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| EPAM Systems, RD Dep., RD Dep. |
| MTN.BI.03 SQL for Analysis  **Oracle SQL for Aggregation in Data Warehouses** |

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| REVISION HISTORY | | | | | |
| Ver. | Description of Change | Author | Date | Approved | |
| Name | Effective Date |
| 1.0 | Initial Version | Mikita Tur | 14-Nov-2017 |  |  |
|  |  |  |  |  |  |

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# Task 1

SELECT NVL(DECODE(GROUPING\_ID(CALENDAR\_MONTH\_DESC), 0, CALENDAR\_MONTH\_DESC, 'GRAND TOTAL'), ' ') AS YEAR\_MONTH,

NVL(DECODE(GROUPING\_ID(CALENDAR\_MONTH\_DESC, CHANNEL\_DESC), 1, 'Total by Channels', CHANNEL\_DESC), ' ') AS CHANNEL,

NVL(DECODE(GROUPING\_ID(CALENDAR\_MONTH\_DESC, CHANNEL\_DESC, COUNTRY\_NAME), 1, CHANNEL\_DESC

|| ' Total by States',COUNTRY\_NAME), ' ') AS COUNTRY,

TO\_CHAR(MAX(AMOUNT\_SOLD),'9,999,999,999') MAX\_SALES$,

TO\_CHAR(MIN(AMOUNT\_SOLD),'9,999,999,999') MIN\_SALES$,

TO\_CHAR(SUM(AMOUNT\_SOLD),'9,999,999,999') SALES$

FROM SH.SALES S,

SH.TIMES T,

SH.CHANNELS CH,

SH.CUSTOMERS CUST,

SH.COUNTRIES CO

WHERE SH.S.TIME\_ID =SH.T.TIME\_ID

AND SH.S.CHANNEL\_ID =SH.CH.CHANNEL\_ID

AND SH.S.CUST\_ID =SH.CUST.CUST\_ID

AND SH.CUST.COUNTRY\_ID =SH.CO.COUNTRY\_ID

AND SH.T.CALENDAR\_MONTH\_DESC='2000-12'

AND SH.CH.CHANNEL\_DESC IN ('Internet', 'Direct Sales')

GROUP BY ROLLUP(CALENDAR\_MONTH\_DESC,CHANNEL\_DESC,COUNTRY\_NAME)

# Task 2

SELECT NVL(Prod\_Name, 'TOTAL'), SUM(Q1), SUM(Q2), SUM(Q3), SUM(Q4), SUM(Q1)+SUM(Q2)+SUM(Q3)+SUM(Q4) AS YEAR\_SUM

FROM (

SELECT \* FROM (

SELECT Prod\_Name, Amount\_sold, Calendar\_Quarter\_Number

FROM SH.SALES S, SH.TIMES T, SH.CUSTOMERS CUST, SH.COUNTRIES CO, SH.PRODUCTS PR

WHERE SH.S.TIME\_ID=SH.T.TIME\_ID AND

SH.S.CUST\_ID=SH.CUST.CUST\_ID AND

SH.CUST.COUNTRY\_ID=SH.CO.COUNTRY\_ID AND

SH.S.PROD\_ID=SH.PR.PROD\_ID AND

PROD\_CATEGORY\_DESC = 'Photo' AND

CALENDAR\_YEAR= '2000' AND

COUNTRY\_REGION = 'Asia')

PIVOT

(SUM(Amount\_Sold)

FOR Calendar\_quarter\_number

IN(1 AS Q1, 2 AS Q2, 3 AS Q3, 4 AS Q4))

ORDER BY 1)

GROUP BY ROLLUP(Prod\_Name);

# Task 3

CREATE TABLE SALES\_VIEW AS

SELECT PROD\_NAME PRODUCT,

COUNTRY\_NAME COUNTRY,

CHANNEL\_ID CHANNEL,

SUBSTR(CALENDAR\_QUARTER\_DESC, 6,2) QUARTER,

SUM(AMOUNT\_SOLD) AMOUNT\_SOLD,

SUM(QUANTITY\_SOLD) QUANTITY\_SOLD

FROM sh.SALES,

sh.TIMES,

sh.CUSTOMERS,

sh.COUNTRIES,

sh.PRODUCTS

WHERE sh.SALES.TIME\_ID = sh.TIMES.TIME\_ID

AND sh.SALES.PROD\_ID = sh.PRODUCTS.PROD\_ID

AND sh.SALES.CUST\_ID = sh.CUSTOMERS.CUST\_ID

AND sh.CUSTOMERS.COUNTRY\_ID = sh.COUNTRIES.COUNTRY\_ID

GROUP BY PROD\_NAME,

COUNTRY\_NAME,

CHANNEL\_ID,

SUBSTR(CALENDAR\_QUARTER\_DESC, 6, 2) ;

SELECT \*

FROM

(SELECT PRODUCT, CHANNEL, AMOUNT\_SOLD FROM SALES\_VIEW

) PIVOT (SUM(AMOUNT\_SOLD) FOR CHANNEL IN (2 AS PARTNERS, 3 AS DIRECT\_SALES, 4 AS INTERNET\_SALES, 9 AS TELESALES))

ORDER BY PRODUCT;

