Q.1

SQL> select channel\_desc,calendar\_month\_desc,country\_iso\_code,sum(amount\_sold)

2 from sales s,customers c,countries co,channels ch,times t

3 where ch.channel\_id=s.channel\_id and c.cust\_id=s.cust\_id and c.country\_id=co.country\_id and t.time\_id=s.time\_id and calendar\_month\_desc in ('2000-09','2000-10') and country\_iso\_code in ('US','GB') and channel\_desc in ('Internet','Direct Sales')

4 group by rollup(channel\_desc,calendar\_month\_desc,country\_iso\_code);

CHANNEL\_DESC CALENDAR CO SUM(AMOUNT\_SOLD)

-------------------- -------- -- ----------------

Internet 2000-09 GB 16569.36

Internet 2000-09 US 124223.75

Internet 2000-09 140793.11

Internet 2000-10 GB 14539.14

Internet 2000-10 US 137054.29

Internet 2000-10 151593.43

Internet 292386.54

Direct Sales 2000-09 GB 85222.92

Direct Sales 2000-09 US 638200.81

Direct Sales 2000-09 723423.73

Direct Sales 2000-10 GB 91925.43

CHANNEL\_DESC CALENDAR CO SUM(AMOUNT\_SOLD)

-------------------- -------- -- ----------------

Direct Sales 2000-10 US 682296.59

Direct Sales 2000-10 774222.02

Direct Sales 1497645.75

1790032.29

15 rows selected.

Q.2

SQL> select channel\_desc,calendar\_month\_desc,country\_iso\_code,sum(amount\_sold)

2 from sales s,customers c,countries co,channels ch,times t

3 where ch.channel\_id=s.channel\_id and c.cust\_id=s.cust\_id and c.country\_id=co.country\_id and t.time\_id=s.time\_id and calendar\_month\_desc in ('2000-09','2009-10') and country\_iso\_code in ('US','GB') and channel\_desc in ('Internet','Direct Sales')

4 group by cube(channel\_desc,calendar\_month\_desc,country\_iso\_code);

CHANNEL\_DESC CALENDAR CO SUM(AMOUNT\_SOLD)

-------------------- -------- -- ----------------

864216.84

GB 101792.28

US 762424.56

2000-09 864216.84

2000-09 GB 101792.28

2000-09 US 762424.56

Internet 140793.11

Internet GB 16569.36

Internet US 124223.75

Internet 2000-09 140793.11

Internet 2000-09 GB 16569.36

CHANNEL\_DESC CALENDAR CO SUM(AMOUNT\_SOLD)

-------------------- -------- -- ----------------

Internet 2000-09 US 124223.75

Direct Sales 723423.73

Direct Sales GB 85222.92

Direct Sales US 638200.81

Direct Sales 2000-09 723423.73

Direct Sales 2000-09 GB 85222.92

Direct Sales 2000-09 US 638200.81

18 rows selected.

Q.3

SQL> select channel\_desc,calendar\_month\_desc,country\_iso\_code,sum(amount\_sold)

2 from sales s,customers c,countries co,channels ch,times t

3 where ch.channel\_id=s.channel\_id and c.cust\_id=s.cust\_id and c.country\_id=co.country\_id and t.time\_id=s.time\_id and calendar\_month\_desc in ('2000-09') and country\_iso\_code in ('US','FR') and channel\_desc in ('Internet','Direct Sales')

4 group by channel\_desc,calendar\_month\_desc,country\_iso\_code;

CHANNEL\_DESC CALENDAR CO SUM(AMOUNT\_SOLD)

-------------------- -------- -- ----------------

Direct Sales 2000-09 US 638200.81

Direct Sales 2000-09 FR 61202.26

Internet 2000-09 US 124223.75

Internet 2000-09 FR 9596.86

4 rows selected.

Q.4

SQL> select channel\_desc,calendar\_month\_desc,country\_iso\_code,sum(amount\_sold)

2 from sales s,customers c,countries co,channels ch,times t

3 where ch.channel\_id=s.channel\_id and c.cust\_id=s.cust\_id and c.country\_id=co.country\_id and t.time\_id=s.time\_id and calendar\_month\_desc in ('2000-09','2009-10') and country\_iso\_code in ('US','GB') and channel\_desc in ('Internet','Direct Sales')

4 group by channel\_desc,rollup(channel\_desc,calendar\_month\_desc,country\_iso\_code);

CHANNEL\_DESC CALENDAR CO SUM(AMOUNT\_SOLD)

-------------------- -------- -- ----------------

Direct Sales 2000-09 723423.73

Internet 2000-09 140793.11

Internet 2000-09 GB 16569.36

Internet 2000-09 US 124223.75

Direct Sales 2000-09 GB 85222.92

Direct Sales 2000-09 US 638200.81

Internet 140793.11

Direct Sales 723423.73

Internet 140793.11

Direct Sales 723423.73

10 rows selected.

The following query removes duplicate values:

SQL> select channel\_desc,calendar\_month\_desc,country\_iso\_code,sum(amount\_sold)

2 from sales s,customers c,countries co,channels ch,times t

3 where ch.channel\_id=s.channel\_id and c.cust\_id=s.cust\_id and c.country\_id=co.country\_id and t.time\_id=s.time\_id and calendar\_month\_desc in ('2000-09','2009-10') and country\_iso\_code in ('US','GB') and channel\_desc in ('Internet','Direct Sales')

4 group by channel\_desc,rollup(calendar\_month\_desc,country\_iso\_code);

CHANNEL\_DESC CALENDAR CO SUM(AMOUNT\_SOLD)

-------------------- -------- -- ----------------

Internet 2000-09 GB 16569.36

Internet 2000-09 US 124223.75

Internet 2000-09 140793.11

Internet 140793.11

Direct Sales 2000-09 GB 85222.92

Direct Sales 2000-09 US 638200.81

Direct Sales 2000-09 723423.73

Direct Sales 723423.73

8 rows selected.

Q.5

SQL> select channel\_desc,calendar\_month\_desc,country\_iso\_code,sum(amount\_sold)

2 from sales s,customers c,countries co,channels ch,times t

3 where ch.channel\_id=s.channel\_id and c.cust\_id=s.cust\_id and c.country\_id=co.country\_id and t.time\_id=s.time\_id and calendar\_month\_desc in ('2000-09','2009-10') and country\_iso\_code in ('US','GB') and channel\_desc in ('Internet','Direct Sales')

4 group by channel\_desc,cube(calendar\_month\_desc,country\_iso\_code);

CHANNEL\_DESC CALENDAR CO SUM(AMOUNT\_SOLD)

-------------------- -------- -- ----------------

Internet 140793.11

Internet GB 16569.36

Internet US 124223.75

Internet 2000-09 140793.11

Internet 2000-09 GB 16569.36

Internet 2000-09 US 124223.75

Direct Sales 723423.73

Direct Sales GB 85222.92

Direct Sales US 638200.81

Direct Sales 2000-09 723423.73

Direct Sales 2000-09 GB 85222.92

CHANNEL\_DESC CALENDAR CO SUM(AMOUNT\_SOLD)

-------------------- -------- -- ----------------

Direct Sales 2000-09 US 638200.81

12 rows selected.

Q.6

SQL> select grouping(channel\_desc) as CH,grouping(calendar\_month\_desc) as MO,grouping(country\_iso\_code) as CO,sum(amount\_sold)

2 from sales s,customers c,countries co,channels ch,times t

3 where ch.channel\_id=s.channel\_id and c.cust\_id=s.cust\_id and c.country\_id=co.country\_id and t.time\_id=s.time\_id and calendar\_month\_desc in ('2000-09','2000-10') and country\_iso\_code in ('US','GB') and channel\_desc in ('Internet','Direct Sales')

4 group by rollup(channel\_desc,calendar\_month\_desc,country\_iso\_code);

CH MO CO SUM(AMOUNT\_SOLD)

---------- ---------- ---------- ----------------

0 0 0 16569.36

0 0 0 124223.75

0 0 1 140793.11

0 0 0 14539.14

0 0 0 137054.29

0 0 1 151593.43

0 1 1 292386.54

0 0 0 85222.92

0 0 0 638200.81

0 0 1 723423.73

0 0 0 91925.43

CH MO CO SUM(AMOUNT\_SOLD)

---------- ---------- ---------- ----------------

0 0 0 682296.59

0 0 1 774222.02

0 1 1 1497645.75

1 1 1 1790032.29

15 rows selected.

Q.7

SQL> select channel\_desc,calendar\_month\_desc,country\_iso\_code,sum(amount\_sold)

2 from sales s,customers c,countries co,channels ch,times t

3 where ch.channel\_id=s.channel\_id and c.cust\_id=s.cust\_id and c.country\_id=co.country\_id and t.time\_id=s.time\_id and calendar\_month\_desc in ('2000-09','2009-10') and country\_iso\_code in ('US','GB') and channel\_desc in ('Internet','Direct Sales')

4 group by grouping sets((channel\_desc,calendar\_month\_desc,country\_iso\_code),(calendar\_month\_desc,country\_iso\_code),(channel\_desc,country\_iso\_code));

CHANNEL\_DESC CALENDAR CO SUM(AMOUNT\_SOLD)

-------------------- -------- -- ----------------

Internet 2000-09 GB 16569.36

Direct Sales 2000-09 GB 85222.92

Internet 2000-09 US 124223.75

Direct Sales 2000-09 US 638200.81

2000-09 GB 101792.28

2000-09 US 762424.56

Direct Sales GB 85222.92

Internet GB 16569.36

Direct Sales US 638200.81

Internet US 124223.75

10 rows selected.

Q.8

SQL> select deptno,job,sum(sal)

2 from emp

3 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.

Q.9

SQL> select city,department\_name,sum(salary)

2 from locations l,employees e,departments d

3 where l.location\_id=d.location\_id and e.department\_id=d.department\_id

4 group by rollup(d.department\_name,city);

CITY DEPARTMENT\_NAME SUM(SALARY)

------------------------------ ------------------------------ -----------

Southlake IT 28800

IT 28800

Oxford Sales 304500

Sales 304500

Seattle Finance 51608

Finance 51608

South San Francisco Shipping 156400

Shipping 156400

Seattle Executive 58000

Executive 58000

Toronto Marketing 19000

CITY DEPARTMENT\_NAME SUM(SALARY)

------------------------------ ------------------------------ -----------

Marketing 19000

Seattle Accounting 20308

Accounting 20308

Seattle Purchasing 24900

Purchasing 24900

Seattle Administration 4400

Administration 4400

London Human Resources 6500

Human Resources 6500

Munich Public Relations 10000

Public Relations 10000

CITY DEPARTMENT\_NAME SUM(SALARY)

------------------------------ ------------------------------ -----------

684416

23 rows selected.

Q.10

SQL> select city,department\_name,sum(salary)

2 from locations l,employees e,departments d

3 where l.location\_id=d.location\_id and e.department\_id=d.department\_id

4 group by cube(d.department\_name,city);

CITY DEPARTMENT\_NAME SUM(SALARY)

------------------------------ ------------------------------ -----------

684416

London 6500

Munich 10000

Oxford 304500

Seattle 159216

Toronto 19000

Southlake 28800

South San Francisco 156400

IT 28800

Southlake IT 28800

Sales 304500

CITY DEPARTMENT\_NAME SUM(SALARY)

------------------------------ ------------------------------ -----------

Oxford Sales 304500

Finance 51608

Seattle Finance 51608

Shipping 156400

South San Francisco Shipping 156400

Executive 58000

Seattle Executive 58000

Marketing 19000

Toronto Marketing 19000

Accounting 20308

Seattle Accounting 20308

CITY DEPARTMENT\_NAME SUM(SALARY)

------------------------------ ------------------------------ -----------

Purchasing 24900

Seattle Purchasing 24900

Administration 4400

Seattle Administration 4400

Human Resources 6500

London Human Resources 6500

Public Relations 10000

Munich Public Relations 10000

30 rows selected.