26
select i_item_id,
avg(cs_quantity) agg1,
avg(cs_list_price) agg2,
avg(cs_coupon_amt) agg3,
avg(cs_sales_price) agg4
from catalog_sales, customer_demographics, date_dim, item, promotion
where cs_sold_date_sk = d_date_sk and
cs_item_sk = i_item_sk and
cs_bill_cdemo_sk = cd_demo_sk and
cs_promo_sk = p_promo_sk and
cd_gender = 'M' and
cd_marital_status = 'S' and
cd_education_status = '4 yr Degree' and
(p_channel_email = 'N' or p_channel_event = 'N') and
d_year = 1998
group by i_item_id
order by i_item_id
limit 100;
```

```
-- TPC-DS_query27
select i_item_id,
s_state, grouping(s_state) g_state,
avg(ss_quantity) agg1,
avg(ss_list_price) agg2,
avg(ss_coupon_amt) agg3,
avg(ss_sales_price) agg4
from store_sales, customer_demographics, date_dim, store, item
where ss_sold_date_sk = d_date_sk and
ss_item_sk = i_item_sk and
ss_store_sk = s_store_sk and
ss_cdemo_sk = cd_demo_sk and
cd_gender = 'F' and
cd_marital_status = 'U' and
cd_education_status = '2 yr Degree' and
d_year = 2000 and
s_state in ('SD','OH','NM','MI','TX','NM')
group by rollup (i_item_id, s_state)
order by i_item_id
,s_state
limit 100;
```

```
-- TPC-DS_query28
select *
from (select avg(ss_list_price) B1_LP
,count(ss_list_price) B1_CNT
,count(distinct ss_list_price) B1_CNTD
from store_sales
where ss_quantity between 0 and 5
and (ss_list_price between 173 and 173+10
or ss_coupon_amt between 12318 and 12318+1000
or ss_wholesale_cost between 4 and 4+20)) B1,
(select avg(ss_list_price) B2_LP
,count(ss_list_price) B2_CNT
,count(distinct ss_list_price) B2_CNTD
from store_sales
where ss_quantity between 6 and 10
and (ss_list_price between 148 and 148+10
or ss_coupon_amt between 15913 and 15913+1000
or ss_wholesale_cost between 54 and 54+20)) B2,
(select avg(ss_list_price) B3_LP
,count(ss_list_price) B3_CNT
,count(distinct ss_list_price) B3_CNTD
from store_sales
where ss_quantity between 11 and 15
and (ss_list_price between 114 and 114+10
```

```

or ss_coupon_amt between 10419 and 10419+1000
or ss_wholesale_cost between 20 and 20+20)) B3,
(select avg(ss_list_price) B4_LP
,count(ss_list_price) B4_CNT
,count(distinct ss_list_price) B4_CNTD
from store_sales
where ss_quantity between 16 and 20
and (ss_list_price between 120 and 120+10
or ss_coupon_amt between 13066 and 13066+1000
or ss_wholesale_cost between 41 and 41+20)) B4,
(select avg(ss_list_price) B5_LP
,count(ss_list_price) B5_CNT
,count(distinct ss_list_price) B5_CNTD
from store_sales
where ss_quantity between 21 and 25
and (ss_list_price between 42 and 42+10
or ss_coupon_amt between 5802 and 5802+1000
or ss_wholesale_cost between 8 and 8+20)) B5,
(select avg(ss_list_price) B6_LP
,count(ss_list_price) B6_CNT
,count(distinct ss_list_price) B6_CNTD
from store_sales
where ss_quantity between 26 and 30
and (ss_list_price between 22 and 22+10
or ss_coupon_amt between 281 and 281+1000
or ss_wholesale_cost between 48 and 48+20)) B6
limit 100;

```

-- TPC-DS\_query29

```

select
i_item_id
,i_item_desc
,s_store_id
,s_store_name
,sum(ss_quantity) as store_sales_quantity
,sum(sr_return_quantity) as store_returns_quantity
,sum(cs_quantity) as catalog_sales_quantity
from
store_sales
,store_returns
,catalog_sales
,date_dim d1
,date_dim d2
,date_dim d3
,store
,item
where
d1.d_moy = 4
and d1.d_year = 2000
and d1.d_date_sk = ss_sold_date_sk
and i_item_sk = ss_item_sk
and s_store_sk = ss_store_sk
and ss_customer_sk = sr_customer_sk
and ss_item_sk = sr_item_sk
and ss_ticket_number = sr_ticket_number
and sr_returned_date_sk = d2.d_date_sk
and d2.d_moy between 4 and 4 + 3
and d2.d_year = 2000
and sr_customer_sk = cs_bill_customer_sk
and sr_item_sk = cs_item_sk
and cs_sold_date_sk = d3.d_date_sk
and d3.d_year in (2000,2000+1,2000+2)
group by
i_item_id
,i_item_desc
,s_store_id
,s_store_name
order by

```



```

i_item_id
,i_item_desc
,s_store_id
,s_store_name
limit 100;

```

```

-- TPC-DS_query30
with customer_total_return as
(select wr_returning_customer_sk as ctr_customer_sk
,ca_state as ctr_state,
sum(wr_return_amt) as ctr_total_return
from web_returns
,date_dim
,customer_address
where wr_returned_date_sk = d_date_sk
and d_year =2001
and wr_returning_addr_sk = ca_address_sk
group by wr_returning_customer_sk
,ca_state)
select c_customer_id,c_salutation,c_first_name,c_last_name,c_preferred_cust_flag
,c_birth_day,c_birth_month,c_birth_year,c_birth_country,c_login,c_email_address
,c_last_review_date,ctr_total_return
from customer_total_return ctr1
,customer_address
,customer
where ctr1.ctr_total_return > (select avg(ctr_total_return)*1.2
from customer_total_return ctr2
where ctr1.ctr_state = ctr2.ctr_state)
and ca_address_sk = c_current_addr_sk
and ca_state = 'MI'
and ctr1.ctr_customer_sk = c_customer_sk
order by c_customer_id,c_salutation,c_first_name,c_last_name,c_preferred_cust_flag
,c_birth_day,c_birth_month,c_birth_year,c_birth_country,c_login,c_email_address
,c_last_review_date,ctr_total_return
limit 100;

```

```

-- TPC-DS_query31
with ss as
(select ca_county,d_qoy, d_year,sum(ss_ext_sales_price) as store_sales
from store_sales,date_dim,customer_address
where ss_sold_date_sk = d_date_sk
and ss_addr_sk=ca_address_sk
group by ca_county,d_qoy, d_year),
ws as
(select ca_county,d_qoy, d_year,sum(ws_ext_sales_price) as web_sales
from web_sales,date_dim,customer_address
where ws_sold_date_sk = d_date_sk
and ws_bill_addr_sk=ca_address_sk
group by ca_county,d_qoy, d_year)
select
ss1.ca_county
,ss1.d_year
,ws2.web_sales/ws1.web_sales web_q1_q2_increase
,ss2.store_sales/ss1.store_sales store_q1_q2_increase
,ws3.web_sales/ws2.web_sales web_q2_q3_increase
,ss3.store_sales/ss2.store_sales store_q2_q3_increase
from
ss ss1
,ss ss2
,ss ss3
,ws ws1
,ws ws2
,ws ws3
where
ss1.d_qoy = 1
and ss1.d_year = 1999
and ss1.ca_county = ss2.ca_county
and ss2.d_qoy = 2

```

```

and ss2.d_year = 1999
and ss2.ca_county = ss3.ca_county
and ss3.d_qoy = 3
and ss3.d_year = 1999
and ss1.ca_county = ws1.ca_county
and ws1.d_qoy = 1
and ws1.d_year = 1999
and ws1.ca_county = ws2.ca_county
and ws2.d_qoy = 2
and ws2.d_year = 1999
and ws1.ca_county = ws3.ca_county
and ws3.d_qoy = 3
and ws3.d_year = 1999
and case when ws1.web_sales > 0 then ws2.web_sales/ws1.web_sales else null end
> case when ss1.store_sales > 0 then ss2.store_sales/ss1.store_sales else null end
and case when ws2.web_sales > 0 then ws3.web_sales/ws2.web_sales else null end
> case when ss2.store_sales > 0 then ss3.store_sales/ss2.store_sales else null end
order by web_q1_q2_increase;

```

```

-- TPC-DS_query32
select sum(cs_ext_discount_amt) as "excess discount amount"
from
catalog_sales
,item
,date_dim
where
i_manufact_id = 283
and i_item_sk = cs_item_sk
and d_date between '1999-02-22' and
dateadd(day,90,to_date('1999-02-22'))
and d_date_sk = cs_sold_date_sk
and cs_ext_discount_amt
> (
select
1.3 * avg(cs_ext_discount_amt)
from
catalog_sales
,date_dim
where
cs_item_sk = i_item_sk
and d_date between '1999-02-22' and
dateadd(day,90,to_date('1999-02-22'))
and d_date_sk = cs_sold_date_sk
)
limit 100;

```

```

-- TPC-DS_query33
with ss as (
select
i_manufact_id,sum(ss_ext_sales_price) total_sales
from
store_sales,
date_dim,
customer_address,
item
where
i_manufact_id in (select
i_manufact_id
from
item
where i_category in ('Electronics'))
and ss_item_sk = i_item_sk
and ss_sold_date_sk = d_date_sk
and d_year = 1999
and d_moy = 7
and ss_addr_sk = ca_address_sk
and ca_gmt_offset = -5
group by i_manufact_id),

```

```

cs as (
select
i_manufact_id,sum(cs_ext_sales_price) total_sales
from
catalog_sales,
date_dim,
customer_address,
item
where
i_manufact_id in (select
i_manufact_id
from
item
where i_category in ('Electronics'))
and cs_item_sk = i_item_sk
and cs_sold_date_sk = d_date_sk
and d_year = 1999
and d_moy = 7
and cs_bill_addr_sk = ca_address_sk
and ca_gmt_offset = -5
group by i_manufact_id),
ws as (
select
i_manufact_id,sum(ws_ext_sales_price) total_sales
from
web_sales,
date_dim,
customer_address,
item
where
i_manufact_id in (select
i_manufact_id
from
item
where i_category in ('Electronics'))
and ws_item_sk = i_item_sk
and ws_sold_date_sk = d_date_sk
and d_year = 1999
and d_moy = 7
and ws_bill_addr_sk = ca_address_sk
and ca_gmt_offset = -5
group by i_manufact_id)
select i_manufact_id,sum(total_sales) total_sales
from (select * from ss
union all
select * from cs
union all
select * from ws) tmp1
group by i_manufact_id
order by total_sales
limit 100;

```

```

-- TPC-DS_query34
select c_last_name
,c_first_name
,c_salutation
,c_preferred_cust_flag
,ss_ticket_number
,cnt from
(select ss_ticket_number
,ss_customer_sk
,count(*) cnt
from store_sales,date_dim,store,household_demographics
where store_sales.ss_sold_date_sk = date_dim.d_date_sk
and store_sales.ss_store_sk = store.s_store_sk
and store_sales.ss_hdemo_sk = household_demographics.hd_demo_sk
and (date_dim.d_dom between 1 and 3 or date_dim.d_dom between 25 and 28)
and (household_demographics.hd_buy_potential = '1001-5000' or

```

```

household_demographics.hd_buy_potential = '0-500')
and household_demographics.hd_vehicle_count > 0
and (case when household_demographics.hd_vehicle_count > 0
then household_demographics.hd_dep_count/ household_demographics.hd_vehicle_count
else null
end) > 1.2
and date_dim.d_year in (1998,1998+1,1998+2)
and store.s_county in ('Quay County','Sumner County','Harper County','Pipestone County',
'Kittitas County','Surry County','Wadena County','Richland County')
group by ss_ticket_number,ss_customer_sk) dn,customer
where ss_customer_sk = c_customer_sk
and cnt between 15 and 20
order by c_last_name,c_first_name,c_salutation,c_preferred_cust_flag desc, ss_ticket_number;

```

-- TPC-DS\_query35

```

select
ca_state,
cd_gender,
cd_marital_status,
cd_dep_count,
count(*) cnt1,
stddev_samp(cd_dep_count),
max(cd_dep_count),
sum(cd_dep_count),
cd_dep_employed_count,
count(*) cnt2,
stddev_samp(cd_dep_employed_count),
max(cd_dep_employed_count),
sum(cd_dep_employed_count),
cd_dep_college_count,
count(*) cnt3,
stddev_samp(cd_dep_college_count),
max(cd_dep_college_count),
sum(cd_dep_college_count)
from
customer c,customer_address ca,customer_demographics
where
c.c_current_addr_sk = ca.ca_address_sk and
cd_demo_sk = c.c_current_demo_sk and
exists (select *
from store_sales,date_dim
where c.c_customer_sk = ss_customer_sk and
ss_sold_date_sk = d_date_sk and
d_year = 2000 and
d_qoy < 4) and
(exists (select *
from web_sales,date_dim
where c.c_customer_sk = ws_bill_customer_sk and
ws_sold_date_sk = d_date_sk and
d_year = 2000 and
d_qoy < 4) or
exists (select *
from catalog_sales,date_dim
where c.c_customer_sk = cs_ship_customer_sk and
cs_sold_date_sk = d_date_sk and
d_year = 2000 and
d_qoy < 4))
group by ca_state,
cd_gender,
cd_marital_status,
cd_dep_count,
cd_dep_employed_count,
cd_dep_college_count
order by ca_state,
cd_gender,
cd_marital_status,
cd_dep_count,
cd_dep_employed_count,

```

```
cd_dep_college_count
limit 100;
```

```
-- TPC-DS_query36
select
sum(ss_net_profit)/sum(ss_ext_sales_price) as gross_margin
,i_category
,i_class
,grouping(i_category)+grouping(i_class) as lochierarchy
,rank() over (
partition by grouping(i_category)+grouping(i_class),
case when grouping(i_class) = 0 then i_category end
order by sum(ss_net_profit)/sum(ss_ext_sales_price) asc) as rank_within_parent
from
store_sales
,date_dim d1
,item
,store
where
d1.d_year = 1998
and d1.d_date_sk = ss_sold_date_sk
and i_item_sk = ss_item_sk
and s_store_sk = ss_store_sk
and s_state in ('GA','AL','LA','NM',
'MN','NM','CO','MI')
group by rollup(i_category,i_class)
order by
lochierarchy desc
,case when lochierarchy = 0 then i_category end
,rank_within_parent
limit 100;
```

```
-- TPC-DS_query37
select i_item_id
,i_item_desc
,i_current_price
from item, inventory, date_dim, catalog_sales
where i_current_price between 58 and 58 + 30
and inv_item_sk = i_item_sk
and d_date_sk=inv_date_sk
and d_date between cast('2001-02-11' as date) and dateadd(day,60,to_date('2001-02-11'))
and i_manufact_id in (910,893,984,865)
and inv_quantity_on_hand between 100 and 500
and cs_item_sk = i_item_sk
group by i_item_id,i_item_desc,i_current_price
order by i_item_id
limit 100;
```

```
-- TPC-DS_query38
select count(*) from (
select distinct c_last_name, c_first_name, d_date
from store_sales, date_dim, customer
where store_sales.ss_sold_date_sk = date_dim.d_date_sk
and store_sales.ss_customer_sk = customer.c_customer_sk
and d_month_seq between 1176 and 1176 + 11
intersect
select distinct c_last_name, c_first_name, d_date
from catalog_sales, date_dim, customer
where catalog_sales.cs_sold_date_sk = date_dim.d_date_sk
and catalog_sales.cs_bill_customer_sk = customer.c_customer_sk
and d_month_seq between 1176 and 1176 + 11
intersect
select distinct c_last_name, c_first_name, d_date
from web_sales, date_dim, customer
where web_sales.ws_sold_date_sk = date_dim.d_date_sk
and web_sales.ws_bill_customer_sk = customer.c_customer_sk
and d_month_seq between 1176 and 1176 + 11
) hot_cust
```

```
limit 100;
```

```
-- TPC-DS_query39
```

```
with inv as
(select w_warehouse_name,w_warehouse_sk,i_item_sk,d_moy
,stdev,mean, case mean when 0 then null else stdev/mean end cov
from(select w_warehouse_name,w_warehouse_sk,i_item_sk,d_moy
,stddev_samp(inv_quantity_on_hand) stdev,avg(inv_quantity_on_hand) mean
from inventory
,item
,warehouse
,date_dim
where inv_item_sk = i_item_sk
and inv_warehouse_sk = w_warehouse_sk
and inv_date_sk = d_date_sk
and d_year =2001
group by w_warehouse_name,w_warehouse_sk,i_item_sk,d_moy) foo
where case mean when 0 then 0 else stdev/mean end > 1)
select inv1.w_warehouse_sk,inv1.i_item_sk,inv1.d_moy,inv1.mean, inv1.cov
,inv2.w_warehouse_sk,inv2.i_item_sk,inv2.d_moy,inv2.mean, inv2.cov
from inv inv1,inv inv2
where inv1.i_item_sk = inv2.i_item_sk
and inv1.w_warehouse_sk = inv2.w_warehouse_sk
and inv1.d_moy=1
and inv2.d_moy=1+1
order by inv1.w_warehouse_sk,inv1.i_item_sk,inv1.d_moy,inv1.mean,inv1.cov
,inv2.d_moy,inv2.mean, inv2.cov
;
```

```
-- TPC-DS_query39P2
```

```
with inv as
(select w_warehouse_name,w_warehouse_sk,i_item_sk,d_moy
,stdev,mean, case mean when 0 then null else stdev/mean end cov
from(select w_warehouse_name,w_warehouse_sk,i_item_sk,d_moy
,stddev_samp(inv_quantity_on_hand) stdev,avg(inv_quantity_on_hand) mean
from inventory
,item
,warehouse
,date_dim
where inv_item_sk = i_item_sk
and inv_warehouse_sk = w_warehouse_sk
and inv_date_sk = d_date_sk
and d_year =2001
group by w_warehouse_name,w_warehouse_sk,i_item_sk,d_moy) foo
where case mean when 0 then 0 else stdev/mean end > 1)
select inv1.w_warehouse_sk,inv1.i_item_sk,inv1.d_moy,inv1.mean, inv1.cov
,inv2.w_warehouse_sk,inv2.i_item_sk,inv2.d_moy,inv2.mean, inv2.cov
from inv inv1,inv inv2
where inv1.i_item_sk = inv2.i_item_sk
and inv1.w_warehouse_sk = inv2.w_warehouse_sk
and inv1.d_moy=1
and inv2.d_moy=1+1
and inv1.cov > 1.5
order by inv1.w_warehouse_sk,inv1.i_item_sk,inv1.d_moy,inv1.mean,inv1.cov
,inv2.d_moy,inv2.mean, inv2.cov
;
```

```
-- TPC-DS_query40
```

```
select
w_state
,i_item_id
,sum(case when (cast(d_date as date) < cast ('2002-05-08' as date))
then cs_sales_price - coalesce(cr_refunded_cash,0) else 0 end) as sales_before
,sum(case when (cast(d_date as date) >= cast ('2002-05-08' as date))
then cs_sales_price - coalesce(cr_refunded_cash,0) else 0 end) as sales_after
from
catalog_sales left outer join catalog_returns on
(cs_order_number = cr_order_number
```

```

and cs_item_sk = cr_item_sk)
,warehouse
,item
,date_dim
where
i_current_price between 0.99 and 1.49
and i_item_sk = cs_item_sk
and cs_warehouse_sk = w_warehouse_sk
and cs_sold_date_sk = d_date_sk
and d_date between dateadd(day,-30,to_date('2002-05-08')) and
dateadd(day,30,to_date('2002-05-08'))
group by
w_state,i_item_id
order by w_state,i_item_id
limit 100;

```

-- TPC-DS\_query41

```

select distinct(i_product_name)
from item i1
where i_manufact_id between 869 and 869+40
and (select count(*) as item_cnt
from item
where (i_manufact = i1.i_manufact and
((i_category = 'Women' and
(i_color = 'seashell' or i_color = 'indian') and
(i_units = 'Carton' or i_units = 'Dozen') and
(i_size = 'small' or i_size = 'extra large')
) or
(i_category = 'Women' and
(i_color = 'thistle' or i_color = 'green') and
(i_units = 'Box' or i_units = 'Tsp') and
(i_size = 'N/A' or i_size = 'large')
) or
(i_category = 'Men' and
(i_color = 'steel' or i_color = 'papaya') and
(i_units = 'Dram' or i_units = 'Bundle') and
(i_size = 'petite' or i_size = 'economy')
) or
(i_category = 'Men' and
(i_color = 'pink' or i_color = 'black') and
(i_units = 'Gross' or i_units = 'Oz') and
(i_size = 'small' or i_size = 'extra large')
))) or
(i_manufact = i1.i_manufact and
((i_category = 'Women' and
(i_color = 'lemon' or i_color = 'chocolate') and
(i_units = 'Each' or i_units = 'N/A') and
(i_size = 'small' or i_size = 'extra large')
) or
(i_category = 'Women' and
(i_color = 'purple' or i_color = 'peru') and
(i_units = 'Ounce' or i_units = 'Unknown') and
(i_size = 'N/A' or i_size = 'large')
) or
(i_category = 'Men' and
(i_color = 'rosy' or i_color = 'floral') and
(i_units = 'Pound' or i_units = 'Ton') and
(i_size = 'petite' or i_size = 'economy')
) or
(i_category = 'Men' and
(i_color = 'plum' or i_color = 'firebrick') and
(i_units = 'Bunch' or i_units = 'Gram') and
(i_size = 'small' or i_size = 'extra large')
)))) > 0
order by i_product_name
limit 100;

```

-- TPC-DS\_query42

```

select dt.d_year
,item.i_category_id
,item.i_category
,sum(ss_ext_sales_price)
from date_dim dt
,store_sales
,item
where dt.d_date_sk = store_sales.ss_sold_date_sk
and store_sales.ss_item_sk = item.i_item_sk
and item.i_manager_id = 1
and dt.d_moy=12
and dt.d_year=2001
group by dt.d_year
,item.i_category_id
,item.i_category
order by sum(ss_ext_sales_price) desc,dt.d_year
,item.i_category_id
,item.i_category
limit 100 ;

```

-- TPC-DS\_query43

```

select s_store_name, s_store_id,
sum(case when (d_day_name='Sunday') then ss_sales_price else null end) sun_sales,
sum(case when (d_day_name='Monday') then ss_sales_price else null end) mon_sales,
sum(case when (d_day_name='Tuesday') then ss_sales_price else null end) tue_sales,
sum(case when (d_day_name='Wednesday') then ss_sales_price else null end) wed_sales,
sum(case when (d_day_name='Thursday') then ss_sales_price else null end) thu_sales,
sum(case when (d_day_name='Friday') then ss_sales_price else null end) fri_sales,
sum(case when (d_day_name='Saturday') then ss_sales_price else null end) sat_sales
from date_dim, store_sales, store
where d_date_sk = ss_sold_date_sk and
s_store_sk = ss_store_sk and
s_gmt_offset = -6 and
d_year = 2000
group by s_store_name, s_store_id
order by s_store_name, s_store_id,sun_sales,mon_sales,tue_sales,wed_sales,thu_sales,fri_sales,sat_sales
limit 100;

```

-- TPC-DS\_query44

```

select ascending.rnk, i1.i_product_name best_performing, i2.i_product_name worst_performing
from(select *
from (select item_sk,rank() over (order by rank_col asc) rnk
from (select ss_item_sk item_sk,avg(ss_net_profit) rank_col
from store_sales ss1
where ss_store_sk = 112
group by ss_item_sk
having avg(ss_net_profit) > 0.9*(select avg(ss_net_profit) rank_col
from store_sales
where ss_store_sk = 112
and ss_demo_sk is null
group by ss_store_sk))V1)V11
where rnk < 11) ascending,
(select *
from (select item_sk,rank() over (order by rank_col desc) rnk
from (select ss_item_sk item_sk,avg(ss_net_profit) rank_col
from store_sales ss1
where ss_store_sk = 112
group by ss_item_sk
having avg(ss_net_profit) > 0.9*(select avg(ss_net_profit) rank_col
from store_sales
where ss_store_sk = 112
and ss_demo_sk is null
group by ss_store_sk))V2)V21
where rnk < 11) descending,
item i1,
item i2
where ascending.rnk = descending.rnk
and i1.i_item_sk=ascending.item_sk

```



```
and i2.i_item_sk=descending.item_sk
order by asceding.rnk
limit 100;
```

```
-- TPC-DS_query45
select ca_zip, ca_city, sum(ws_sales_price)
from web_sales, customer, customer_address, date_dim, item
where ws_bill_customer_sk = c_customer_sk
and c_current_addr_sk = ca_address_sk
and ws_item_sk = i_item_sk
and ( substr(ca_zip,1,5) in ('85669','86197','88274','83405','86475','85392','85460','80348','81792')
or
i_item_id in (select i_item_id
from item
where i_item_sk in (2, 3, 5, 7, 11, 13, 17, 19, 23, 29)
)
)
and ws_sold_date_sk = d_date_sk
and d_qoy = 1 and d_year = 1998
group by ca_zip, ca_city
order by ca_zip, ca_city
limit 100;
```

```
-- TPC-DS_query46
select c_last_name
,c_first_name
,ca_city
,bought_city
,ss_ticket_number
,amt,profit
from
(select ss_ticket_number
,ss_customer_sk
,ca_city bought_city
,sum(ss_coupon_amt) amt
,sum(ss_net_profit) profit
from store_sales,date_dim,store,household_demographics,customer_address
where store_sales.ss_sold_date_sk = date_dim.d_date_sk
and store_sales.ss_store_sk = store.s_store_sk
and store_sales.ss_hdemo_sk = household_demographics.hd_demo_sk
and store_sales.ss_addr_sk = customer_address.ca_address_sk
and (household_demographics.hd_dep_count = 4 or
household_demographics.hd_vehicle_count= 3)
and date_dim.d_dow in (6,0)
and date_dim.d_year in (1999,1999+1,1999+2)
and store.s_city in ('Woodland','Rockville','Oakdale','Pleasant Grove','Springfield')
group by ss_ticket_number,ss_customer_sk,ss_addr_sk,ca_city) dn,customer,customer_address current_addr
where ss_customer_sk = c_customer_sk
and customer.c_current_addr_sk = current_addr.ca_address_sk
and current_addr.ca_city <> bought_city
order by c_last_name
,c_first_name
,ca_city
,bought_city
,ss_ticket_number
limit 100;
```

```
-- TPC-DS_query47
with v1 as(
select i_category, i_brand,
s_store_name, s_company_name,
d_year, d_moy,
sum(ss_sales_price) sum_sales,
avg(sum(ss_sales_price)) over
(partition by i_category, i_brand,
s_store_name, s_company_name, d_year)
avg_monthly_sales,
rank() over
```

```
(partition by i_category, i_brand,
s_store_name, s_company_name
order by d_year, d_moy) rn
from item, store_sales, date_dim, store
where ss_item_sk = i_item_sk and
ss_sold_date_sk = d_date_sk and
ss_store_sk = s_store_sk and
(
d_year = 1999 or
(d_year = 1999-1 and d_moy =12) or
(d_year = 1999+1 and d_moy =1)
)
group by i_category, i_brand,
s_store_name, s_company_name,
d_year, d_moy),
v2 as(
select v1.s_store_name, v1.s_company_name
,v1.d_year, v1.d_moy
,v1.avg_monthly_sales
,v1.sum_sales, v1_lag.sum_sales psum, v1_lead.sum_sales nsum
from v1, v1 v1_lag, v1 v1_lead
where v1.i_category = v1_lag.i_category and
v1.i_category = v1_lead.i_category and
v1.i_brand = v1_lag.i_brand and
v1.i_brand = v1_lead.i_brand and
v1.s_store_name = v1_lag.s_store_name and
v1.s_store_name = v1_lead.s_store_name and
v1.s_company_name = v1_lag.s_company_name and
v1.s_company_name = v1_lead.s_company_name and
v1.rn = v1_lag.rn + 1 and
v1.rn = v1_lead.rn - 1)
select *
from v2
where d_year = 1999 and
avg_monthly_sales > 0 and
case when avg_monthly_sales > 0 then abs(sum_sales - avg_monthly_sales) / avg_monthly_sales else null end > 0.1
order by sum_sales - avg_monthly_sales, sum_sales
limit 100;
```

```
-- TPC-DS_query48
select sum(ss_quantity)
from store_sales, store, customer_demographics, customer_address, date_dim
where s_store_sk = ss_store_sk
and ss_sold_date_sk = d_date_sk and d_year = 2001
and
(
(
cd_demo_sk = ss_cdemo_sk
and
cd_marital_status = 'D'
and
cd_education_status = 'Secondary'
and
ss_sales_price between 100.00 and 150.00
)
or
(
cd_demo_sk = ss_cdemo_sk
and
cd_marital_status = 'W'
and
cd_education_status = '2 yr Degree'
and
ss_sales_price between 50.00 and 100.00
)
or
(
cd_demo_sk = ss_cdemo_sk
```

```

and
cd_marital_status = 'U'
and
cd_education_status = 'Unknown'
and
ss_sales_price between 150.00 and 200.00
)
)
and
(
(
ss_addr_sk = ca_address_sk
and
ca_country = 'United States'
and
ca_state in ('VA', 'MI', 'FL')
and ss_net_profit between 0 and 2000
)
or
(ss_addr_sk = ca_address_sk
and
ca_country = 'United States'
and
ca_state in ('SC', 'GA', 'MN')
and ss_net_profit between 150 and 3000
)
or
(ss_addr_sk = ca_address_sk
and
ca_country = 'United States'
and
ca_state in ('OK', 'IA', 'TX')
and ss_net_profit between 50 and 25000
)
)
;

```

-- TPC-DS\_query49

```

select channel, item, return_ratio, return_rank, currency_rank from
(select
'web' as channel
,web.item
,web.return_ratio
,web.return_rank
,web.currency_rank
from (
select
item
,return_ratio
,currency_ratio
,rank() over (order by return_ratio) as return_rank
,rank() over (order by currency_ratio) as currency_rank
from
( select ws.ws_item_sk as item
,(cast(sum(coalesce(wr.wr_return_quantity,0)) as decimal(15,4))/
cast(sum(coalesce(ws.ws_quantity,0)) as decimal(15,4)) ) as return_ratio
,(cast(sum(coalesce(wr.wr_return_amt,0)) as decimal(15,4))/
cast(sum(coalesce(ws.ws_net_paid,0)) as decimal(15,4)) ) as currency_ratio
from
web_sales ws left outer join web_returns wr
on (ws.ws_order_number = wr.wr_order_number and
ws.ws_item_sk = wr.wr_item_sk)
,date_dim
where
wr.wr_return_amt > 10000
and ws.ws_net_profit > 1
and ws.ws_net_paid > 0
and ws.ws_quantity > 0

```

```

and ws_sold_date_sk = d_date_sk
and d_year = 2002
and d_moy = 11
group by ws.ws_item_sk
) in_web
) web
where
(
web.return_rank <= 10
or
web.currency_rank <= 10
)
union
select
'catalog' as channel
,catalog.item
,catalog.return_ratio
,catalog.return_rank
,catalog.currency_rank
from (
select
item
,return_ratio
,currency_ratio
,rnk() over (order by return_ratio) as return_rank
,rnk() over (order by currency_ratio) as currency_rank
from
( select
cs.cs_item_sk as item
,(cast(sum(coalesce(cr.cr_return_quantity,0)) as decimal(15,4))/
cast(sum(coalesce(cs.cs_quantity,0)) as decimal(15,4)) as return_ratio
,(cast(sum(coalesce(cr.cr_return_amount,0)) as decimal(15,4))/
cast(sum(coalesce(cs.cs_net_paid,0)) as decimal(15,4)) as currency_ratio
from
catalog_sales cs left outer join catalog_returns cr
on (cs.cs_order_number = cr.cr_order_number and
cs.cs_item_sk = cr.cr_item_sk)
,date_dim
where
cr.cr_return_amount > 10000
and cs.cs_net_profit > 1
and cs.cs_net_paid > 0
and cs.cs_quantity > 0
and cs_sold_date_sk = d_date_sk
and d_year = 2002
and d_moy = 11
group by cs.cs_item_sk
) in_cat
) catalog
where
(
catalog.return_rank <= 10
or
catalog.currency_rank <=10
)
union
select
'store' as channel
,store.item
,store.return_ratio
,store.return_rank
,store.currency_rank
from (
select
item
,return_ratio
,currency_ratio
,rnk() over (order by return_ratio) as return_rank

```

```
,rank() over (order by currency_ratio) as currency_rank
from
( select sts.ss_item_sk as item
,(cast(sum(coalesce(sr.sr_return_quantity,0)) as decimal(15,4))/cast(sum(coalesce(sts.ss_quantity,0)) as decimal(15,4)) as return_ratio
,(cast(sum(coalesce(sr.sr_return_amt,0)) as decimal(15,4))/cast(sum(coalesce(sts.ss_net_paid,0)) as decimal(15,4)) as currency_ratio
from
store_sales sts left outer join store_returns sr
on (sts.ss_ticket_number = sr.sr_ticket_number and sts.ss_item_sk = sr.sr_item_sk)
,date_dim
where
sr.sr_return_amt > 10000
and sts.ss_net_profit > 1
and sts.ss_net_paid > 0
and sts.ss_quantity > 0
and ss_sold_date_sk = d_date_sk
and d_year = 2002
and d_moy = 11
group by sts.ss_item_sk
) in_store
) store
where (
store.return_rank <= 10
or
store.currency_rank <= 10
)
)
order by 1,4,5,2
limit 100;
```

```
-- TPC-DS_query50
select
s_store_name
,s_company_id
,s_street_number
,s_street_name
,s_street_type
,s_suite_number
,s_city
,s_county
,s_state
,s_zip
,sum(case when (sr_returned_date_sk - ss_sold_date_sk <= 30 ) then 1 else 0 end) as "30 days"
,sum(case when (sr_returned_date_sk - ss_sold_date_sk > 30) and
(sr_returned_date_sk - ss_sold_date_sk <= 60) then 1 else 0 end ) as "31-60 days"
,sum(case when (sr_returned_date_sk - ss_sold_date_sk > 60) and
(sr_returned_date_sk - ss_sold_date_sk <= 90) then 1 else 0 end) as "61-90 days"
,sum(case when (sr_returned_date_sk - ss_sold_date_sk > 90) and
(sr_returned_date_sk - ss_sold_date_sk <= 120) then 1 else 0 end) as "91-120 days"
,sum(case when (sr_returned_date_sk - ss_sold_date_sk > 120) then 1 else 0 end) as ">120 days"
from
store_sales
,store_returns
,store
,date_dim d1
,date_dim d2
where
d2.d_year = 1998
and d2.d_moy = 10
and ss_ticket_number = sr_ticket_number
and ss_item_sk = sr_item_sk
and ss_sold_date_sk = d1.d_date_sk
and sr_returned_date_sk = d2.d_date_sk
and ss_customer_sk = sr_customer_sk
and ss_store_sk = s_store_sk
group by
s_store_name
,s_company_id
,s_street_number
```

```
,s_street_name
,s_street_type
,s_suite_number
,s_city
,s_county
,s_state
,s_zip
order by s_store_name
,s_company_id
,s_street_number
,s_street_name
,s_street_type
,s_suite_number
,s_city
,s_county
,s_state
,s_zip
limit 100;
```

-- TPC-DS\_query51

```
WITH web_v1 as (
select
ws_item_sk item_sk, d_date,
sum(sum(ws_sales_price))
over (partition by ws_item_sk order by d_date rows between unbounded preceding and current row) cume_sales
from web_sales
,date_dim
where ws_sold_date_sk=d_date_sk
and d_month_seq between 1176 and 1176+11
and ws_item_sk is not NULL
group by ws_item_sk, d_date),
store_v1 as (
select
ss_item_sk item_sk, d_date,
sum(sum(ss_sales_price))
over (partition by ss_item_sk order by d_date rows between unbounded preceding and current row) cume_sales
from store_sales
,date_dim
where ss_sold_date_sk=d_date_sk
and d_month_seq between 1176 and 1176+11
and ss_item_sk is not NULL
group by ss_item_sk, d_date)
select *
from (select item_sk
,d_date
,web_sales
,store_sales
,max(web_sales)
over (partition by item_sk order by d_date rows between unbounded preceding and current row) web_cumulative
,max(store_sales)
over (partition by item_sk order by d_date rows between unbounded preceding and current row) store_cumulative
from (select case when web.item_sk is not null then web.item_sk else store.item_sk end item_sk
,case when web.d_date is not null then web.d_date else store.d_date end d_date
,web.cume_sales web_sales
,store.cume_sales store_sales
from web_v1 web full outer join store_v1 store on (web.item_sk = store.item_sk
and web.d_date = store.d_date)
)x )y
where web_cumulative > store_cumulative
order by item_sk
,d_date
limit 100;
```

-- TPC-DS\_query52

```
select dt.d_year
,item.i_brand_id brand_id
,item.i_brand brand
,sum(ss_ext_sales_price) ext_price
```

```

from date_dim dt
,store_sales
,item
where dt.d_date_sk = store_sales.ss_sold_date_sk
and store_sales.ss_item_sk = item.i_item_sk
and item.i_manager_id = 1
and dt.d_moy=11
and dt.d_year=2002
group by dt.d_year
,item.i_brand
,item.i_brand_id
order by dt.d_year
,ext_price desc
,brand_id
limit 100 ;

```

```

-- TPC-DS_query53
select * from
(select i_manufact_id,
sum(ss_sales_price) sum_sales,
avg(sum(ss_sales_price)) over (partition by i_manufact_id) avg_quarterly_sales
from item, store_sales, date_dim, store
where ss_item_sk = i_item_sk and
ss_sold_date_sk = d_date_sk and
ss_store_sk = s_store_sk and
d_month_seq in (1213,1213+1,1213+2,1213+3,1213+4,1213+5,1213+6,1213+7,1213+8,1213+9,1213+10,1213+11) and
((i_category in ('Books','Children','Electronics') and
i_class in ('personal','portable','reference','self-help') and
i_brand in ('scholaramalgamalg #14','scholaramalgamalg #7',
'exportiunivamalg #9','scholaramalgamalg #9'))
or(i_category in ('Women','Music','Men') and
i_class in ('accessories','classical','fragrances','pants') and
i_brand in ('amalgimporto #1','edu packscholar #1','exportiimporto #1',
'importoamalg #1'))))
group by i_manufact_id, d_qoy ) tmp1
where case when avg_quarterly_sales > 0
then abs (sum_sales - avg_quarterly_sales)/ avg_quarterly_sales
else null end > 0.1
order by avg_quarterly_sales,
sum_sales,
i_manufact_id
limit 100;

```

```

-- TPC-DS_query54
with my_customers as (
select distinct c_customer_sk
,c_current_addr_sk
from
( select cs_sold_date_sk sold_date_sk,
cs_bill_customer_sk customer_sk,
cs_item_sk item_sk
from catalog_sales
union all
select ws_sold_date_sk sold_date_sk,
ws_bill_customer_sk customer_sk,
ws_item_sk item_sk
from web_sales
) cs_or_ws_sales,
item,
date_dim,
customer
where sold_date_sk = d_date_sk
and item_sk = i_item_sk
and i_category = 'Shoes'
and i_class = 'womens'
and c_customer_sk = cs_or_ws_sales.customer_sk
and d_moy = 5
and d_year = 2000

```

```

)
, my_revenue as (
select c_customer_sk,
sum(ss_ext_sales_price) as revenue
from my_customers,
store_sales,
customer_address,
store,
date_dim
where c_current_addr_sk = ca_address_sk
and ca_county = s_county
and ca_state = s_state
and ss_sold_date_sk = d_date_sk
and c_customer_sk = ss_customer_sk
and d_month_seq between (select distinct d_month_seq+1
from date_dim where d_year = 2000 and d_moy = 5)
and (select distinct d_month_seq+3
from date_dim where d_year = 2000 and d_moy = 5)
group by c_customer_sk
)
, segments as
(select cast((revenue/50) as int) as segment
from my_revenue
)
select segment, count(*) as num_customers, segment*50 as segment_base
from segments
group by segment
order by segment, num_customers
limit 100;

```

-- TPC-DS\_query55

```

select i_brand_id brand_id, i_brand brand,
sum(ss_ext_sales_price) ext_price
from date_dim, store_sales, item
where d_date_sk = ss_sold_date_sk
and ss_item_sk = i_item_sk
and i_manager_id=96
and d_moy=12
and d_year=2002
group by i_brand, i_brand_id
order by ext_price desc, i_brand_id
limit 100 ;

```

-- TPC-DS\_query56

```

with ss as (
select i_item_id,sum(ss_ext_sales_price) total_sales
from
store_sales,
date_dim,
customer_address,
item
where i_item_id in (select
i_item_id
from item
where i_color in ('rose','brown','drab'))
and ss_item_sk = i_item_sk
and ss_sold_date_sk = d_date_sk
and d_year = 2000
and d_moy = 4
and ss_addr_sk = ca_address_sk
and ca_gmt_offset = -5
group by i_item_id),
cs as (
select i_item_id,sum(cs_ext_sales_price) total_sales
from
catalog_sales,
date_dim,
customer_address,

```



```

item
where
i_item_id in (select
i_item_id
from item
where i_color in ('rose','brown','drab'))
and cs_item_sk = i_item_sk
and cs_sold_date_sk = d_date_sk
and d_year = 2000
and d_moy = 4
and cs_bill_addr_sk = ca_address_sk
and ca_gmt_offset = -5
group by i_item_id),
ws as (
select i_item_id,sum(ws_ext_sales_price) total_sales
from
web_sales,
date_dim,
customer_address,
item
where
i_item_id in (select
i_item_id
from item
where i_color in ('rose','brown','drab'))
and ws_item_sk = i_item_sk
and ws_sold_date_sk = d_date_sk
and d_year = 2000
and d_moy = 4
and ws_bill_addr_sk = ca_address_sk
and ca_gmt_offset = -5
group by i_item_id)
select i_item_id,sum(total_sales) total_sales
from (select * from ss
union all
select * from cs
union all
select * from ws) tmp1
group by i_item_id
order by total_sales,
i_item_id
limit 100;

```

```

-- TPC-DS_query57
with v1 as(
select i_category, i_brand,
cc_name,
d_year, d_moy,
sum(cs_sales_price) sum_sales,
avg(sum(cs_sales_price)) over
(partition by i_category, i_brand,
cc_name, d_year)
avg_monthly_sales,
rank() over
(partition by i_category, i_brand,
cc_name
order by d_year, d_moy) rn
from item, catalog_sales, date_dim, call_center
where cs_item_sk = i_item_sk and
cs_sold_date_sk = d_date_sk and
cc_call_center_sk= cs_call_center_sk and
(
d_year = 2001 or
(d_year = 2001-1 and d_moy =12) or
(d_year = 2001+1 and d_moy =1)
)
group by i_category, i_brand,
cc_name , d_year, d_moy),

```

```

v2 as(
select v1.i_brand
,v1.d_year, v1.d_moy
,v1.avg_monthly_sales
,v1.sum_sales, v1_lag.sum_sales psum, v1_lead.sum_sales nsum
from v1, v1 v1_lag, v1 v1_lead
where v1.i_category = v1_lag.i_category and
v1.i_category = v1_lead.i_category and
v1.i_brand = v1_lag.i_brand and
v1.i_brand = v1_lead.i_brand and
v1.cc_name = v1_lag.cc_name and
v1.cc_name = v1_lead.cc_name and
v1.rn = v1_lag.rn + 1 and
v1.rn = v1_lead.rn - 1)
select *
from v2
where d_year = 2001 and
avg_monthly_sales > 0 and
case when avg_monthly_sales > 0 then abs(sum_sales - avg_monthly_sales) / avg_monthly_sales else null end > 0.1
order by sum_sales - avg_monthly_sales, nsum
limit 100;

```

```

-- TPC-DS_query58
with ss_items as
(select i_item_id item_id
,sum(ss_ext_sales_price) ss_item_rev
from store_sales
,item
,date_dim
where ss_item_sk = i_item_sk
and d_date in (select d_date
from date_dim
where d_week_seq = (select d_week_seq
from date_dim
where d_date = '1999-04-16'))
and ss_sold_date_sk = d_date_sk
group by i_item_id),
cs_items as
(select i_item_id item_id
,sum(cs_ext_sales_price) cs_item_rev
from catalog_sales
,item
,date_dim
where cs_item_sk = i_item_sk
and d_date in (select d_date
from date_dim
where d_week_seq = (select d_week_seq
from date_dim
where d_date = '1999-04-16'))
and cs_sold_date_sk = d_date_sk
group by i_item_id),
ws_items as
(select i_item_id item_id
,sum(ws_ext_sales_price) ws_item_rev
from web_sales
,item
,date_dim
where ws_item_sk = i_item_sk
and d_date in (select d_date
from date_dim
where d_week_seq = (select d_week_seq
from date_dim
where d_date = '1999-04-16'))
and ws_sold_date_sk = d_date_sk
group by i_item_id)
select ss_items.item_id
,ss_item_rev
,ss_item_rev/((ss_item_rev+cs_item_rev+ws_item_rev)/3) * 100 ss_dev

```

```
,cs_item_rev
,cs_item_rev/((ss_item_rev+cs_item_rev+ws_item_rev)/3) * 100 cs_dev
,ws_item_rev
,ws_item_rev/((ss_item_rev+cs_item_rev+ws_item_rev)/3) * 100 ws_dev
,(ss_item_rev+cs_item_rev+ws_item_rev)/3 average
from ss_items,cs_items,ws_items
where ss_items.item_id=cs_items.item_id
and ss_items.item_id=ws_items.item_id
and ss_item_rev between 0.9 * cs_item_rev and 1.1 * cs_item_rev
and ss_item_rev between 0.9 * ws_item_rev and 1.1 * ws_item_rev
and cs_item_rev between 0.9 * ss_item_rev and 1.1 * ss_item_rev
and cs_item_rev between 0.9 * ws_item_rev and 1.1 * ws_item_rev
and ws_item_rev between 0.9 * ss_item_rev and 1.1 * ss_item_rev
and ws_item_rev between 0.9 * cs_item_rev and 1.1 * cs_item_rev
order by item_id
,ss_item_rev
limit 100;
```

```
-- TPC-DS_query59
```

```
with wss as
(select d_week_seq,
ss_store_sk,
sum(case when (d_day_name='Sunday') then ss_sales_price else null end) sun_sales,
sum(case when (d_day_name='Monday') then ss_sales_price else null end) mon_sales,
sum(case when (d_day_name='Tuesday') then ss_sales_price else null end) tue_sales,
sum(case when (d_day_name='Wednesday') then ss_sales_price else null end) wed_sales,
sum(case when (d_day_name='Thursday') then ss_sales_price else null end) thu_sales,
sum(case when (d_day_name='Friday') then ss_sales_price else null end) fri_sales,
sum(case when (d_day_name='Saturday') then ss_sales_price else null end) sat_sales
from store_sales,date_dim
where d_date_sk = ss_sold_date_sk
group by d_week_seq,ss_store_sk
)
select s_store_name1,s_store_id1,d_week_seq1
,sun_sales1/sun_sales2,mon_sales1/mon_sales2
,tue_sales1/tue_sales2,wed_sales1/wed_sales2,thu_sales1/thu_sales2
,fri_sales1/fri_sales2,sat_sales1/sat_sales2
from
(select s_store_name s_store_name1,wss.d_week_seq d_week_seq1
,s_store_id s_store_id1,sun_sales sun_sales1
,mon_sales mon_sales1,tue_sales tue_sales1
,wed_sales wed_sales1,thu_sales thu_sales1
,fri_sales fri_sales1,sat_sales sat_sales1
from wss,store,date_dim d
where d.d_week_seq = wss.d_week_seq and
ss_store_sk = s_store_sk and
d_month_seq between 1201 and 1201 + 11) y,
(select s_store_name s_store_name2,wss.d_week_seq d_week_seq2
,s_store_id s_store_id2,sun_sales sun_sales2
,mon_sales mon_sales2,tue_sales tue_sales2
,wed_sales wed_sales2,thu_sales thu_sales2
,fri_sales fri_sales2,sat_sales sat_sales2
from wss,store,date_dim d
where d.d_week_seq = wss.d_week_seq and
ss_store_sk = s_store_sk and
d_month_seq between 1201+ 12 and 1201 + 23) x
where s_store_id1=s_store_id2
and d_week_seq1=d_week_seq2-52
order by s_store_name1,s_store_id1,d_week_seq1
limit 100;
```

```
-- TPC-DS_query60
```

```
with ss as (
select
i_item_id,sum(ss_ext_sales_price) total_sales
from
store_sales,
date_dim,
```

```

customer_address,
item
where
i_item_id in (select
i_item_id
from
item
where i_category in ('Jewelry'))
and ss_item_sk = i_item_sk
and ss_sold_date_sk = d_date_sk
and d_year = 1999
and d_moy = 9
and ss_addr_sk = ca_address_sk
and ca_gmt_offset = -6
group by i_item_id),
cs as (
select
i_item_id,sum(cs_ext_sales_price) total_sales
from
catalog_sales,
date_dim,
customer_address,
item
where
i_item_id in (select
i_item_id
from
item
where i_category in ('Jewelry'))
and cs_item_sk = i_item_sk
and cs_sold_date_sk = d_date_sk
and d_year = 1999
and d_moy = 9
and cs_bill_addr_sk = ca_address_sk
and ca_gmt_offset = -6
group by i_item_id),
ws as (
select
i_item_id,sum(ws_ext_sales_price) total_sales
from
web_sales,
date_dim,
customer_address,
item
where
i_item_id in (select
i_item_id
from
item
where i_category in ('Jewelry'))
and ws_item_sk = i_item_sk
and ws_sold_date_sk = d_date_sk
and d_year = 1999
and d_moy = 9
and ws_bill_addr_sk = ca_address_sk
and ca_gmt_offset = -6
group by i_item_id)
select
i_item_id
,sum(total_sales) total_sales
from (select * from ss
union all
select * from cs
union all
select * from ws) tmp1
group by i_item_id
order by i_item_id
,total_sales

```

```
limit 100;
```

```
-- TPC-DS_query61
```

```
select promotions,total,cast(promotions as decimal(17,4))/cast(total as decimal(17,4))*100
from
(select sum(ss_ext_sales_price) promotions
from store_sales
,store
,promotion
,date_dim
,customer
,customer_address
,item
where ss_sold_date_sk = d_date_sk
and ss_store_sk = s_store_sk
and ss_promo_sk = p_promo_sk
and ss_customer_sk= c_customer_sk
and ca_address_sk = c_current_addr_sk
and ss_item_sk = i_item_sk
and ca_gmt_offset = -6
and i_category = 'Sports'
and (p_channel_dmail = 'Y' or p_channel_email = 'Y' or p_channel_tv = 'Y')
and s_gmt_offset = -6
and d_year = 1999
and d_moy = 11) promotional_sales,
(select sum(ss_ext_sales_price) total
from store_sales
,store
,date_dim
,customer
,customer_address
,item
where ss_sold_date_sk = d_date_sk
and ss_store_sk = s_store_sk
and ss_customer_sk= c_customer_sk
and ca_address_sk = c_current_addr_sk
and ss_item_sk = i_item_sk
and ca_gmt_offset = -6
and i_category = 'Sports'
and s_gmt_offset = -6
and d_year = 1999
and d_moy = 11) all_sales
order by promotions, total
limit 100;
```

```
-- TPC-DS_query62
```

```
select
substr(w_warehouse_name,1,20)
,sm_type
,web_name
,sum(case when (ws_ship_date_sk - ws_sold_date_sk <= 30 ) then 1 else 0 end) as "30 days"
,sum(case when (ws_ship_date_sk - ws_sold_date_sk > 30) and
(ws_ship_date_sk - ws_sold_date_sk <= 60) then 1 else 0 end ) as "31-60 days"
,sum(case when (ws_ship_date_sk - ws_sold_date_sk > 60) and
(ws_ship_date_sk - ws_sold_date_sk <= 90) then 1 else 0 end) as "61-90 days"
,sum(case when (ws_ship_date_sk - ws_sold_date_sk > 90) and
(ws_ship_date_sk - ws_sold_date_sk <= 120) then 1 else 0 end) as "91-120 days"
,sum(case when (ws_ship_date_sk - ws_sold_date_sk > 120) then 1 else 0 end) as ">120 days"
from
web_sales
,warehouse
,ship_mode
,web_site
,date_dim
where
d_month_seq between 1214 and 1214 + 11
and ws_ship_date_sk = d_date_sk
and ws_warehouse_sk = w_warehouse_sk
```

```

and ws_ship_mode_sk = sm_ship_mode_sk
and ws_web_site_sk = web_site_sk
group by
substr(w_warehouse_name,1,20)
,sm_type
,web_name
order by substr(w_warehouse_name,1,20)
,sm_type
,web_name
limit 100;

```

-- TPC-DS\_query63

```

select *
from (select i_manager_id
,sum(ss_sales_price) sum_sales
,avg(sum(ss_sales_price)) over (partition by i_manager_id) avg_monthly_sales
from item
,store_sales
,date_dim
,store
where ss_item_sk = i_item_sk
and ss_sold_date_sk = d_date_sk
and ss_store_sk = s_store_sk
and d_month_seq in (1188,1188+1,1188+2,1188+3,1188+4,1188+5,1188+6,1188+7,1188+8,1188+9,1188+10,1188+11)
and ((i_category in ('Books','Children','Electronics')
and i_class in ('personal','portable','reference','self-help')
and i_brand in ('scholaramalgamalg #14','scholaramalgamalg #7',
'exportiunivamalg #9','scholaramalgamalg #9'))
or(i_category in ('Women','Music','Men')
and i_class in ('accessories','classical','fragrances','pants')
and i_brand in ('amalgimporto #1','edu packscholar #1','exportiimporto #1',
'importoamalg #1'))))
group by i_manager_id, d_moy) tmp1
where case when avg_monthly_sales > 0 then abs (sum_sales - avg_monthly_sales) / avg_monthly_sales else null end > 0.1
order by i_manager_id
,avg_monthly_sales
,sum_sales
limit 100;

```

-- TPC-DS\_query64

```

with cs_ui as
(select cs_item_sk
,sum(cs_ext_list_price) as sale,sum(cr_refunded_cash+cr_reversed_charge+cr_store_credit) as refund
from catalog_sales
,catalog_returns
where cs_item_sk = cr_item_sk
and cs_order_number = cr_order_number
group by cs_item_sk
having sum(cs_ext_list_price)>2*sum(cr_refunded_cash+cr_reversed_charge+cr_store_credit)),
cross_sales as
(select i_product_name product_name
,i_item_sk item_sk
,s_store_name store_name
,s_zip store_zip
,ad1.ca_street_number b_street_number
,ad1.ca_street_name b_street_name
,ad1.ca_city b_city
,ad1.ca_zip b_zip
,ad2.ca_street_number c_street_number
,ad2.ca_street_name c_street_name
,ad2.ca_city c_city
,ad2.ca_zip c_zip
,d1.d_year as syear
,d2.d_year as fsyear
,d3.d_year s2year
,count(*) cnt
,sum(ss_warehouse_cost) s1
,sum(ss_list_price) s2

```

```

,sum(ss_coupon_amt) s3
FROM store_sales
,store_returns
,cs_ui
,date_dim d1
,date_dim d2
,date_dim d3
,store
,customer
,customer_demographics cd1
,customer_demographics cd2
,promotion
,household_demographics hd1
,household_demographics hd2
,customer_address ad1
,customer_address ad2
,income_band ib1
,income_band ib2
,item
WHERE ss_store_sk = s_store_sk AND
ss_sold_date_sk = d1.d_date_sk AND
ss_customer_sk = c_customer_sk AND
ss_cdemo_sk = cd1.cd_demo_sk AND
ss_hdemo_sk = hd1.hd_demo_sk AND
ss_addr_sk = ad1.ca_address_sk and
ss_item_sk = i_item_sk and
ss_item_sk = sr_item_sk and
ss_ticket_number = sr_ticket_number and
ss_item_sk = cs_ui.cs_item_sk and
c_current_cdemo_sk = cd2.cd_demo_sk AND
c_current_hdemo_sk = hd2.hd_demo_sk AND
c_current_addr_sk = ad2.ca_address_sk and
c_first_sales_date_sk = d2.d_date_sk and
c_first_shipto_date_sk = d3.d_date_sk and
ss_promo_sk = p_promo_sk and
hd1.hd_income_band_sk = ib1.ib_income_band_sk and
hd2.hd_income_band_sk = ib2.ib_income_band_sk and
cd1.cd_marital_status <> cd2.cd_marital_status and
i_color in ('burlywood','coral','dark','puff','smoke','peach') and
i_current_price between 22 and 22 + 10 and
i_current_price between 22 + 1 and 22 + 15
group by i_product_name
,i_item_sk
,s_store_name
,s_zip
,ad1.ca_street_number
,ad1.ca_street_name
,ad1.ca_city
,ad1.ca_zip
,ad2.ca_street_number
,ad2.ca_street_name
,ad2.ca_city
,ad2.ca_zip
,d1.d_year
,d2.d_year
,d3.d_year
)
select cs1.product_name
,cs1.store_name
,cs1.store_zip
,cs1.b_street_number
,cs1.b_street_name
,cs1.b_city
,cs1.b_zip
,cs1.c_street_number
,cs1.c_street_name
,cs1.c_city
,cs1.c_zip

```

```
,cs1.syear
,cs1.cnt
,cs1.s1 as s11
,cs1.s2 as s21
,cs1.s3 as s31
,cs2.s1 as s12
,cs2.s2 as s22
,cs2.s3 as s32
,cs2.syear
,cs2.cnt
from cross_sales cs1,cross_sales cs2
where cs1.item_sk=cs2.item_sk and
cs1.syear = 1999 and
cs2.syear = 1999 + 1 and
cs2.cnt <= cs1.cnt and
cs1.store_name = cs2.store_name and
cs1.store_zip = cs2.store_zip
order by cs1.product_name
,cs1.store_name
,cs2.cnt
,cs1.s1
,cs2.s1;
```

```
-- TPC-DS_query65
select
s_store_name,
i_item_desc,
sc.revenue,
i_current_price,
i_wholesale_cost,
i_brand
from store, item,
(select ss_store_sk, avg(revenue) as ave
from
(select ss_store_sk, ss_item_sk,
sum(ss_sales_price) as revenue
from store_sales, date_dim
where ss_sold_date_sk = d_date_sk and d_month_seq between 1192 and 1192+11
group by ss_store_sk, ss_item_sk) sa
group by ss_store_sk) sb,
(select ss_store_sk, ss_item_sk, sum(ss_sales_price) as revenue
from store_sales, date_dim
where ss_sold_date_sk = d_date_sk and d_month_seq between 1192 and 1192+11
group by ss_store_sk, ss_item_sk) sc
where sb.ss_store_sk = sc.ss_store_sk and
sc.revenue <= 0.1 * sb.ave and
s_store_sk = sc.ss_store_sk and
i_item_sk = sc.ss_item_sk
order by s_store_name, i_item_desc
limit 100;
```

```
-- TPC-DS_query66
select
w_warehouse_name
,w_warehouse_sq_ft
,w_city
,w_county
,w_state
,w_country
,ship_carriers
,year
,sum(jan_sales) as jan_sales
,sum(feb_sales) as feb_sales
,sum(mar_sales) as mar_sales
,sum(apr_sales) as apr_sales
,sum(may_sales) as may_sales
,sum(jun_sales) as jun_sales
,sum(jul_sales) as jul_sales
```



```

,sum(aug_sales) as aug_sales
,sum(sep_sales) as sep_sales
,sum(oct_sales) as oct_sales
,sum(nov_sales) as nov_sales
,sum(dec_sales) as dec_sales
,sum(jan_sales/w_warehouse_sq_ft) as jan_sales_per_sq_foot
,sum(feb_sales/w_warehouse_sq_ft) as feb_sales_per_sq_foot
,sum(mar_sales/w_warehouse_sq_ft) as mar_sales_per_sq_foot
,sum(apr_sales/w_warehouse_sq_ft) as apr_sales_per_sq_foot
,sum(may_sales/w_warehouse_sq_ft) as may_sales_per_sq_foot
,sum(jun_sales/w_warehouse_sq_ft) as jun_sales_per_sq_foot
,sum(jul_sales/w_warehouse_sq_ft) as jul_sales_per_sq_foot
,sum(aug_sales/w_warehouse_sq_ft) as aug_sales_per_sq_foot
,sum(sep_sales/w_warehouse_sq_ft) as sep_sales_per_sq_foot
,sum(oct_sales/w_warehouse_sq_ft) as oct_sales_per_sq_foot
,sum(nov_sales/w_warehouse_sq_ft) as nov_sales_per_sq_foot
,sum(dec_sales/w_warehouse_sq_ft) as dec_sales_per_sq_foot
,sum(jan_net) as jan_net
,sum(feb_net) as feb_net
,sum(mar_net) as mar_net
,sum(apr_net) as apr_net
,sum(may_net) as may_net
,sum(jun_net) as jun_net
,sum(jul_net) as jul_net
,sum(aug_net) as aug_net
,sum(sep_net) as sep_net
,sum(oct_net) as oct_net
,sum(nov_net) as nov_net
,sum(dec_net) as dec_net
from (
select
w_warehouse_name
,w_warehouse_sq_ft
,w_city
,w_county
,w_state
,w_country
,'GREAT EASTERN' || ',' || 'UPS' as ship_carriers
,d_year as year
,sum(case when d_moy = 1
then ws_ext_sales_price* ws_quantity else 0 end) as jan_sales
,sum(case when d_moy = 2
then ws_ext_sales_price* ws_quantity else 0 end) as feb_sales
,sum(case when d_moy = 3
then ws_ext_sales_price* ws_quantity else 0 end) as mar_sales
,sum(case when d_moy = 4
then ws_ext_sales_price* ws_quantity else 0 end) as apr_sales
,sum(case when d_moy = 5
then ws_ext_sales_price* ws_quantity else 0 end) as may_sales
,sum(case when d_moy = 6
then ws_ext_sales_price* ws_quantity else 0 end) as jun_sales
,sum(case when d_moy = 7
then ws_ext_sales_price* ws_quantity else 0 end) as jul_sales
,sum(case when d_moy = 8
then ws_ext_sales_price* ws_quantity else 0 end) as aug_sales
,sum(case when d_moy = 9
then ws_ext_sales_price* ws_quantity else 0 end) as sep_sales
,sum(case when d_moy = 10
then ws_ext_sales_price* ws_quantity else 0 end) as oct_sales
,sum(case when d_moy = 11
then ws_ext_sales_price* ws_quantity else 0 end) as nov_sales
,sum(case when d_moy = 12
then ws_ext_sales_price* ws_quantity else 0 end) as dec_sales
,sum(case when d_moy = 1
then ws_net_paid * ws_quantity else 0 end) as jan_net
,sum(case when d_moy = 2
then ws_net_paid * ws_quantity else 0 end) as feb_net
,sum(case when d_moy = 3

```

```

then ws_net_paid * ws_quantity else 0 end) as mar_net
,sum(case when d_moy = 4
then ws_net_paid * ws_quantity else 0 end) as apr_net
,sum(case when d_moy = 5
then ws_net_paid * ws_quantity else 0 end) as may_net
,sum(case when d_moy = 6
then ws_net_paid * ws_quantity else 0 end) as jun_net
,sum(case when d_moy = 7
then ws_net_paid * ws_quantity else 0 end) as jul_net
,sum(case when d_moy = 8
then ws_net_paid * ws_quantity else 0 end) as aug_net
,sum(case when d_moy = 9
then ws_net_paid * ws_quantity else 0 end) as sep_net
,sum(case when d_moy = 10
then ws_net_paid * ws_quantity else 0 end) as oct_net
,sum(case when d_moy = 11
then ws_net_paid * ws_quantity else 0 end) as nov_net
,sum(case when d_moy = 12
then ws_net_paid * ws_quantity else 0 end) as dec_net
from
web_sales
,warehouse
,date_dim
,time_dim
,ship_mode
where
ws_warehouse_sk = w_warehouse_sk
and ws_sold_date_sk = d_date_sk
and ws_sold_time_sk = t_time_sk
and ws_ship_mode_sk = sm_ship_mode_sk
and d_year = 1998
and t_time between 46866 and 46866+28800
and sm_carrier in ('GREAT EASTERN','UPS')
group by
w_warehouse_name
,w_warehouse_sq_ft
,w_city
,w_county
,w_state
,w_country
,d_year
union all
select
w_warehouse_name
,w_warehouse_sq_ft
,w_city
,w_county
,w_state
,w_country
,'GREAT EASTERN' || ' ' || 'UPS' as ship_carriers
,d_year as year
,sum(case when d_moy = 1
then cs_sales_price* cs_quantity else 0 end) as jan_sales
,sum(case when d_moy = 2
then cs_sales_price* cs_quantity else 0 end) as feb_sales
,sum(case when d_moy = 3
then cs_sales_price* cs_quantity else 0 end) as mar_sales
,sum(case when d_moy = 4
then cs_sales_price* cs_quantity else 0 end) as apr_sales
,sum(case when d_moy = 5
then cs_sales_price* cs_quantity else 0 end) as may_sales
,sum(case when d_moy = 6
then cs_sales_price* cs_quantity else 0 end) as jun_sales
,sum(case when d_moy = 7
then cs_sales_price* cs_quantity else 0 end) as jul_sales
,sum(case when d_moy = 8
then cs_sales_price* cs_quantity else 0 end) as aug_sales
,sum(case when d_moy = 9

```

```

then cs_sales_price* cs_quantity else 0 end) as sep_sales
,sum(case when d_moy = 10
then cs_sales_price* cs_quantity else 0 end) as oct_sales
,sum(case when d_moy = 11
then cs_sales_price* cs_quantity else 0 end) as nov_sales
,sum(case when d_moy = 12
then cs_sales_price* cs_quantity else 0 end) as dec_sales
,sum(case when d_moy = 1
then cs_net_paid * cs_quantity else 0 end) as jan_net
,sum(case when d_moy = 2
then cs_net_paid * cs_quantity else 0 end) as feb_net
,sum(case when d_moy = 3
then cs_net_paid * cs_quantity else 0 end) as mar_net
,sum(case when d_moy = 4
then cs_net_paid * cs_quantity else 0 end) as apr_net
,sum(case when d_moy = 5
then cs_net_paid * cs_quantity else 0 end) as may_net
,sum(case when d_moy = 6
then cs_net_paid * cs_quantity else 0 end) as jun_net
,sum(case when d_moy = 7
then cs_net_paid * cs_quantity else 0 end) as jul_net
,sum(case when d_moy = 8
then cs_net_paid * cs_quantity else 0 end) as aug_net
,sum(case when d_moy = 9
then cs_net_paid * cs_quantity else 0 end) as sep_net
,sum(case when d_moy = 10
then cs_net_paid * cs_quantity else 0 end) as oct_net
,sum(case when d_moy = 11
then cs_net_paid * cs_quantity else 0 end) as nov_net
,sum(case when d_moy = 12
then cs_net_paid * cs_quantity else 0 end) as dec_net
from
catalog_sales
,warehouse
,date_dim
,time_dim
,ship_mode
where
cs_warehouse_sk = w_warehouse_sk
and cs_sold_date_sk = d_date_sk
and cs_sold_time_sk = t_time_sk
and cs_ship_mode_sk = sm_ship_mode_sk
and d_year = 1998
and t_time between 46866 AND 46866+28800
and sm_carrier in ('GREAT EASTERN','UPS')
group by
w_warehouse_name
,w_warehouse_sq_ft
,w_city
,w_county
,w_state
,w_country
,d_year
) x
group by
w_warehouse_name
,w_warehouse_sq_ft
,w_city
,w_county
,w_state
,w_country
,ship_carriers
,year
order by w_warehouse_name
limit 100;

-- TPC-DS_query67
select *

```

```

from (select i_category
,i_class
,i_brand
,i_product_name
,d_year
,d_qoy
,d_moy
,s_store_id
,sumsales
,rnk() over (partition by i_category order by sumsales desc) rk
from (select i_category
,i_class
,i_brand
,i_product_name
,d_year
,d_qoy
,d_moy
,s_store_id
,sum(coalesce(ss_sales_price*ss_quantity,0)) sumsales
from store_sales
,date_dim
,store
,item
where ss_sold_date_sk=d_date_sk
and ss_item_sk=i_item_sk
and ss_store_sk = s_store_sk
and d_month_seq between 1213 and 1213+11
group by rollup(i_category, i_class, i_brand, i_product_name, d_year, d_qoy, d_moy,s_store_id))dw1) dw2
where rk <= 100
order by i_category
,i_class
,i_brand
,i_product_name
,d_year
,d_qoy
,d_moy
,s_store_id
,sumsales
,rk
limit 100;

```

```

-- TPC-DS_query68
select c_last_name
,c_first_name
,ca_city
,bought_city
,ss_ticket_number
,extended_price
,extended_tax
,list_price
from (select ss_ticket_number
,ss_customer_sk
,ca_city bought_city
,sum(ss_ext_sales_price) extended_price
,sum(ss_ext_list_price) list_price
,sum(ss_ext_tax) extended_tax
from store_sales
,date_dim
,store
,household_demographics
,customer_address
where store_sales.ss_sold_date_sk = date_dim.d_date_sk
and store_sales.ss_store_sk = store.s_store_sk
and store_sales.ss_hdemo_sk = household_demographics.hd_demo_sk
and store_sales.ss_addr_sk = customer_address.ca_address_sk
and date_dim.d_dom between 1 and 2
and (household_demographics.hd_dep_count = 3 or
household_demographics.hd_vehicle_count= 3)

```

```

and date_dim.d_year in (2000,2000+1,2000+2)
and store.s_city in ('Walnut Grove','Enterprise')
group by ss_ticket_number
,ss_customer_sk
,ss_addr_sk,ca_city) dn
,customer
,customer_address current_addr
where ss_customer_sk = c_customer_sk
and customer.c_current_addr_sk = current_addr.ca_address_sk
and current_addr.ca_city <> bought_city
order by c_last_name
,ss_ticket_number
limit 100;

```

-- TPC-DS\_query69

```

select
cd_gender,
cd_marital_status,
cd_education_status,
count(*) cnt1,
cd_purchase_estimate,
count(*) cnt2,
cd_credit_rating,
count(*) cnt3
from
customer c,customer_address ca,customer_demographics
where
c.c_current_addr_sk = ca.ca_address_sk and
ca_state in ('IA','GA','MN') and
cd_demo_sk = c.c_current_cdemo_sk and
exists (select *
from store_sales,date_dim
where c.c_customer_sk = ss_customer_sk and
ss_sold_date_sk = d_date_sk and
d_year = 2001 and
d_moy between 4 and 4+2) and
(not exists (select *
from web_sales,date_dim
where c.c_customer_sk = ws_bill_customer_sk and
ws_sold_date_sk = d_date_sk and
d_year = 2001 and
d_moy between 4 and 4+2) and
not exists (select *
from catalog_sales,date_dim
where c.c_customer_sk = cs_ship_customer_sk and
cs_sold_date_sk = d_date_sk and
d_year = 2001 and
d_moy between 4 and 4+2))
group by cd_gender,
cd_marital_status,
cd_education_status,
cd_purchase_estimate,
cd_credit_rating
order by cd_gender,
cd_marital_status,
cd_education_status,
cd_purchase_estimate,
cd_credit_rating
limit 100;

```

-- TPC-DS\_query70

```

select
sum(ss_net_profit) as total_sum
,s_state
,s_county
,grouping(s_state)+grouping(s_county) as lochierarchy
,rank() over (
partition by grouping(s_state)+grouping(s_county),

```

```

case when grouping(s_county) = 0 then s_state end
order by sum(ss_net_profit) desc) as rank_within_parent
from
store_sales
,date_dim d1
,store
where
d1.d_month_seq between 1210 and 1210+11
and d1.d_date_sk = ss_sold_date_sk
and s_store_sk = ss_store_sk
and s_state in
( select s_state
from (select s_state as s_state,
rank() over ( partition by s_state order by sum(ss_net_profit) desc) as ranking
from store_sales, store, date_dim
where d_month_seq between 1210 and 1210+11
and d_date_sk = ss_sold_date_sk
and s_store_sk = ss_store_sk
group by s_state
) tmp1
where ranking <= 5
)
group by rollup(s_state,s_county)
order by
lochierarchy desc
,case when lochierarchy = 0 then s_state end
,rank_within_parent
limit 100;

```

```

-- TPC-DS_query71
select i_brand_id brand_id, i_brand brand,t_hour,t_minute,
sum(ext_price) ext_price
from item, (select ws_ext_sales_price as ext_price,
ws_sold_date_sk as sold_date_sk,
ws_item_sk as sold_item_sk,
ws_sold_time_sk as time_sk
from web_sales,date_dim
where d_date_sk = ws_sold_date_sk
and d_moy=11
and d_year=2001
union all
select cs_ext_sales_price as ext_price,
cs_sold_date_sk as sold_date_sk,
cs_item_sk as sold_item_sk,
cs_sold_time_sk as time_sk
from catalog_sales,date_dim
where d_date_sk = cs_sold_date_sk
and d_moy=11
and d_year=2001
union all
select ss_ext_sales_price as ext_price,
ss_sold_date_sk as sold_date_sk,
ss_item_sk as sold_item_sk,
ss_sold_time_sk as time_sk
from store_sales,date_dim
where d_date_sk = ss_sold_date_sk
and d_moy=11
and d_year=2001
) tmp,time_dim
where
sold_item_sk = i_item_sk
and i_manager_id=1
and time_sk = t_time_sk
and (t_meal_time = 'breakfast' or t_meal_time = 'dinner')
group by i_brand, i_brand_id,t_hour,t_minute
order by ext_price desc, i_brand_id
;

```

```
-- TPC-DS_query72
select i_item_desc
,w_warehouse_name
,d1.d_week_seq
,sum(case when p_promo_sk is null then 1 else 0 end) no_promo
,sum(case when p_promo_sk is not null then 1 else 0 end) promo
,count(*) total_cnt
from catalog_sales
join inventory on (cs_item_sk = inv_item_sk)
join warehouse on (w_warehouse_sk=inv_warehouse_sk)
join item on (i_item_sk = cs_item_sk)
join customer_demographics on (cs_bill_cdemo_sk = cd_demo_sk)
join household_demographics on (cs_bill_hdemo_sk = hd_demo_sk)
join date_dim d1 on (cs_sold_date_sk = d1.d_date_sk)
join date_dim d2 on (inv_date_sk = d2.d_date_sk)
join date_dim d3 on (cs_ship_date_sk = d3.d_date_sk)
left outer join promotion on (cs_promo_sk=p_promo_sk)
left outer join catalog_returns on (cr_item_sk = cs_item_sk and cr_order_number = cs_order_number)
where d1.d_week_seq = d2.d_week_seq
and inv_quantity_on_hand < cs_quantity
and d3.d_date > dateadd(day,5,d1.d_date)
and hd_buy_potential = '>10000'
and d1.d_year = 2002
and cd_marital_status = 'M'
group by i_item_desc,w_warehouse_name,d1.d_week_seq
order by total_cnt desc, i_item_desc, w_warehouse_name, d_week_seq
limit 100;
```

```
-- TPC-DS_query73
select c_last_name
,c_first_name
,c_salutation
,c_preferred_cust_flag
,ss_ticket_number
,cnt from
(select ss_ticket_number
,ss_customer_sk
,count(*) cnt
from store_sales,date_dim,store,household_demographics
where store_sales.ss_sold_date_sk = date_dim.d_date_sk
and store_sales.ss_store_sk = store.s_store_sk
and store_sales.ss_hdemo_sk = household_demographics.hd_demo_sk
and date_dim.d_dom between 1 and 2
and (household_demographics.hd_buy_potential = '>10000' or
household_demographics.hd_buy_potential = '0-500')
and household_demographics.hd_vehicle_count > 0
and case when household_demographics.hd_vehicle_count > 0 then
household_demographics.hd_dep_count/ household_demographics.hd_vehicle_count else null end > 1
and date_dim.d_year in (1998,1998+1,1998+2)
and store.s_county in ('Orange County','San Miguel County','Williamson County','Brazos County')
group by ss_ticket_number,ss_customer_sk) dj,customer
where ss_customer_sk = c_customer_sk
and cnt between 1 and 5
order by cnt desc, c_last_name asc;
```

```
-- TPC-DS_query74
with year_total as (
select c_customer_id customer_id
,c_first_name customer_first_name
,c_last_name customer_last_name
,d_year as year
,min(ss_net_paid) year_total
,'s' sale_type
from customer
,store_sales
,date_dim
where c_customer_sk = ss_customer_sk
and ss_sold_date_sk = d_date_sk
```

```

and d_year in (2001,2001+1)
group by c_customer_id
,c_first_name
,c_last_name
,d_year
union all
select c_customer_id customer_id
,c_first_name customer_first_name
,c_last_name customer_last_name
,d_year as year
,min(ws_net_paid) year_total
,'w' sale_type
from customer
,web_sales
,date_dim
where c_customer_sk = ws_bill_customer_sk
and ws_sold_date_sk = d_date_sk
and d_year in (2001,2001+1)
group by c_customer_id
,c_first_name
,c_last_name
,d_year
)
select
t_s_secyear.customer_id, t_s_secyear.customer_first_name, t_s_secyear.customer_last_name
from year_total t_s_firstyear
,year_total t_s_secyear
,year_total t_w_firstyear
,year_total t_w_secyear
where t_s_secyear.customer_id = t_s_firstyear.customer_id
and t_s_firstyear.customer_id = t_w_secyear.customer_id
and t_s_firstyear.customer_id = t_w_firstyear.customer_id
and t_s_firstyear.sale_type = 's'
and t_w_firstyear.sale_type = 'w'
and t_s_secyear.sale_type = 's'
and t_w_secyear.sale_type = 'w'
and t_s_firstyear.year = 2001
and t_s_secyear.year = 2001+1
and t_w_firstyear.year = 2001
and t_w_secyear.year = 2001+1
and t_s_firstyear.year_total > 0
and t_w_firstyear.year_total > 0
and case when t_w_firstyear.year_total > 0 then t_w_secyear.year_total / t_w_firstyear.year_total else null end
> case when t_s_firstyear.year_total > 0 then t_s_secyear.year_total / t_s_firstyear.year_total else null end
order by 3,2,1
limit 100;

```

```

-- TPC-DS_query75
WITH all_sales AS (
SELECT d_year
,i_brand_id
,i_class_id
,i_category_id
,i_manufact_id
,SUM(sales_cnt) AS sales_cnt
,SUM(sales_amt) AS sales_amt
FROM (SELECT d_year
,i_brand_id
,i_class_id
,i_category_id
,i_manufact_id
,cs_quantity - COALESCE(cr_return_quantity,0) AS sales_cnt
,cs_ext_sales_price - COALESCE(cr_return_amount,0.0) AS sales_amt
FROM catalog_sales JOIN item ON i_item_sk=cs_item_sk
JOIN date_dim ON d_date_sk=cs_sold_date_sk
LEFT JOIN catalog_returns ON (cs_order_number=cr_order_number
AND cs_item_sk=cr_item_sk)
WHERE i_category='Shoes'

```



```

UNION
SELECT d_year
,i_brand_id
,i_class_id
,i_category_id
,i_manufact_id
,ss_quantity - COALESCE(sr_return_quantity,0) AS sales_cnt
,ss_ext_sales_price - COALESCE(sr_return_amt,0.0) AS sales_amt
FROM store_sales JOIN item ON i_item_sk=ss_item_sk
JOIN date_dim ON d_date_sk=ss_sold_date_sk
LEFT JOIN store_returns ON (ss_ticket_number=sr_ticket_number
AND ss_item_sk=sr_item_sk)
WHERE i_category='Shoes'
UNION
SELECT d_year
,i_brand_id
,i_class_id
,i_category_id
,i_manufact_id
,ws_quantity - COALESCE(wr_return_quantity,0) AS sales_cnt
,ws_ext_sales_price - COALESCE(wr_return_amt,0.0) AS sales_amt
FROM web_sales JOIN item ON i_item_sk=ws_item_sk
JOIN date_dim ON d_date_sk=ws_sold_date_sk
LEFT JOIN web_returns ON (ws_order_number=wr_order_number
AND ws_item_sk=wr_item_sk)
WHERE i_category='Shoes') sales_detail
GROUP BY d_year, i_brand_id, i_class_id, i_category_id, i_manufact_id)
SELECT prev_yr.d_year AS prev_year
,curr_yr.d_year AS year
,curr_yr.i_brand_id
,curr_yr.i_class_id
,curr_yr.i_category_id
,curr_yr.i_manufact_id
,prev_yr.sales_cnt AS prev_yr_cnt
,curr_yr.sales_cnt AS curr_yr_cnt
,curr_yr.sales_cnt-prev_yr.sales_cnt AS sales_cnt_diff
,curr_yr.sales_amt-prev_yr.sales_amt AS sales_amt_diff
FROM all_sales curr_yr, all_sales prev_yr
WHERE curr_yr.i_brand_id=prev_yr.i_brand_id
AND curr_yr.i_class_id=prev_yr.i_class_id
AND curr_yr.i_category_id=prev_yr.i_category_id
AND curr_yr.i_manufact_id=prev_yr.i_manufact_id
AND curr_yr.d_year=2000
AND prev_yr.d_year=2000-1
AND CAST(curr_yr.sales_cnt AS DECIMAL(17,2))/CAST(prev_yr.sales_cnt AS DECIMAL(17,2))<0.9
ORDER BY sales_cnt_diff,sales_amt_diff
limit 100;

```

-- TPC-DS\_query76

```

select channel, col_name, d_year, d_qoy, i_category, COUNT(*) sales_cnt, SUM(ext_sales_price) sales_amt FROM (
SELECT 'store' as channel, 'ss_hdemo_sk' col_name, d_year, d_qoy, i_category, ss_ext_sales_price ext_sales_price
FROM store_sales, item, date_dim
WHERE ss_hdemo_sk IS NULL
AND ss_sold_date_sk=d_date_sk
AND ss_item_sk=i_item_sk
UNION ALL
SELECT 'web' as channel, 'ws_ship_mode_sk' col_name, d_year, d_qoy, i_category, ws_ext_sales_price ext_sales_price
FROM web_sales, item, date_dim
WHERE ws_ship_mode_sk IS NULL
AND ws_sold_date_sk=d_date_sk
AND ws_item_sk=i_item_sk
UNION ALL
SELECT 'catalog' as channel, 'cs_ship_customer_sk' col_name, d_year, d_qoy, i_category, cs_ext_sales_price ext_sales_price
FROM catalog_sales, item, date_dim
WHERE cs_ship_customer_sk IS NULL
AND cs_sold_date_sk=d_date_sk
AND cs_item_sk=i_item_sk) foo
GROUP BY channel, col_name, d_year, d_qoy, i_category

```

```
ORDER BY channel, col_name, d_year, d_qoy, i_category
limit 100;
```

```
-- TPC-DS_query77
with ss as
(select s_store_sk,
sum(ss_ext_sales_price) as sales,
sum(ss_net_profit) as profit
from store_sales,
date_dim,
store
where ss_sold_date_sk = d_date_sk
and d_date between cast('1998-08-21' as date)
and (dateadd(day,30,to_date('1998-08-21')))
and ss_store_sk = s_store_sk
group by s_store_sk)
,
sr as
(select s_store_sk,
sum(sr_return_amt) as returns,
sum(sr_net_loss) as profit_loss
from store_returns,
date_dim,
store
where sr_returned_date_sk = d_date_sk
and d_date between cast('1998-08-21' as date)
and (dateadd(day,30,to_date('1998-08-21')))
and sr_store_sk = s_store_sk
group by s_store_sk),
cs as
(select cs_call_center_sk,
sum(cs_ext_sales_price) as sales,
sum(cs_net_profit) as profit
from catalog_sales,
date_dim
where cs_sold_date_sk = d_date_sk
and d_date between cast('1998-08-21' as date)
and (dateadd(day,30,to_date('1998-08-21')))
group by cs_call_center_sk
),
cr as
(select cr_call_center_sk,
sum(cr_return_amount) as returns,
sum(cr_net_loss) as profit_loss
from catalog_returns,
date_dim
where cr_returned_date_sk = d_date_sk
and d_date between cast('1998-08-21' as date)
and (dateadd(day,30,to_date('1998-08-21')))
group by cr_call_center_sk
),
ws as
( select wp_web_page_sk,
sum(ws_ext_sales_price) as sales,
sum(ws_net_profit) as profit
from web_sales,
date_dim,
web_page
where ws_sold_date_sk = d_date_sk
and d_date between cast('1998-08-21' as date)
and (dateadd(day,30,to_date('1998-08-21')))
and ws_web_page_sk = wp_web_page_sk
group by wp_web_page_sk),
wr as
(select wp_web_page_sk,
sum(wr_return_amt) as returns,
sum(wr_net_loss) as profit_loss
from web_returns,
```

```

date_dim,
web_page
where wr_returned_date_sk = d_date_sk
and d_date between cast('1998-08-21' as date)
and (dateadd(day,30,to_date('1998-08-21')))
and wr_web_page_sk = wp_web_page_sk
group by wp_web_page_sk)
select channel
, id
, sum(sales) as sales
, sum(returns) as returns
, sum(profit) as profit
from
(select 'store channel' as channel
, ss.s_store_sk as id
, sales
, coalesce(returns, 0) as returns
, (profit - coalesce(profit_loss,0)) as profit
from ss left join sr
on ss.s_store_sk = sr.s_store_sk
union all
select 'catalog channel' as channel
, cs_call_center_sk as id
, sales
, returns
, (profit - profit_loss) as profit
from cs
, cr
union all
select 'web channel' as channel
, ws.wp_web_page_sk as id
, sales
, coalesce(returns, 0) returns
, (profit - coalesce(profit_loss,0)) as profit
from ws left join wr
on ws.wp_web_page_sk = wr.wp_web_page_sk
) x
group by rollup (channel, id)
order by channel
,id
limit 100;

```

-- TPC-DS\_query78

```

with ws as
(select d_year AS ws_sold_year, ws_item_sk,
ws_bill_customer_sk ws_customer_sk,
sum(ws_quantity) ws_qty,
sum(ws_warehouse_cost) ws_wc,
sum(ws_sales_price) ws_sp
from web_sales
left join web_returns on wr_order_number=ws_order_number and ws_item_sk=wr_item_sk
join date_dim on ws_sold_date_sk = d_date_sk
where wr_order_number is null
group by d_year, ws_item_sk, ws_bill_customer_sk
),
cs as
(select d_year AS cs_sold_year, cs_item_sk,
cs_bill_customer_sk cs_customer_sk,
sum(cs_quantity) cs_qty,
sum(cs_warehouse_cost) cs_wc,
sum(cs_sales_price) cs_sp
from catalog_sales
left join catalog_returns on cr_order_number=cs_order_number and cs_item_sk=cr_item_sk
join date_dim on cs_sold_date_sk = d_date_sk
where cr_order_number is null
group by d_year, cs_item_sk, cs_bill_customer_sk
),
ss as

```

```
(select d_year AS ss_sold_year, ss_item_sk,
ss_customer_sk,
sum(ss_quantity) ss_qty,
sum(ss_wholesale_cost) ss_wc,
sum(ss_sales_price) ss_sp
from store_sales
left join store_returns on sr_ticket_number=ss_ticket_number and ss_item_sk=sr_item_sk
join date_dim on ss_sold_date_sk = d_date_sk
where sr_ticket_number is null
group by d_year, ss_item_sk, ss_customer_sk
)
select
ss_customer_sk,
round(ss_qty/(coalesce(ws_qty,0)+coalesce(cs_qty,0)),2) ratio,
ss_qty store_qty, ss_wc store_wholesale_cost, ss_sp store_sales_price,
coalesce(ws_qty,0)+coalesce(cs_qty,0) other_chan_qty,
coalesce(ws_wc,0)+coalesce(cs_wc,0) other_chan_wholesale_cost,
coalesce(ws_sp,0)+coalesce(cs_sp,0) other_chan_sales_price
from ss
left join ws on (ws_sold_year=ss_sold_year and ws_item_sk=ss_item_sk and ws_customer_sk=ss_customer_sk)
left join cs on (cs_sold_year=ss_sold_year and cs_item_sk=ss_item_sk and cs_customer_sk=ss_customer_sk)
where (coalesce(ws_qty,0)>0 or coalesce(cs_qty, 0)>0) and ss_sold_year=2001
order by
ss_customer_sk,
ss_qty desc, ss_wc desc, ss_sp desc,
other_chan_qty,
other_chan_wholesale_cost,
other_chan_sales_price,
ratio
limit 100;
```

-- TPC-DS\_query79

```
select
c_last_name,c_first_name,substr(s_city,1,30),ss_ticket_number,amt,profit
from
(select ss_ticket_number
,ss_customer_sk
,store.s_city
,sum(ss_coupon_amt) amt
,sum(ss_net_profit) profit
from store_sales,date_dim,store,household_demographics
where store_sales.ss_sold_date_sk = date_dim.d_date_sk
and store_sales.ss_store_sk = store.s_store_sk
and store_sales.ss_hdemo_sk = household_demographics.hd_demo_sk
and (household_demographics.hd_dep_count = 1 or household_demographics.hd_vehicle_count > 3)
and date_dim.d_dow = 1
and date_dim.d_year in (2000,2000+1,2000+2)
and store.s_number_employees between 200 and 295
group by ss_ticket_number,ss_customer_sk,ss_addr_sk,store.s_city) ms,customer
where ss_customer_sk = c_customer_sk
order by c_last_name,c_first_name,substr(s_city,1,30), profit
limit 100;
```

-- TPC-DS\_query80

```
with ssr as
(select s_store_id as store_id,
sum(ss_ext_sales_price) as sales,
sum(coalesce(sr_return_amt, 0)) as returns,
sum(ss_net_profit - coalesce(sr_net_loss, 0)) as profit
from store_sales left outer join store_returns on
(ss_item_sk = sr_item_sk and ss_ticket_number = sr_ticket_number),
date_dim,
store,
item,
promotion
where ss_sold_date_sk = d_date_sk
and d_date between cast('2002-08-04' as date)
and dateadd(day,30,to_date('2002-08-04'))
```

```

and ss_store_sk = s_store_sk
and ss_item_sk = i_item_sk
and i_current_price > 50
and ss_promo_sk = p_promo_sk
and p_channel_tv = 'N'
group by s_store_id)
,
csr as
(select cp_catalog_page_id as catalog_page_id,
sum(cs_ext_sales_price) as sales,
sum(coalesce(cr_return_amount, 0)) as returns,
sum(cs_net_profit - coalesce(cr_net_loss, 0)) as profit
from catalog_sales left outer join catalog_returns on
(cs_item_sk = cr_item_sk and cs_order_number = cr_order_number),
date_dim,
catalog_page,
item,
promotion
where cs_sold_date_sk = d_date_sk
and d_date between cast('2002-08-04' as date)
and dateadd(day,30,to_date('2002-08-04'))
and cs_catalog_page_sk = cp_catalog_page_sk
and cs_item_sk = i_item_sk
and i_current_price > 50
and cs_promo_sk = p_promo_sk
and p_channel_tv = 'N'
group by cp_catalog_page_id)
,
wsr as
(select web_site_id,
sum(ws_ext_sales_price) as sales,
sum(coalesce(wr_return_amt, 0)) as returns,
sum(ws_net_profit - coalesce(wr_net_loss, 0)) as profit
from web_sales left outer join web_returns on
(ws_item_sk = wr_item_sk and ws_order_number = wr_order_number),
date_dim,
web_site,
item,
promotion
where ws_sold_date_sk = d_date_sk
and d_date between cast('2002-08-04' as date)
and dateadd(day,30,to_date('2002-08-04'))
and ws_web_site_sk = web_site_sk
and ws_item_sk = i_item_sk
and i_current_price > 50
and ws_promo_sk = p_promo_sk
and p_channel_tv = 'N'
group by web_site_id)
select channel
, id
, sum(sales) as sales
, sum(returns) as returns
, sum(profit) as profit
from
(select 'store channel' as channel
, 'store' || store_id as id
, sales
, returns
, profit
from ssr
union all
select 'catalog channel' as channel
, 'catalog_page' || catalog_page_id as id
, sales
, returns
, profit
from csr
union all

```

```

select 'web channel' as channel
, 'web_site' || web_site_id as id
, sales
, returns
, profit
from wsr
) x
group by rollup (channel, id)
order by channel
, id
limit 100;

```

```

-- TPC-DS_query81
with customer_total_return as
(select cr_returning_customer_sk as ctr_customer_sk
, ca_state as ctr_state,
sum(cr_return_amt_inc_tax) as ctr_total_return
from catalog_returns
, date_dim
, customer_address
where cr_returned_date_sk = d_date_sk
and d_year = 2000
and cr_returning_addr_sk = ca_address_sk
group by cr_returning_customer_sk
, ca_state )
select c_customer_id, c_salutation, c_first_name, c_last_name, ca_street_number, ca_street_name
, ca_street_type, ca_suite_number, ca_city, ca_county, ca_state, ca_zip, ca_country, ca_gmt_offset
, ca_location_type, ctr_total_return
from customer_total_return ctr1
, customer_address
, customer
where ctr1.ctr_total_return > (select avg(ctr_total_return)*1.2
from customer_total_return ctr2
where ctr1.ctr_state = ctr2.ctr_state)
and ca_address_sk = c_current_addr_sk
and ca_state = 'VA'
and ctr1.ctr_customer_sk = c_customer_sk
order by c_customer_id, c_salutation, c_first_name, c_last_name, ca_street_number, ca_street_name
, ca_street_type, ca_suite_number, ca_city, ca_county, ca_state, ca_zip, ca_country, ca_gmt_offset
, ca_location_type, ctr_total_return
limit 100;

```

```

-- TPC-DS_query82
select i_item_id
, i_item_desc
, i_current_price
from item, inventory, date_dim, store_sales
where i_current_price between 72 and 72+30
and inv_item_sk = i_item_sk
and d_date_sk = inv_date_sk
and d_date between cast('1998-01-23' as date) and dateadd(day, 60, to_date('1998-01-23'))
and i_manufact_id in (412, 343, 781, 156)
and inv_quantity_on_hand between 100 and 500
and ss_item_sk = i_item_sk
group by i_item_id, i_item_desc, i_current_price
order by i_item_id
limit 100;

```

```

-- TPC-DS_query83
with sr_items as
(select i_item_id item_id,
sum(sr_return_quantity) sr_item_qty
from store_returns,
item,
date_dim
where sr_item_sk = i_item_sk
and d_date in
(select d_date

```

```

from date_dim
where d_week_seq in
(select d_week_seq
from date_dim
where d_date in ('1998-02-20','1998-09-28','1998-11-14'))
and sr_returned_date_sk = d_date_sk
group by i_item_id),
cr_items as
(select i_item_id item_id,
sum(cr_return_quantity) cr_item_qty
from catalog_returns,
item,
date_dim
where cr_item_sk = i_item_sk
and d_date in
(select d_date
from date_dim
where d_week_seq in
(select d_week_seq
from date_dim
where d_date in ('1998-02-20','1998-09-28','1998-11-14'))
and cr_returned_date_sk = d_date_sk
group by i_item_id),
wr_items as
(select i_item_id item_id,
sum(wr_return_quantity) wr_item_qty
from web_returns,
item,
date_dim
where wr_item_sk = i_item_sk
and d_date in
(select d_date
from date_dim
where d_week_seq in
(select d_week_seq
from date_dim
where d_date in ('1998-02-20','1998-09-28','1998-11-14'))
and wr_returned_date_sk = d_date_sk
group by i_item_id)
select sr_items.item_id
,sr_item_qty
,sr_item_qty/(sr_item_qty+cr_item_qty+wr_item_qty)/3.0 * 100 sr_dev
,cr_item_qty
,cr_item_qty/(sr_item_qty+cr_item_qty+wr_item_qty)/3.0 * 100 cr_dev
,wr_item_qty
,wr_item_qty/(sr_item_qty+cr_item_qty+wr_item_qty)/3.0 * 100 wr_dev
,(sr_item_qty+cr_item_qty+wr_item_qty)/3.0 average
from sr_items
,cr_items
,wr_items
where sr_items.item_id=cr_items.item_id
and sr_items.item_id=wr_items.item_id
order by sr_items.item_id
,sr_item_qty
limit 100;

```

```

-- TPC-DS_query84
select c_customer_id as customer_id
, coalesce(c_last_name,"") || ',' || coalesce(c_first_name,"") as customername
from customer
,customer_address
,customer_demographics
,household_demographics
,income_band
,store_returns
where ca_city = 'Shady Grove'
and c_current_addr_sk = ca_address_sk
and ib_lower_bound >= 29438

```

```

and ib_upper_bound <= 29438 + 50000
and ib_income_band_sk = hd_income_band_sk
and cd_demo_sk = c_current_cdemo_sk
and hd_demo_sk = c_current_hdemo_sk
and sr_cdemo_sk = cd_demo_sk
order by c_customer_id
limit 100;

```

```

-- TPC-DS_query85
select substr(r_reason_desc,1,20)
,avg(ws_quantity)
,avg(wr_refunded_cash)
,avg(wr_fee)
from web_sales, web_returns, web_page, customer_demographics cd1,
customer_demographics cd2, customer_address, date_dim, reason
where ws_web_page_sk = wp_web_page_sk
and ws_item_sk = wr_item_sk
and ws_order_number = wr_order_number
and ws_sold_date_sk = d_date_sk and d_year = 1998
and cd1.cd_demo_sk = wr_refunded_cdemo_sk
and cd2.cd_demo_sk = wr_returning_cdemo_sk
and ca_address_sk = wr_refunded_addr_sk
and r_reason_sk = wr_reason_sk
and
(
(
cd1.cd_marital_status = 'D'
and
cd1.cd_marital_status = cd2.cd_marital_status
and
cd1.cd_education_status = 'Primary'
and
cd1.cd_education_status = cd2.cd_education_status
and
ws_sales_price between 100.00 and 150.00
)
or
(
cd1.cd_marital_status = 'U'
and
cd1.cd_marital_status = cd2.cd_marital_status
and
cd1.cd_education_status = '4 yr Degree'
and
cd1.cd_education_status = cd2.cd_education_status
and
ws_sales_price between 50.00 and 100.00
)
or
(
cd1.cd_marital_status = 'W'
and
cd1.cd_marital_status = cd2.cd_marital_status
and
cd1.cd_education_status = 'Advanced Degree'
and
cd1.cd_education_status = cd2.cd_education_status
and
ws_sales_price between 150.00 and 200.00
)
)
and
(
(
ca_country = 'United States'
and
ca_state in ('LA', 'CO', 'TX')
and ws_net_profit between 100 and 200

```



```

)
or
(
  ca_country = 'United States'
  and
  ca_state in ('OH', 'VA', 'MO')
  and ws_net_profit between 150 and 300
)
or
(
  ca_country = 'United States'
  and
  ca_state in ('FL', 'OK', 'MS')
  and ws_net_profit between 50 and 250
)
)
group by r_reason_desc
order by substr(r_reason_desc,1,20)
,avg(ws_quantity)
,avg(wr_refunded_cash)
,avg(wr_fee)
limit 100;

```

```

-- TPC-DS_query86
select
sum(ws_net_paid) as total_sum
,i_category
,i_class
,grouping(i_category)+grouping(i_class) as lochierarchy
,rank() over (
  partition by grouping(i_category)+grouping(i_class),
  case when grouping(i_class) = 0 then i_category end
  order by sum(ws_net_paid) desc) as rank_within_parent
from
web_sales
,date_dim d1
,item
where
d1.d_month_seq between 1205 and 1205+11
and d1.d_date_sk = ws_sold_date_sk
and i_item_sk = ws_item_sk
group by rollup(i_category,i_class)
order by
lochierarchy desc,
case when lochierarchy = 0 then i_category end,
rank_within_parent
limit 100;

```

```

-- TPC-DS_query87
select count(*)
from ((select distinct c_last_name, c_first_name, d_date
from store_sales, date_dim, customer
where store_sales.ss_sold_date_sk = date_dim.d_date_sk
and store_sales.ss_customer_sk = customer.c_customer_sk
and d_month_seq between 1208 and 1208+11)
except
(select distinct c_last_name, c_first_name, d_date
from catalog_sales, date_dim, customer
where catalog_sales.cs_sold_date_sk = date_dim.d_date_sk
and catalog_sales.cs_bill_customer_sk = customer.c_customer_sk
and d_month_seq between 1208 and 1208+11)
except
(select distinct c_last_name, c_first_name, d_date
from web_sales, date_dim, customer
where web_sales.ws_sold_date_sk = date_dim.d_date_sk
and web_sales.ws_bill_customer_sk = customer.c_customer_sk
and d_month_seq between 1208 and 1208+11)
) cool_cust

```

```

;

-- TPC-DS_query88
select *
from
(select count(*) h8_30_to_9
from store_sales, household_demographics , time_dim, store
where ss_sold_time_sk = time_dim.t_time_sk
and ss_hdemo_sk = household_demographics.hd_demo_sk
and ss_store_sk = s_store_sk
and time_dim.t_hour = 8
and time_dim.t_minute >= 30
and ((household_demographics.hd_dep_count = 0 and household_demographics.hd_vehicle_count<=0+2) or
(household_demographics.hd_dep_count = 1 and household_demographics.hd_vehicle_count<=1+2) or
(household_demographics.hd_dep_count = -1 and household_demographics.hd_vehicle_count<=-1+2))
and store.s_store_name = 'ese') s1,
(select count(*) h9_to_9_30
from store_sales, household_demographics , time_dim, store
where ss_sold_time_sk = time_dim.t_time_sk
and ss_hdemo_sk = household_demographics.hd_demo_sk
and ss_store_sk = s_store_sk
and time_dim.t_hour = 9
and time_dim.t_minute < 30
and ((household_demographics.hd_dep_count = 0 and household_demographics.hd_vehicle_count<=0+2) or
(household_demographics.hd_dep_count = 1 and household_demographics.hd_vehicle_count<=1+2) or
(household_demographics.hd_dep_count = -1 and household_demographics.hd_vehicle_count<=-1+2))
and store.s_store_name = 'ese') s2,
(select count(*) h9_30_to_10
from store_sales, household_demographics , time_dim, store
where ss_sold_time_sk = time_dim.t_time_sk
and ss_hdemo_sk = household_demographics.hd_demo_sk
and ss_store_sk = s_store_sk
and time_dim.t_hour = 9
and time_dim.t_minute >= 30
and ((household_demographics.hd_dep_count = 0 and household_demographics.hd_vehicle_count<=0+2) or
(household_demographics.hd_dep_count = 1 and household_demographics.hd_vehicle_count<=1+2) or
(household_demographics.hd_dep_count = -1 and household_demographics.hd_vehicle_count<=-1+2))
and store.s_store_name = 'ese') s3,
(select count(*) h10_to_10_30
from store_sales, household_demographics , time_dim, store
where ss_sold_time_sk = time_dim.t_time_sk
and ss_hdemo_sk = household_demographics.hd_demo_sk
and ss_store_sk = s_store_sk
and time_dim.t_hour = 10
and time_dim.t_minute < 30
and ((household_demographics.hd_dep_count = 0 and household_demographics.hd_vehicle_count<=0+2) or
(household_demographics.hd_dep_count = 1 and household_demographics.hd_vehicle_count<=1+2) or
(household_demographics.hd_dep_count = -1 and household_demographics.hd_vehicle_count<=-1+2))
and store.s_store_name = 'ese') s4,
(select count(*) h10_30_to_11
from store_sales, household_demographics , time_dim, store
where ss_sold_time_sk = time_dim.t_time_sk
and ss_hdemo_sk = household_demographics.hd_demo_sk
and ss_store_sk = s_store_sk
and time_dim.t_hour = 10
and time_dim.t_minute >= 30
and ((household_demographics.hd_dep_count = 0 and household_demographics.hd_vehicle_count<=0+2) or
(household_demographics.hd_dep_count = 1 and household_demographics.hd_vehicle_count<=1+2) or
(household_demographics.hd_dep_count = -1 and household_demographics.hd_vehicle_count<=-1+2))
and store.s_store_name = 'ese') s5,
(select count(*) h11_to_11_30
from store_sales, household_demographics , time_dim, store
where ss_sold_time_sk = time_dim.t_time_sk
and ss_hdemo_sk = household_demographics.hd_demo_sk
and ss_store_sk = s_store_sk
and time_dim.t_hour = 11
and time_dim.t_minute < 30
and ((household_demographics.hd_dep_count = 0 and household_demographics.hd_vehicle_count<=0+2) or

```

```

(household_demographics.hd_dep_count = 1 and household_demographics.hd_vehicle_count<=1+2) or
(household_demographics.hd_dep_count = -1 and household_demographics.hd_vehicle_count<=-1+2))
and store.s_store_name = 'ese') s6,
(select count(*) h11_30_to_12
from store_sales, household_demographics , time_dim, store
where ss_sold_time_sk = time_dim.t_time_sk
and ss_hdemo_sk = household_demographics.hd_demo_sk
and ss_store_sk = s_store_sk
and time_dim.t_hour = 11
and time_dim.t_minute >= 30
and ((household_demographics.hd_dep_count = 0 and household_demographics.hd_vehicle_count<=0+2) or
(household_demographics.hd_dep_count = 1 and household_demographics.hd_vehicle_count<=1+2) or
(household_demographics.hd_dep_count = -1 and household_demographics.hd_vehicle_count<=-1+2))
and store.s_store_name = 'ese') s7,
(select count(*) h12_to_12_30
from store_sales, household_demographics , time_dim, store
where ss_sold_time_sk = time_dim.t_time_sk
and ss_hdemo_sk = household_demographics.hd_demo_sk
and ss_store_sk = s_store_sk
and time_dim.t_hour = 12
and time_dim.t_minute < 30
and ((household_demographics.hd_dep_count = 0 and household_demographics.hd_vehicle_count<=0+2) or
(household_demographics.hd_dep_count = 1 and household_demographics.hd_vehicle_count<=1+2) or
(household_demographics.hd_dep_count = -1 and household_demographics.hd_vehicle_count<=-1+2))
and store.s_store_name = 'ese') s8
;

```

-- TPC-DS\_query89

```

select *
from(
select i_category, i_class, i_brand,
s_store_name, s_company_name,
d_moy,
sum(ss_sales_price) sum_sales,
avg(sum(ss_sales_price)) over
(partition by i_category, i_brand, s_store_name, s_company_name)
avg_monthly_sales
from item, store_sales, date_dim, store
where ss_item_sk = i_item_sk and
ss_sold_date_sk = d_date_sk and
ss_store_sk = s_store_sk and
d_year in (2000) and
((i_category in ('Electronics','Women','Home') and
i_class in ('cameras','maternity','kids')
)
or (i_category in ('Sports','Jewelry','Shoes') and
i_class in ('guns','semi-precious','athletic')
))
group by i_category, i_class, i_brand,
s_store_name, s_company_name, d_moy) tmp1
where case when (avg_monthly_sales <> 0) then (abs(sum_sales - avg_monthly_sales) / avg_monthly_sales) else null end > 0.1
order by sum_sales - avg_monthly_sales, s_store_name
limit 100;

```

-- TPC-DS\_query90

```

select cast(amc as decimal(15,4))/cast(pmc as decimal(15,4)) am_pm_ratio
from ( select count(*) amc
from web_sales, household_demographics , time_dim, web_page
where ws_sold_time_sk = time_dim.t_time_sk
and ws_ship_hdemo_sk = household_demographics.hd_demo_sk
and ws_web_page_sk = web_page.wp_web_page_sk
and time_dim.t_hour between 8 and 8+1
and household_demographics.hd_dep_count = 9
and web_page.wp_char_count between 5000 and 5200) at,
( select count(*) pmc
from web_sales, household_demographics , time_dim, web_page
where ws_sold_time_sk = time_dim.t_time_sk
and ws_ship_hdemo_sk = household_demographics.hd_demo_sk

```

```

and ws_web_page_sk = web_page.wp_web_page_sk
and time_dim.t_hour between 18 and 18+1
and household_demographics.hd_dep_count = 9
and web_page.wp_char_count between 5000 and 5200) pt
order by am_pm_ratio
limit 100;

```

```
-- TPC-DS_query91
```

```

select
cc_call_center_id Call_Center,
cc_name Call_Center_Name,
cc_manager Manager,
sum(cr_net_loss) Returns_Loss
from
call_center,
catalog_returns,
date_dim,
customer,
customer_address,
customer_demographics,
household_demographics
where
cr_call_center_sk = cc_call_center_sk
and cr_returned_date_sk = d_date_sk
and cr_returning_customer_sk = c_customer_sk
and cd_demo_sk = c_current_cdemo_sk
and hd_demo_sk = c_current_hdemo_sk
and ca_address_sk = c_current_addr_sk
and d_year = 2002
and d_moy = 11
and ( (cd_marital_status = 'M' and cd_education_status = 'Unknown')
or(cd_marital_status = 'W' and cd_education_status = 'Advanced Degree'))
and hd_buy_potential like 'Unknown%'
and ca_gmt_offset = -6
group by cc_call_center_id,cc_name,cc_manager,cd_marital_status,cd_education_status
order by sum(cr_net_loss) desc;

```

```
-- TPC-DS_query92
```

```

select
sum(ws_ext_discount_amt) as "Excess Discount Amount"
from
web_sales
,item
,date_dim
where
i_manufact_id = 939
and i_item_sk = ws_item_sk
and d_date between '2002-02-16' and
dateadd(day,90,to_date('2002-02-16'))
and d_date_sk = ws_sold_date_sk
and ws_ext_discount_amt
> (
SELECT
1.3 * avg(ws_ext_discount_amt)
FROM
web_sales
,date_dim
WHERE
ws_item_sk = i_item_sk
and d_date between '2002-02-16' and
dateadd(day,90,to_date('2002-02-16'))
and d_date_sk = ws_sold_date_sk
)
order by sum(ws_ext_discount_amt)
limit 100;

```

```
-- TPC-DS_query93
```

```
select ss_customer_sk
```

```
,sum(act_sales) sumsales
from (select ss_item_sk
,ss_ticket_number
,ss_customer_sk
,case when sr_return_quantity is not null then (ss_quantity-sr_return_quantity)*ss_sales_price
else (ss_quantity*ss_sales_price) end act_sales
from store_sales left outer join store_returns on (sr_item_sk = ss_item_sk
and sr_ticket_number = ss_ticket_number)
,reason
where sr_reason_sk = r_reason_sk
and r_reason_desc = 'reason 70') t
group by ss_customer_sk
order by sumsales, ss_customer_sk
limit 100;
```

-- TPC-DS\_query94

```
select
count(distinct ws_order_number) as "order count"
,sum(ws_ext_ship_cost) as "total shipping cost"
,sum(ws_net_profit) as "total net profit"
from
web_sales ws1
,date_dim
,customer_address
,web_site
where
d_date between '2002-2-01' and
dateadd(day,60,to_date('2002-2-01'))
and ws1.ws_ship_date_sk = d_date_sk
and ws1.ws_ship_addr_sk = ca_address_sk
and ca_state = 'CA'
and ws1.ws_web_site_sk = web_site_sk
and web_company_name = 'pri'
and exists (select *
from web_sales ws2
where ws1.ws_order_number = ws2.ws_order_number
and ws1.ws_warehouse_sk <> ws2.ws_warehouse_sk)
and not exists(select *
from web_returns wr1
where ws1.ws_order_number = wr1.wr_order_number)
order by count(distinct ws_order_number)
limit 100;
```

-- TPC-DS\_query95

```
with ws_wh as
(select ws1.ws_order_number,ws1.ws_warehouse_sk wh1,ws2.ws_warehouse_sk wh2
from web_sales ws1,web_sales ws2
where ws1.ws_order_number = ws2.ws_order_number
and ws1.ws_warehouse_sk <> ws2.ws_warehouse_sk)
select
count(distinct ws_order_number) as "order count"
,sum(ws_ext_ship_cost) as "total shipping cost"
,sum(ws_net_profit) as "total net profit"
from
web_sales ws1
,date_dim
,customer_address
,web_site
where
d_date between '2002-2-01' and
dateadd(day,60,to_date('2002-2-01'))
and ws1.ws_ship_date_sk = d_date_sk
and ws1.ws_ship_addr_sk = ca_address_sk
and ca_state = 'TN'
and ws1.ws_web_site_sk = web_site_sk
and web_company_name = 'pri'
and ws1.ws_order_number in (select ws_order_number
from ws_wh)
```

```

and ws1.ws_order_number in (select wr_order_number
from web_returns,ws_wh
where wr_order_number = ws_wh.ws_order_number)
order by count(distinct ws_order_number)
limit 100;

```

```
-- TPC-DS_query96
```

```

select count(*)
from store_sales
,household_demographics
,time_dim, store
where ss_sold_time_sk = time_dim.t_time_sk
and ss_hdemo_sk = household_demographics.hd_demo_sk
and ss_store_sk = s_store_sk
and time_dim.t_hour = 8
and time_dim.t_minute >= 30
and household_demographics.hd_dep_count = 5
and store.s_store_name = 'ese'
order by count(*)
limit 100;

```

```
-- TPC-DS_query97
```

```

with ssci as (
select ss_customer_sk customer_sk
,ss_item_sk item_sk
from store_sales,date_dim
where ss_sold_date_sk = d_date_sk
and d_month_seq between 1214 and 1214 + 11
group by ss_customer_sk
,ss_item_sk),
csci as(
select cs_bill_customer_sk customer_sk
,cs_item_sk item_sk
from catalog_sales,date_dim
where cs_sold_date_sk = d_date_sk
and d_month_seq between 1214 and 1214 + 11
group by cs_bill_customer_sk
,cs_item_sk)
select sum(case when ssci.customer_sk is not null and csci.customer_sk is null then 1 else 0 end) store_only
,sum(case when ssci.customer_sk is null and csci.customer_sk is not null then 1 else 0 end) catalog_only
,sum(case when ssci.customer_sk is not null and csci.customer_sk is not null then 1 else 0 end) store_and_catalog
from ssci full outer join csci on (ssci.customer_sk=csci.customer_sk
and ssci.item_sk = csci.item_sk)
limit 100;

```

```
-- TPC-DS_query98
```

```

select i_item_id
,i_item_desc
,i_category
,i_class
,i_current_price
,sum(ss_ext_sales_price) as itemrevenue
,sum(ss_ext_sales_price)*100/sum(sum(ss_ext_sales_price)) over
(partition by i_class) as revenueratio
from
store_sales
,item
,date_dim
where
ss_item_sk = i_item_sk
and i_category in ('Women', 'Electronics', 'Shoes')
and ss_sold_date_sk = d_date_sk
and d_date between cast('2002-05-27' as date)
and dateadd(day,30,to_date('2002-05-27'))
group by
i_item_id
,i_item_desc
,i_category

```

```

,i_class
,i_current_price
order by
i_category
,i_class
,i_item_id
,i_item_desc
,revenueratio;

-- TPC-DS_query99
select
substr(w_warehouse_name,1,20)
,sm_type
,cc_name
,sum(case when (cs_ship_date_sk - cs_sold_date_sk <= 30 ) then 1 else 0 end) as "30 days"
,sum(case when (cs_ship_date_sk - cs_sold_date_sk > 30) and
(cs_ship_date_sk - cs_sold_date_sk <= 60) then 1 else 0 end ) as "31-60 days"
,sum(case when (cs_ship_date_sk - cs_sold_date_sk > 60) and
(cs_ship_date_sk - cs_sold_date_sk <= 90) then 1 else 0 end) as "61-90 days"
,sum(case when (cs_ship_date_sk - cs_sold_date_sk > 90) and
(cs_ship_date_sk - cs_sold_date_sk <= 120) then 1 else 0 end) as "91-120 days"
,sum(case when (cs_ship_date_sk - cs_sold_date_sk > 120) then 1 else 0 end) as ">120 days"
from
catalog_sales
,warehouse
,ship_mode
,call_center
,date_dim
where
d_month_seq between 1200 and 1200 + 11
and cs_ship_date_sk = d_date_sk
and cs_warehouse_sk = w_warehouse_sk
and cs_ship_mode_sk = sm_ship_mode_sk
and cs_call_center_sk = cc_call_center_sk
group by
substr(w_warehouse_name,1,20)
,sm_type
,cc_name
order by substr(w_warehouse_name,1,20)
,sm_type
,cc_name
limit 100;

```