--Report 7

select

decode(grouping(sa.city),1,'Any City',sa.city) as "Departure City",

decode(grouping(sa.country),1,'Any Country',sa.country) as "Departure Country",

decode(grouping(da.city),1,'Any City',da.city) as "Arrival City",

decode(grouping(da.country),1,'Any Country',da.country) as "Arrival Country",

sum(rf.TOTAL\_SERVICE\_COST) as "Total Service Cost"

from route\_fact rf, source\_airport\_dim sa, dest\_airport\_dim da

where rf.sourceairportid = sa.airportid

and rf.destairportid = da.airportid

group by cube (sa.CITY, sa.COUNTRY, da.CITY, da.COUNTRY)

order by sa.COUNTRY,sa.CITY;

--Report 8

select decode(grouping(td.YEARNUMBER),1,'Any Year',td.YEARNUMBER) as "Flight Year",

decode(grouping(ad.NAME),1,'Any Airline',ad.NAME) as "Airline Name",

decode(grouping(tc.TRAVEL\_CLASS\_TYPE),1,'All Class Type',tc.TRAVEL\_CLASS\_TYPE) as "Travel Class Type",

decode(grouping(fd.FLIGHT\_DESCRIPTION),1,'All Flight Description',fd.FLIGHT\_DESCRIPTION) as "Flight Description",

decode(grouping(sa.COUNTRY),1,'Any Country',sa.COUNTRY) as "Source Country",

decode(grouping(da.COUNTRY),1,'Any Country',da.COUNTRY) as "Destination Country",

sum(tf.TOTAL\_NUMBER\_\_TRANSACTIONS) as "Number of Transactions",

sum(tf.TOTAL\_TOTAL\_PAID) - sum(tf.TOTAL\_FARE) as "Total Agent Profit(USD)"

from transaction\_fact tf, airline\_dim ad, travel\_class\_dim tc, FLIGHT\_DISTANCE\_DIM fd,

time\_dim td, source\_airport\_dim sa, dest\_airport\_dim da

where tf.AIRLINEID = ad.AIRLINEID

and tf.TRAVEL\_CLASS\_ID = tc.TRAVEL\_CLASS\_ID

and tf.FLIGHT\_DISTANCE\_ID = fd.FLIGHT\_DITANCE\_ID

and tf.time\_ID = td.time\_ID

and tf.SOURCE\_AIRPORT\_ID = sa.AIRPORTID

and tf.DEST\_AIRPORT\_ID = da.AIRPORTID

and (sa.COUNTRY = da.COUNTRY

or sa.COUNTRY != da.COUNTRY)

group by td.YEARNUMBER,ad.NAME, rollup (tc.TRAVEL\_CLASS\_TYPE,fd.FLIGHT\_DESCRIPTION,sa.COUNTRY,da.COUNTRY);

/\*

Use of Cube provided us the total service cost on any combination possible and specially the subtotal on the basis of only one of the determinant factor. For example, we could get a subtotal only on the basis of Departure City or only on the basis on Departure Country or only on the basis of Arrival City or only on the basis of Arrival Country and the grand total of all of them. Even though the grand total can be found on roll up but the subtotal is not valid for all possible combinations. For Roll up we cannot get a subtotal of Total Service Cost only on the basis of Only Arrival City.

Our query is an example of a partial roll up and it will provide us with two important features number of transactions and Total Agent Profit for a given year and an airline. Only the year and the airline will be fixed and we can get subtotals and a grand total of the other determinants. But just like a normal roll up we will not be able to get a subtotal depending only on a Flight Description or only on Source Country. So in a roll up if there are multiple determinants valid subtotals are only formed if the determinant column has a previous determinant column with fixed data. For better understanding screenshots are attached with above. Only these types of combinations are available. Nevertheless, the grand total is also found in the roll up which is the last screenshot. In our example due to Partial Rollup this grand total is on the basis of a given year and an airline. So there are multiple grand totals on the basis of year and airline.

When the management needs all possible combinations then the management has to use the cube query. To be specific the query 7 deals with total service cost and if the management wants to know the total service cost for all possible combinations then they should be using query 7. On the other hand, Query 8 is a partial roll up and it concentrates on the number of transactions and the total profit. Moreover, in this query no combinations will be made without the year and airline. So when the management want information putting more emphasis from left to right starting from Travel class type to Destination Country they should go for Query 8. They should keep in mind that in Query 8 all combinations are not made.

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