Data warehousing in Oracle – Practice 1 Solutions

Data Management and Visualization - *Politecnico di Torino*

Queries

1. **Select the yearly income for each phone rate, the total income for each phone rate, the total yearly income and the total income.**

```
SELECT dateYear, phoneRateType, SUM(Price)
FROM Facts F, TimeDim T, PhoneRate P
WHERE F.Id_time = T.Id_time and F.Id_phoneRate = P.Id_phoneRate
GROUP BY cube(phoneRateType, dateYear)
```

```
SELECT dateYear, phoneRateType, SUM(Price),
    SUM(SUM(Price)) OVER (PARTITION BY phoneRateType),
    SUM(SUM(Price)) OVER (PARTITION BY dateYear),
    SUM(SUM(Price)) OVER ()
FROM Facts F, TimeDim T, PhoneRate P
WHERE F.Id_time = T.Id_time and F.Id_phoneRate = P.Id_phoneRate
GROUP BY phoneRateType, dateYear
```

2. **Select the monthly number of calls and the monthly income. Associate the RANK() to each month according to its income (1 for the month with the highest income, 2 for the second, etc., the last month is the one with the least income).**

```
SELECT DateMonth, DateYear,
    SUM(NumberOfCalls) as TotNumOfCalls,
    SUM(price) as totalIncome,
    RANK() over (ORDER BY SUM(price) DESC) as RankIncome
FROM FACTS F, TIMEdim Te
WHERE F.id_time=Te.id_time
GROUP BY DateMonth, DateYear;
```

3. **For each month in 2003, select the total number of calls. Associate the RANK() to each month according to its total number of calls (1 for the month with the highest number of calls, 2 for the second, etc., the last month is the one with the least number of calls).**

```
SELECT DateMonth, SUM(NumberOfCalls) as TotNumOfCalls,
RANK() over (ORDER BY SUM(NumberOfCalls) DESC) as RankNumOfCalls
```

```
FROM FACTS F, TIMEDIM Te
WHERE F.id_time=Te.id_time AND DateYear=2003
GROUP BY DateMonth;
```

4. **For each day in July 2003, select the total income and the average income over the last 3 days.**

```
SELECT DayDate, SUM(Price),
   AVG(SUM(Price)) OVER (ORDER BY DayDate
                         RANGE BETWEEN INTERVAL '2' day preceding
                         and current row) as avglast3days
FROM FACTS F, TIMEDIM Te
WHERE F.ID_time=Te.ID_time AND DateMonth='07-2003'
GROUP BY DayDate, DateMonth
ORDER BY DayDate;
```

```
SELECT DayDate, SUM(Price),
   AVG(SUM(Price)) OVER (ORDER BY DayDate ROWS 2 preceding) as avglast3days
FROM FACTS F, TIMEDIM Te
WHERE F.ID_time=Te.ID_time AND DateMonth='07-2003'
GROUP BY DayDate, DateMonth
ORDER BY DayDate;
```

5. **Select the monthly income and the cumulative monthly income from the beginning of the year.**

```
SELECT DateYear, DateMonth,
   SUM(Price) AS TOTINCOME,
   SUM(SUM(PRICE)) OVER( PARTITION BY DateYear
                         ORDER BY DateMonth
                         ROWS UNBOUNDED PRECEDING) AS CUMULATIVEINCOME
FROM FACTS F, TIMEDIM Te
WHERE F.ID_time=Te.ID_time
GROUP BY DateMonth, DateYear;
```