```
/*
 AIM:Aim: Write and Execute SQL aggregation queries for data warehouse.
 Details: To run queries for CUBE, PARTIAL CUBE, ROLLUP, PARTIAL ROLLUP, GROUPING,
GROUPING SETS, GROUP_ID( )
 *//*
 AIM:Aim: Write and Execute SQL aggregation queries for data warehouse.
 Details: To run queries for CUBE, PARTIAL CUBE, ROLLUP, PARTIAL ROLLUP, GROUPING,
GROUPING SETS, GROUP_ID( )
 */

Q1) Find the total sales by country_id and channel_desc for the US and GB
through
the Internet and direct sales in September 2000 and October 2000 using
ROLL-UP
Extension. The query should return the following:
 The aggregation rows that would be produced by GROUP BY ,
 The First-level subtotals aggregating across country_id for each
combination
of channel_desc and calendar_month.
 Second-level subtotals aggregating
across calendar_month_desc and country_id for each channel_desc value.
 A grand total row.
select channels.channel_desc, calendar_month_desc,
countries.country_iso_code,
to_char(sum(amount_sold), '9,999,999,999') sales$
from sales, customers, times, channels, countries
where sales.time_id=times.time_id
and sales.cust_id=customers.cust_id
and customers.country_id = countries.country_id
and sales.channel_id = channels.channel_id
and channels.channel_desc in ('direct sales', 'internet')
and times.calendar_month_desc in ('2000-09', '2000-10')
and countries.country_iso_code in ('gb', 'us')
group by
rollup(channels.channel_desc, calendar_month_desc,
countries.country_iso_code);

--QUERY 1:
CHANNEL_DESC         CALENDAR CO SALES$
-------------------- -------- -- --------------
Internet             2000-09  GB         16,569
Internet             2000-09  US        124,224
Internet             2000-09            140,793
Internet             2000-10  GB         14,539
Internet             2000-10  US        137,054
Internet             2000-10            151,593
Internet                                292,387
Direct Sales         2000-09  GB         85,223
Direct Sales         2000-09  US        638,201
Direct Sales         2000-09            723,424
Direct Sales         2000-10  GB         91,925

CHANNEL_DESC         CALENDAR CO SALES$
-------------------- -------- -- --------------
```

```
Direct Sales         2000-10  US        682,297
Direct Sales         2000-10            774,222
Direct Sales                          1,497,646
                                      1,790,032

15 rows selected.


--QUERY 2:

Q2. Find the total sales by country_id and channel_desc for the US and GB
through
the Internet and direct sales in September 2000 and October 2009 using
CUBE aggregation across three dimensions- channel_desc,
calendar_month_desc,
countries.country_iso_code.

select channels.channel_desc, calendar_month_desc,
countries.country_iso_code,
to_char(sum(amount_sold), '9,999,999,999') total_sales
from sales, customers, times, channels, countries
where sales.time_id=times.time_id
and sales.cust_id=customers.cust_id
and customers.country_id = countries.country_id
and sales.channel_id = channels.channel_id
and upper(channels.channel_desc) in ('DIRECT SALES', 'INTERNET')
and times.calendar_month_desc in ('2000-09', '2000-10')
and upper(countries.country_iso_code) in ('GB', 'US')
group by
      cube(channels.channel_desc, calendar_month_desc,
countries.country_iso_code);


CHANNEL_DESC         CALENDAR CO TOTAL_SALES
-------------------- -------- -- --------------
                                      1,790,032
                              GB        208,257
                              US      1,581,775
                     2000-09            864,217
                     2000-09  GB        101,792
                     2000-09  US        762,425
                     2000-10            925,815
                     2000-10  GB        106,465
                     2000-10  US        819,351
Internet                                292,387
Internet                      GB         31,109

CHANNEL_DESC         CALENDAR CO TOTAL_SALES
-------------------- -------- -- --------------
Internet                      US        261,278
Internet             2000-09            140,793
Internet             2000-09  GB         16,569
Internet             2000-09  US        124,224
Internet             2000-10            151,593
```

```
Internet             2000-10  GB         14,539
Internet             2000-10  US        137,054
Direct Sales                           1,497,646
Direct Sales                  GB        177,148
Direct Sales                  US      1,320,497
Direct Sales         2000-09            723,424

CHANNEL_DESC         CALENDAR CO TOTAL_SALES
-------------------- -------- -- --------------
Direct Sales         2000-09  GB         85,223
Direct Sales         2000-09  US        638,201
Direct Sales         2000-10            774,222
Direct Sales         2000-10  GB         91,925
Direct Sales         2000-10  US        682,297

27 rows selected.
```

Q3. Find the total sales by country_iso and channel_desc for the US and France
through the Internet and direct sales in September 2000

```
-- Query 3:

SELECT CHANNELS.CHANNEL_DESC,
      COUNTRIES.COUNTRY_ISO_CODE,
      TO_CHAR(SUM(AMOUNT_SOLD), '9,999,999,999') TOTAL_SALES
            FROM SALES, CUSTOMERS, TIMES, CHANNELS, COUNTRIES
                  WHERE SALES.TIME_ID=TIMES.TIME_ID
                        AND SALES.CUST_ID=CUSTOMERS.CUST_ID
                        AND CUSTOMERS.COUNTRY_ID = COUNTRIES.COUNTRY_ID
                        AND SALES.CHANNEL_ID = CHANNELS.CHANNEL_ID
                        AND UPPER(CHANNELS.CHANNEL_DESC) IN ('DIRECT
SALES', 'INTERNET')
                        AND TIMES.CALENDAR_MONTH_DESC IN ('2000-09')
                        AND UPPER(COUNTRIES.COUNTRY_ISO_CODE) IN ('FR',
'US')
            GROUP BY
            ROLLUP(CHANNELS.CHANNEL_DESC, COUNTRIES.COUNTRY_ISO_CODE);


CHANNEL_DESC         CO TOTAL_SALES
-------------------- -- --------------
Internet             FR          9,597
Internet             US        124,224
Internet                       133,821
Direct Sales         FR         61,202
Direct Sales         US        638,201
Direct Sales                   699,403
                               833,224
```

7 rows selected.

Q4. Find the total sales by country_id and channel_desc for the US and GB through
the Internet and direct sales in September 2000 and October 2009 using PARTIAL
ROLL-UP. The query should return the following:
 Regular aggregation rows that would be produced by GROUP BY without using ROLLUP.
 First-level subtotals aggregating across country_id for each combination
of channel_desc and calendar_month_desc.
 Second-level subtotals aggregating
across calendar_month_desc and country_id for each channel_desc value.
 It does not produce a grand total row.

-- query 4:

```
SELECT CHANNELS.CHANNEL_DESC,
      COUNTRIES.COUNTRY_ISO_CODE,CALENDAR_MONTH_DESC,
      TO_CHAR(SUM(AMOUNT_SOLD), '9,999,999,999') TOTAL_SALES
            FROM SALES, CUSTOMERS, TIMES, CHANNELS, COUNTRIES
                  WHERE SALES.TIME_ID=TIMES.TIME_ID
                        AND SALES.CUST_ID=CUSTOMERS.CUST_ID
                        AND CUSTOMERS.COUNTRY_ID = COUNTRIES.COUNTRY_ID
                        AND SALES.CHANNEL_ID = CHANNELS.CHANNEL_ID
                        AND UPPER(CHANNELS.CHANNEL_DESC) IN ('DIRECT
SALES', 'INTERNET')
                        AND TIMES.CALENDAR_MONTH_DESC IN ('2000-09','2000-
10')
                        AND UPPER(COUNTRIES.COUNTRY_ISO_CODE) IN ('GB',
'US')
            GROUP BY
            CHANNELS.CHANNEL_DESC  , ROLLUP
(COUNTRIES.COUNTRY_ISO_CODE,CALENDAR_MONTH_DESC);
```

```
CHANNEL_DESC         CO CALENDAR TOTAL_SALES
-------------------- -- -------- --------------
Internet             GB 2000-09          16,569
Internet             GB 2000-10          14,539
Internet             GB                  31,109
Internet             US 2000-09         124,224
Internet             US 2000-10         137,054
Internet             US                 261,278
Internet                                292,387
Direct Sales         GB 2000-09          85,223
Direct Sales         GB 2000-10          91,925
Direct Sales         GB                 177,148
Direct Sales         US 2000-09         638,201

CHANNEL_DESC         CO CALENDAR TOTAL_SALES
```

```
-------------------- -- -------- --------------
Direct Sales         US 2000-10         682,297
Direct Sales         US               1,320,497
Direct Sales                          1,497,646

14 rows selected.
```

Q5. Find the total sales by country_id and channel_desc for the US and GB through
the Internet and direct sales in September 2000 and October 2009 using PARTIAL
CUBE aggregation on month and country code and GROUP BY on channel_desc.

```
-- query 5:

SELECT CHANNELS.CHANNEL_DESC,
      COUNTRIES.COUNTRY_ISO_CODE,CALENDAR_MONTH_DESC,
      TO_CHAR(SUM(AMOUNT_SOLD), '9,999,999,999') TOTAL_SALES
            FROM SALES, CUSTOMERS, TIMES, CHANNELS, COUNTRIES
                  WHERE SALES.TIME_ID=TIMES.TIME_ID
                  AND SALES.CUST_ID=CUSTOMERS.CUST_ID
                  AND CUSTOMERS.COUNTRY_ID = COUNTRIES.COUNTRY_ID
                  AND SALES.CHANNEL_ID = CHANNELS.CHANNEL_ID
                  AND UPPER(CHANNELS.CHANNEL_DESC) IN ('DIRECT SALES',
'INTERNET')
                  AND TIMES.CALENDAR_MONTH_DESC IN ('2000-09','2000-10')
                  AND UPPER(COUNTRIES.COUNTRY_ISO_CODE) IN ('GB', 'US')
            GROUP BY
            CHANNELS.CHANNEL_DESC  , CUBE
(COUNTRIES.COUNTRY_ISO_CODE,CALENDAR_MONTH_DESC);


CHANNEL_DESC         CO CALENDAR TOTAL_SALES
-------------------- -- -------- --------------
Internet                              292,387
Internet                2000-09       140,793
Internet                2000-10       151,593
Internet             GB                31,109
Internet             GB 2000-09         16,569
Internet             GB 2000-10         14,539
Internet             US                261,278
Internet             US 2000-09        124,224
Internet             US 2000-10        137,054
Direct Sales                          1,497,646
Direct Sales            2000-09         723,424

CHANNEL_DESC         CO CALENDAR TOTAL_SALES
-------------------- -- -------- --------------
Direct Sales            2000-10         774,222
Direct Sales         GB                177,148
Direct Sales         GB 2000-09         85,223
Direct Sales         GB 2000-10         91,925
```

```
Direct Sales         US               1,320,497
Direct Sales         US 2000-09         638,201
Direct Sales         US 2000-10         682,297

18 rows selected.
```

Q6.Use GROUPING to create a set of mask columns for the result set of Q1.
- Create grouping on channel_desc and name it as CH
- Create grouping calendar_month_desc and name it as MO
- Create grouping on country_iso_code and name it as CO

```
-- QUERY 6:

SELECT CHANNELS.CHANNEL_DESC,
      COUNTRIES.COUNTRY_ISO_CODE,CALENDAR_MONTH_DESC,
      GROUPING(CHANNELS.CHANNEL_DESC) CH,
      GROUPING(CALENDAR_MONTH_DESC) MO,
      GROUPING(COUNTRIES.COUNTRY_ISO_CODE)
            FROM SALES, CUSTOMERS, TIMES, CHANNELS, COUNTRIES
                  WHERE SALES.TIME_ID=TIMES.TIME_ID
                        AND SALES.CUST_ID=CUSTOMERS.CUST_ID
                        AND CUSTOMERS.COUNTRY_ID = COUNTRIES.COUNTRY_ID
                        AND SALES.CHANNEL_ID = CHANNELS.CHANNEL_ID
                        AND UPPER(CHANNELS.CHANNEL_DESC) IN ('DIRECT
SALES', 'INTERNET')
                        AND TIMES.CALENDAR_MONTH_DESC IN ('2000-09','2000-
10')
                        AND UPPER(COUNTRIES.COUNTRY_ISO_CODE) IN ('GB',
'US')
            GROUP BY
            ROLLUP(CHANNELS.CHANNEL_DESC,
COUNTRIES.COUNTRY_ISO_CODE,CALENDAR_MONTH_DESC);


CHANNEL_DESC         CO CALENDAR         CH         MO
GROUPING(COUNTRIES.COUNTRY_ISO_CODE)
-------------------- -- -------- ---------- ---------- ------------------
------------------
Internet             GB 2000-09           0          0
0
Internet             GB 2000-10           0          0
0
Internet             GB                   0          1
0
Internet             US 2000-09           0          0
0
Internet             US 2000-10           0          0
0
Internet             US                   0          1
0
Internet                                  0          1
1
```

```
Direct Sales         GB 2000-09           0          0
0
Direct Sales         GB 2000-10           0          0
0
Direct Sales         GB                   0          1
0
Direct Sales         US 2000-09           0          0
0

CHANNEL_DESC         CO CALENDAR         CH         MO
GROUPING(COUNTRIES.COUNTRY_ISO_CODE)
-------------------- -- -------- ---------- ---------- ------------------
------------------
Direct Sales         US 2000-10           0          0
0
Direct Sales         US                   0          1
0
Direct Sales                              0          1
1
                                          1          1
1

15 rows selected.
```

Q7. Find the total sales by country_id and channel_desc for the US and GB through
the Internet and direct sales in September 2000 and October 2009 using GROUPING
SETS.
Calculate aggregates over three groupings:
- (channel_desc, calendar_month_desc, country_iso_code)
- (channel_desc, country_iso_code)
- (calendar_month_desc, country_iso_code)

```
-- QUERY 7:

SELECT CHANNELS.CHANNEL_DESC,
      COUNTRIES.COUNTRY_ISO_CODE,CALENDAR_MONTH_DESC,
      TO_CHAR(SUM(AMOUNT_SOLD), '9,999,999,999') TOTAL_SALES
            FROM SALES, CUSTOMERS, TIMES, CHANNELS, COUNTRIES
                  WHERE SALES.TIME_ID=TIMES.TIME_ID
                        AND SALES.CUST_ID=CUSTOMERS.CUST_ID
                        AND CUSTOMERS.COUNTRY_ID = COUNTRIES.COUNTRY_ID
                        AND SALES.CHANNEL_ID = CHANNELS.CHANNEL_ID
                        AND UPPER(CHANNELS.CHANNEL_DESC) IN ('DIRECT
SALES', 'INTERNET')
                        AND TIMES.CALENDAR_MONTH_DESC IN ('2000-09','2000-
10')
                        AND UPPER(COUNTRIES.COUNTRY_ISO_CODE) IN ('GB',
'US')
            GROUP BY
```

```
           GROUPING
SETS((CHANNELS.CHANNEL_DESC,CALENDAR_MONTH_DESC,COUNTRIES.COUNTRY_ISO_COD
E),
                 (CHANNELS.CHANNEL_DESC, COUNTRIES.COUNTRY_ISO_CODE),
                       (CALENDAR_MONTH_DESC,COUNTRIES.COUNTRY_ISO_CODE));


CHANNEL_DESC         CO CALENDAR TOTAL_SALES
-------------------- -- -------- --------------
Internet             GB 2000-09          16,569
Direct Sales         GB 2000-09          85,223
Internet             US 2000-09         124,224
Direct Sales         US 2000-09         638,201
Internet             GB 2000-10          14,539
Direct Sales         GB 2000-10          91,925
Internet             US 2000-10         137,054
Direct Sales         US 2000-10         682,297
                     GB 2000-09         101,792
                     US 2000-09         762,425
                     GB 2000-10         106,465

CHANNEL_DESC         CO CALENDAR TOTAL_SALES
-------------------- -- -------- --------------
                     US 2000-10         819,351
Direct Sales         GB                 177,148
Internet             GB                  31,109
Direct Sales         US               1,320,497
Internet             US                 261,278

16 rows selected.


Q: 8 Perform aggregation on amount sold. It should get aggregated by
month first,
then by all the months in each quarter, and then across all months and
quarters in
the year.

-- QUERY 8: COUNRIES: US.GB. YEAR =1999, DIRECT SALES AND INTERNET

SELECT    TIMES.CALENDAR_MONTH_DESC,TIMES.CALENDAR_QUARTER_DESC,
TIMES.CALENDAR_YEAR,
      SUM(AMOUNT_SOLD) TOTAL_SALES
            FROM SALES, CUSTOMERS, TIMES, CHANNELS, COUNTRIES
                  WHERE SALES.TIME_ID=TIMES.TIME_ID
                        AND SALES.CUST_ID=CUSTOMERS.CUST_ID
                        AND CUSTOMERS.COUNTRY_ID = COUNTRIES.COUNTRY_ID
                        AND SALES.CHANNEL_ID = CHANNELS.CHANNEL_ID
                        AND UPPER(CHANNELS.CHANNEL_DESC) IN ('DIRECT
SALES', 'INTERNET')
                        AND TIMES.CALENDAR_YEAR=1999
                        AND UPPER(COUNTRIES.COUNTRY_ISO_CODE) IN ('GB',
'US')
                  GROUP BY
```

```
      ROLLUP(TIMES.CALENDAR_YEAR,TIMES.CALENDAR_QUARTER_DESC,TIMES.CALEND
AR_MONTH_DESC);

CALENDAR CALENDA CALENDAR_YEAR TOTAL_SALES
-------- ------- ------------- -----------
1999-01  1999-01          1999   974627.95
1999-02  1999-01          1999  1089255.92
1999-03  1999-01          1999    754026.7
         1999-01          1999  2817910.57
1999-04  1999-02          1999   708060.57
1999-05  1999-02          1999   818055.52
1999-06  1999-02          1999   729677.52
         1999-02          1999  2255793.61
1999-07  1999-03          1999   893452.47
1999-08  1999-03          1999   883460.92
1999-09  1999-03          1999   923577.01

CALENDAR CALENDA CALENDAR_YEAR TOTAL_SALES
-------- ------- ------------- -----------
         1999-03          1999   2700490.4
1999-10  1999-04          1999   715831.36
1999-11  1999-04          1999   742248.42
1999-12  1999-04          1999   841572.17
         1999-04          1999  2299651.95
                          1999  10073846.5
                                10073846.5

18 rows selected.


Q: 9 Implement concatenated rollup. First roll up on (channel_total,
channel_class)
and second roll up on(country_region and country_iso_code)

-- QUERY 9:
SELECT
CHANNELS.CHANNEL_TOTAL,CHANNELS.CHANNEL_CLASS,COUNTRIES.COUNTRY_REGION,CO
UNTRIES.COUNTRY_ISO_CODE,
      SUM(AMOUNT_SOLD)
            FROM SALES, CUSTOMERS, TIMES, CHANNELS, COUNTRIES
                  WHERE SALES.TIME_ID=TIMES.TIME_ID
                        AND SALES.CUST_ID=CUSTOMERS.CUST_ID
                        AND CUSTOMERS.COUNTRY_ID = COUNTRIES.COUNTRY_ID
                        AND SALES.CHANNEL_ID = CHANNELS.CHANNEL_ID
                        AND UPPER(CHANNELS.CHANNEL_DESC) IN ('DIRECT
SALES', 'INTERNET')
                        AND TIMES.CALENDAR_MONTH_DESC IN ('2000-09','2000-
10')
                        AND UPPER(COUNTRIES.COUNTRY_ISO_CODE) IN ('GB',
'US')
                  GROUP BY
```

```
     ROLLUP(CHANNELS.CHANNEL_TOTAL,CHANNELS.CHANNEL_CLASS),ROLLUP(COUNTR
IES.COUNTRY_REGION,COUNTRIES.COUNTRY_ISO_CODE);


CHANNEL_TOTAL CHANNEL_CLASS        COUNTRY_REGION       CO TOTAL_SALES
------------- -------------------- -------------------- -- -----------
                                   Europe               GB   208256.85
                                   Europe                    208256.85
                                   Americas             US  1581775.44
                                   Americas                  1581775.44
                                                             1790032.29
Channel total                      Europe               GB   208256.85
Channel total                      Europe                    208256.85
Channel total                      Americas             US  1581775.44
Channel total                      Americas                  1581775.44
Channel total                                                1790032.29
Channel total Direct               Europe               GB   177148.35

CHANNEL_TOTAL CHANNEL_CLASS        COUNTRY_REGION       CO TOTAL_SALES
------------- -------------------- -------------------- -- -----------
Channel total Direct               Europe                    177148.35
Channel total Direct               Americas             US   1320497.4
Channel total Direct               Americas                  1320497.4
Channel total Direct                                         1497645.75
Channel total Indirect             Europe               GB     31108.5
Channel total Indirect             Europe                      31108.5
Channel total Indirect             Americas             US   261278.04
Channel total Indirect             Americas                  261278.04
Channel total Indirect                                       292386.54

20 rows selected.
```

Q10. Consider the following Query and make conclusion from the result obtained.

Query: (scott Schema)

```
SELECT deptno, job, SUM(sal)
FROM emp
GROUP BY CUBE(deptno, job)
```

```
    DEPTNO JOB         SUM(SAL)
---------- --------- ----------
                         29025
           CLERK          4150
           ANALYST        6000
           MANAGER        8275
           SALESMAN       5600
           PRESIDENT      5000
        10                 8750
        10 CLERK           1300
        10 MANAGER         2450
        10 PRESIDENT       5000
```

```
        20                10875

    DEPTNO JOB         SUM(SAL)
---------- --------- ----------
        20 CLERK           1900
        20 ANALYST         6000
        20 MANAGER         2975
        30                 9400
        30 CLERK            950
        30 MANAGER         2850
        30 SALESMAN        5600

18 rows selected.
```

Q11. Find the total sales by country name and channel_desc for the country name
starting from U through the Internet and direct sales in September 2000 and October.

```
-- QUERY 11:
SELECT CHANNELS.CHANNEL_DESC,
      COUNTRIES.COUNTRY_NAME,
      TO_CHAR(SUM(AMOUNT_SOLD), '9,999,999,999') TOTAL_SALES
            FROM SALES, CUSTOMERS, TIMES, CHANNELS, COUNTRIES
                  WHERE SALES.TIME_ID=TIMES.TIME_ID
                        AND SALES.CUST_ID=CUSTOMERS.CUST_ID
                        AND CUSTOMERS.COUNTRY_ID = COUNTRIES.COUNTRY_ID
                        AND SALES.CHANNEL_ID = CHANNELS.CHANNEL_ID
                        AND UPPER(CHANNELS.CHANNEL_DESC) IN ('DIRECT
SALES', 'INTERNET')
                        AND TIMES.CALENDAR_MONTH_DESC IN ('2000')
                        AND UPPER(COUNTRIES.COUNTRY_NAME) LIKE 'U%'
            GROUP BY
            ROLLUP(COUNTRIES.COUNTRY_NAME,CHANNELS.CHANNEL_DESC);
```

Q12. Analyze the output

```
-- QUIERY 12:

 SELECT
ch.channel_desc,
t.calendar_month_desc,
co.country_iso_code,
CO.COUNTRY_NAME,
SUM(s.amount_sold) sum_amount_sold,
GROUPING_ID(
ch.channel_desc,
t.calendar_month_desc,
co.country_iso_code) grouping_id
FROM
sales s,
```

```
customers cu,
times t,
channels ch,
countries co
WHERE
s.time_id=t.time_id AND
s.cust_id=cu.cust_id AND
cu.country_id = co.country_id AND
s.channel_id = ch.channel_id AND
ch.channel_desc IN ('Direct Sales', 'Internet') AND
t.calendar_month_desc IN ('2001-09', '2001-10') AND
co.country_iso_code IN ('GB', 'US')
GROUP BY
ROLLUP(
ch.channel_desc,
t.calendar_month_desc,
co.country_iso_code,CO.COUNTRY_NAME);

/*
CHANNEL_DESC         CALENDAR CO COUNTRY_NAME
SUM_AMOUNT_SOLD GROUPING_ID
-------------------- -------- -- ----------------------------------------
--------------- -----------
Internet             2001-09  GB United Kingdom
36806.73           0
Internet             2001-09  GB
36806.73           0
Internet             2001-09  US United States of America
299621.96           0
Internet             2001-09  US
299621.96           0
Internet             2001-09
336428.69           1
Internet             2001-10  GB United Kingdom
39010.76           0
Internet             2001-10  GB
39010.76           0
Internet             2001-10  US United States of America
386326.55           0
Internet             2001-10  US
386326.55           0
Internet             2001-10
425337.31           1
Internet
761766           3

CHANNEL_DESC         CALENDAR CO COUNTRY_NAME
SUM_AMOUNT_SOLD GROUPING_ID
-------------------- -------- -- ----------------------------------------
--------------- -----------
Direct Sales         2001-09  GB United Kingdom
92865.04           0
Direct Sales         2001-09  GB
92865.04           0
```

```
Direct Sales         2001-09  US United States of America
621197.94           0
Direct Sales         2001-09  US
621197.94           0
Direct Sales         2001-09
714062.98           1
Direct Sales         2001-10  GB United Kingdom
75296.44            0
Direct Sales         2001-10  GB
75296.44            0
Direct Sales         2001-10  US United States of America
566719.8            0
Direct Sales         2001-10  US
566719.8            0
Direct Sales         2001-10
642016.24           1
Direct Sales
1356079.22           3

CHANNEL_DESC         CALENDAR CO COUNTRY_NAME
SUM_AMOUNT_SOLD GROUPING_ID
-------------------- -------- -- ----------------------------------------
--------------- -----------

2117845.22           7

23 rows selected.
*/


-- EXITENCE OF GROUP_ID

SELECT CHANNELS.CHANNEL_DESC,
      COUNTRIES.COUNTRY_NAME,
      TO_CHAR(SUM(AMOUNT_SOLD), '9,999,999,999') TOTAL_SALES,
      GROUP_ID()
            FROM SALES, CUSTOMERS, TIMES, CHANNELS, COUNTRIES
                  WHERE SALES.TIME_ID=TIMES.TIME_ID
                        AND SALES.CUST_ID=CUSTOMERS.CUST_ID
                        AND CUSTOMERS.COUNTRY_ID = COUNTRIES.COUNTRY_ID
                        AND SALES.CHANNEL_ID = CHANNELS.CHANNEL_ID
                        AND UPPER(CHANNELS.CHANNEL_DESC) IN ('DIRECT
SALES', 'INTERNET')
                        AND TIMES.CALENDAR_MONTH_DESC IN ('2000-09','2000-
10')
                        AND UPPER(COUNTRIES.COUNTRY_NAME) LIKE 'U%'
            GROUP BY

      ROLLUP(COUNTRIES.COUNTRY_NAME,CHANNELS.CHANNEL_DESC),ROLLUP(CHANNEL
S.CHANNEL_DESC)
            ORDER BY GROUP_ID();

/*
```

```
CHANNEL_DESC         COUNTRY_NAME                             TOTAL_SALES
GROUP_ID()
-------------------- ---------------------------------------- -----------
--- ----------
                     United Kingdom
208,257          0
                     United States of America
1,581,775          0
Direct Sales         United States of America
1,320,497          0
Direct Sales         United Kingdom
177,148          0
Internet             United States of America
261,278          0
Internet             United Kingdom
31,109          0

1,790,032          0
Direct Sales
1,497,646          0
Internet
292,387          0
Direct Sales         United Kingdom
177,148          1
Internet             United States of America
261,278          1

CHANNEL_DESC         COUNTRY_NAME                             TOTAL_SALES
GROUP_ID()
-------------------- ---------------------------------------- -----------
--- ----------
Internet             United Kingdom
31,109          1
Direct Sales         United States of America
1,320,497          1
Direct Sales         United States of America
1,320,497          2
Direct Sales         United Kingdom
177,148          2
Internet             United States of America
261,278          2
Internet             United Kingdom
31,109          2

17 rows selected.
*/
```