Exercises on the extensions of the SQL language

Exercise #1

The following relations are given on rentals of different types of objects for a seaside resort (primary keys are underlined, optional attributes are denoted with *):

OBJECTS (ObjectID, ObjectType)
CUSTOMERS (CustomerID, Name, Surname)
TIME (TimeID, Date, Month, Year)
RENTALS (TimeID, CustomerID, ObjectID, Price)

a) Show, for each object
   • The object code
   • The object type
   • The object total rentals (number of times the object has been rented)
   • The object total income (SUM(price))
   • The object rank according to its total rentals
   • The object rank according to its total income

b) Show, for each object and month
   • the object code
   • the object type
   • the month
   • the total income for the object in the current month (SUM(price))
   • the object rank according to its total monthly income, separately for each month

Exercise #2

Customer(CustomerID, CustomerSurname, Province, Region)
Category(CategoryID, CatName)
Agent(AgentID, AgSurname, Agency)
TIME(TimeID, Month, Quarter, Semester, Year)
Sales(TimeID, CustomerID, ItemID, AgentID, TotAmount, NumSoldItems, TotDiscount)

a) Show, for each province
   • The province
   • The region of the province
   • The total sale amount for the province
   • The rank of the province according to its total sale amount, separately for each region

b) Show, for each region and month
   • The region
   • The month
   • The total sale amount for the region in the current month
   • The cumulative sale amount for increasing months, separately for each region