Extended SQL

Exercise #1

Queries

a) SELECT O.ObjectID, O.ObjectType,
            COUNT(*) as RentalNumber, SUM(Price) as TotalIncome,
            RANK() over (ORDER BY COUNT(*) DESC) as RentalRank,
            RANK() over (ORDER BY SUM(Price) DESC) as TotalIncomeRank
    FROM Objects O, Rentals R
    WHERE O.ObjectID = R.ObjectID
    GROUP BY O.ObjectID, O.ObjectType

b) SELECT O.ObjectID, O.ObjectType, TO_CHAR(date,'MONTH') as Month,
            TO_CHAR(Date,'YYYY') as Year,
            SUM(Price) as TotalIncome,
            RANK() over (PARTITION BY TO_CHAR(date,'MONTH'), TO_CHAR(date,'YYYY')
                        ORDER BY SUM(Price) DESC) as TotalIncomeRank
    FROM Objects O, Rentals R
    WHERE O.ObjectID = R.ObjectID
    GROUP BY O.ObjectID, O.ObjectType, TO_CHAR(date,'MONTH'), TO_CHAR(date,'YYYY')

NB: The same month in different years, should be managed as a different month. For example, the month January in 2007 is different from the month January in 2006.

Exercise #2

Queries

a) SELECT Province, Region, SUM(TotAmount),
            RANK() over (PARTITION by Region ORDER BY SUM(TotAmount) DESC)
            as RANK_TotAmountRegion
    FROM SALES S, CUSTOMER C
    WHERE S.CustomerID = C.CustomerID
    GROUP BY Province, Region;

b) SELECT Region, Month, Year, SUM(TotAmount),
            SUM(SUM(TotAmount)) over (PARTITION by Region
                                        ORDER BY Year, Month
                                        ROWS UNBOUNDED PRECEDING) as CumulativeAmount
    FROM SALES S, CUSTOMER C, TIME T
    WHERE S.CustomerID=C.CustomerID AND S.TimeID=T.TimeID
    GROUP BY Region, Month, Year;

NB: The same month in different years, should be managed as a different month. For example, the month January in 2007 is different from the month January in 2006.