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| **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 | Olga Hilko | 14-Nov-2017 |  |  |
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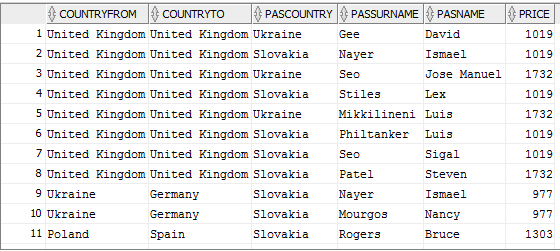
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# Task 1

Собственно из-за отсутствия доступа к схеме делала на данных, которые нашла.

Пример данных CTE, которые я использовала в качестве источника (данные о билетах из страны в страну с указанием данных пассажира и цены билета).



Подсчет итогов проводился для пассажиров из Украины и Словакии (по ним больше всего данных) с дополнительными условиями countryTo in ('Spain','Germany') и countryFrom in ('Spain','Germany', 'United Kingdom').

with CTE as (select

SUBSTR(afrom.ALOCATION,INSTR(afrom.ALOCATION, ',', -1)+2) countryFrom ,

SUBSTR(ato.ALOCATION,INSTR(ato.ALOCATION, ',', -1)+2) countryTo,

p.PASCOUNTY pasCountry, p.passurname, p.PASNAME, t.TICKET\_PRICE price

FROM

passenger p left join TICKETS t on t.PASID = p.PASID

left join flight f on f.FCODE=t.FCODE

left join AIRPORT afrom on f.AIRPORTFROM=afrom.IATA\_CODE

left join AIRPORT ato on f.AIRPORTTO=ato.IATA\_CODE

where p.PASCOUNTY in ('Slovakia','Ukraine'))

SELECT nvl(DECODE(grouping\_id(pasCountry), 0, pasCountry, 'GRAND TOTAL'),' ') AS pas\_Country,

nvl(DECODE(grouping\_id(pasCountry, countryFrom), 1, 'TOTAL by countryFrom', countryFrom), ' ') AS country\_From,

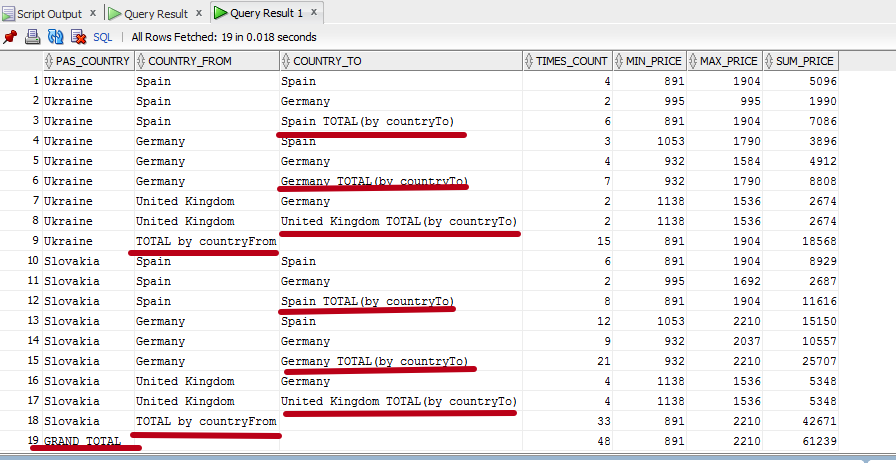
nvl(DECODE(grouping\_id(pasCountry, countryFrom, countryTo), 1, countryFrom || ' TOTAL(by countryTo)', countryTo), ' ') AS country\_To,

count(\*) times\_count, min(price) min\_price, max(price) maõ\_price, sum(price) sum\_price

from CTE

WHERE countryTo in ('Spain','Germany') and countryFrom in ('Spain','Germany', 'United Kingdom')

GROUP BY ROLLUP (pasCountry, countryFrom, countryTo) ;



# Task 2 и 3

Так как в 3-м задании нужно сделать свой PIVOT, а задание у меня в принципе свое из-за не поднимающейся дома базы

with CTE as (select

SUBSTR(afrom.ALOCATION,INSTR(afrom.ALOCATION, ',', -1)+2) countryFrom ,

SUBSTR(ato.ALOCATION,INSTR(ato.ALOCATION, ',', -1)+2) countryTo,

p.PASCOUNTY pasCountry, p.passurname, p.PASNAME, t.TICKET\_PRICE price

FROM

passenger p left join TICKETS t on t.PASID = p.PASID

left join flight f on f.FCODE=t.FCODE

left join AIRPORT afrom on f.AIRPORTFROM=afrom.IATA\_CODE

left join AIRPORT ato on f.AIRPORTTO=ato.IATA\_CODE

where p.PASCOUNTY in ('Slovakia','Ukraine'))

/\*SELECT NVL(pasCountry, 'TOTAL'), --countryFrom,countryTo,

SUM(Spain), SUM(Germany), SUM(Spain)+SUM(Germany) AS Country\_SUM

FROM (\*/

SELECT NVL(pasCountry, 'TOTAL'),

nvl(DECODE(grouping\_id(pasCountry, countryFrom), 1, 'SUBTOTAL', countryFrom), ' ') AS country\_From,

--NVL(countryFrom, 'SUBTOTAL') countryFrom ,

SUM(Spain), SUM(Germany), SUM(Spain)+SUM(Germany) AS Country\_SUM

FROM (

SELECT pasCountry, countryFrom, countryTo, price

FROM CTE

WHERE countryTo in ('Spain','Germany') and countryFrom in ('Spain','Germany', 'United Kingdom'))

PIVOT

(SUM(price)

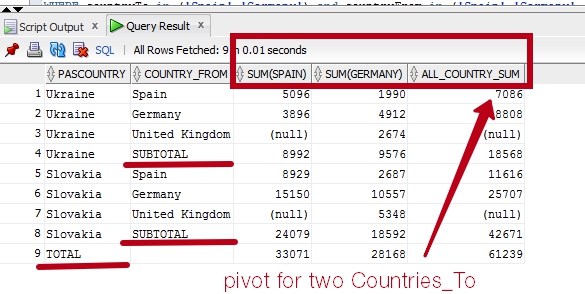
FOR countryTo

IN('Spain' as Spain,'Germany' as Germany))

GROUP BY ROLLUP(pasCountry, countryFrom)

--ORDER BY 1,2

;



Аи теперь наведем лоск: обработаем null, объединим строки внутри subtotal с использованием grouping\_id

with CTE as (select

SUBSTR(afrom.ALOCATION,INSTR(afrom.ALOCATION, ',', -1)+2) countryFrom ,

SUBSTR(ato.ALOCATION,INSTR(ato.ALOCATION, ',', -1)+2) countryTo,

p.PASCOUNTY pasCountry, p.passurname, p.PASNAME, t.TICKET\_PRICE price

FROM

passenger p left join TICKETS t on t.PASID = p.PASID

left join flight f on f.FCODE=t.FCODE

left join AIRPORT afrom on f.AIRPORTFROM=afrom.IATA\_CODE

left join AIRPORT ato on f.AIRPORTTO=ato.IATA\_CODE

where p.PASCOUNTY in ('Slovakia','Ukraine'))

SELECT case when pasCountry is null then 'TOTAL'

when grouping\_id(pasCountry, countryFrom)= 1 then pasCountry||' ' || 'SUBTOTAL'

else pasCountry end pasCountry,

nvl(DECODE(grouping\_id(pasCountry, countryFrom), 1, ' ', countryFrom), ' ') AS country\_From,

nvl(SUM(Spain),0) as Spain, nvl(SUM(Germany),0) as Germany, nvl(SUM(Spain),0)+nvl(SUM(Germany),0) AS BOTH\_COUNTRIES\_SUM

FROM (

SELECT pasCountry, countryFrom, countryTo, price

FROM CTE

WHERE countryTo in ('Spain','Germany') and countryFrom in ('Spain','Germany', 'United Kingdom'))

PIVOT

(SUM(price)

FOR countryTo

IN('Spain' as Spain,'Germany' as Germany))

GROUP BY ROLLUP(pasCountry, countryFrom);

