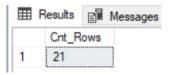
## **SQL Training**

## Querying

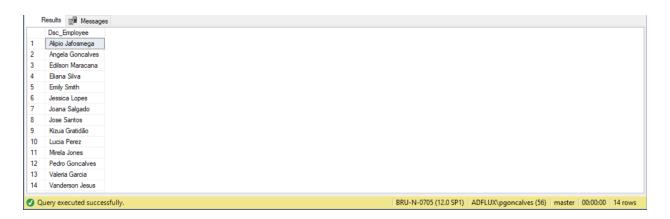
This training will cover most of the basic and intermediate functionalities of SQL. To perform the queries that follows we will use the DreamAirlines\_DW database.

Please **save all your queries** to ease the final process were will be discussed any doubts that you had during the training.

1. Let's start by just returning all rows and all columns from with DimHotelBooking. How many rows does the table have?



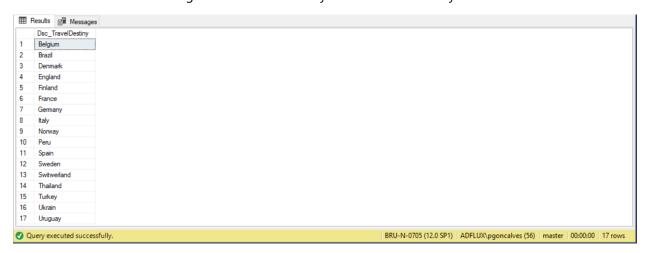
2. How many distinct employees do we have in DimHotelBooking?



3. Use DimCustomer to make a list of every customer that the first name starts with "A".



4. Use DimTravelBooking to make a list of every distinct travel destiny that not ends with an "A".



5. Make a query with a new column for DimHotelBooking that contains an abbreviation with the first two letters in capitals, for the column DSC\_TravelDestiny. Let's name it COD\_TravelDestiny.



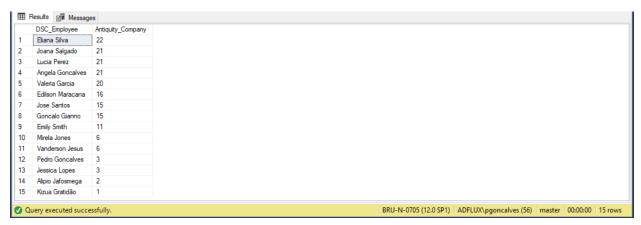
6. Let's suppose we need the hotel Bookings that were made with the travel destiny "Brazil". How many bookings do we have?



7. To which travel agency belongs each employee?



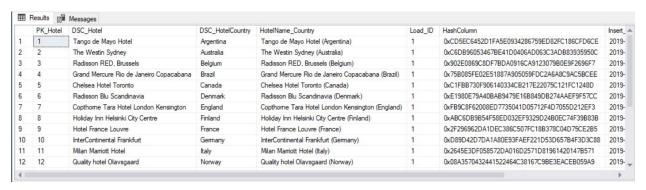
8. Which employee has more years in the company?



9. Split the Dsc\_Employee column in two new columns, FirstName and LastName.



10. Combine the two columns from DimHotel, [DSC\_Hotel] and [DSC\_HotelCountry] in the following format: "Tango de Mayo Hotel (Argentina)". Name it "HotelName\_Country".



11. Convert the birthdate of the customer to the following format "YYYY-MM-DD hh:mi:ss.mmm"



12. Make a list with the customers age. Order from the youngest to the oldest.

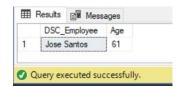


- 13. Generate the following segments by age to the customer:
  - Segment A: 10 17
  - Segment B: 18 24
  - Segment C: 25 34
  - Segment D: 35 44
  - Segment E: 45 54
  - Segment F: 55 64
  - Segment G: 65+

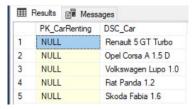
How many customers do we have per segment? Which segment is the strongest one and in which one we should improve the most?



14. Which employee is the oldest?



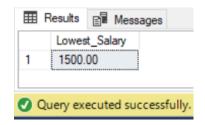
15. Which cars doesn't have been rented?



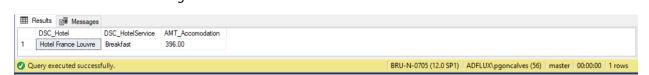
16. What is the highest salary?



## 17. What is the lowest salary?



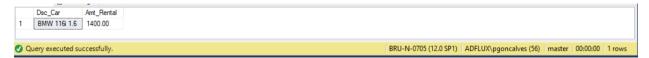
18. Which hotel booking that has the lowest breakfast service?



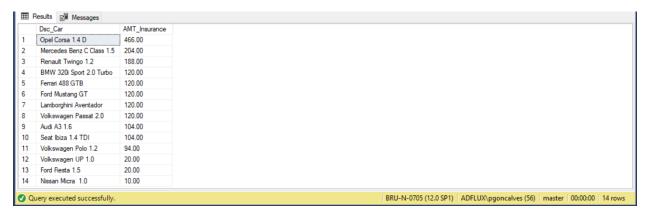
19. Which car has the highest daily rate by rental company?



20. Which car has the highest rental amount in July of 2017?



21. What are the cars with the insurance value under 8000€ in 2016?



22. Find out the TOP 5 of employees per number of travel bookings.



23. Find out the TOP 3 of employees per number of hotel bookings of each travel agency.



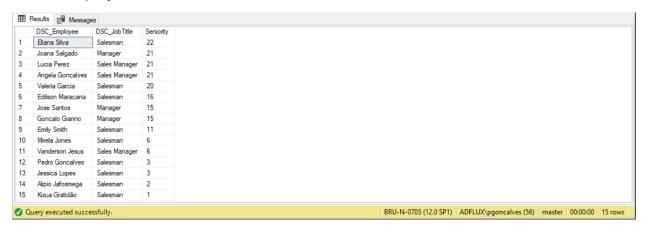
24. Find out the TOP 3 and BOTTOM 3 of employees per number of hotel bookings.



25. Find out the value of travel insurance sold per employee where the type is different of "Standard" and insurance is not 0. Round the value by two digits, value should two 0 after the comma ".00", and order descendant by the insurance amount.



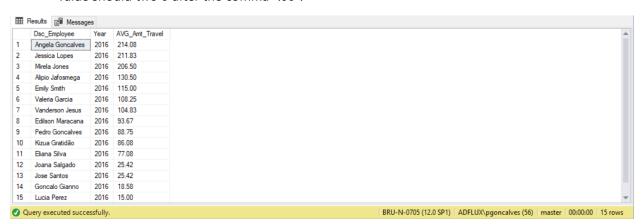
26. Give me a list with the employees, job title and salary, ordered by the years that they have in the company. From the oldest one to the most recent.



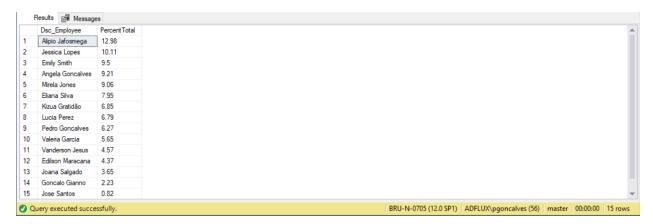
27. What are the travel amount values per year and month?



28. What are the average of travel sales for each employee for 2016? Round the average by to digits, value should two 0 after the comma ".00".



29. Make a query that shows the percent of total of travel sales per employee that have more than 5 years in the company. Who is the employee that contributes the most and the one that contributes the less?



30. Add a new column to the DimCar called DSC\_CarColor.



## 31. Update the new column with the following :

•	Nissan Micra 1.0	White
•	Volkswagen UP 1.0	Black
•	Peugeot 108 1.0	White
•	Smart Forfour 1.1	Black
•	Renault Twingo 1.2	White
•	Volkswagen Polo 1.2	Black
•	Opel Adam 1.4 D	White
•	Opel Corsa 1.4 D	Black
•	Seat Ibiza 1.4 TDI	Red
•	Renault Clio 1.5 DCI	Black
•	Ford Fiesta 1.5	White
•	Audi A3 1.6	Black
•	BMW 116i 1.6	Red
•	Mercedes Benz C Class 1.5	White
•	Volkswagen Passat 2.0	Grey
•	BMW 320i Sport 2.0 Turbo	Blue
•	Mercedes-Benz CLS 500 5.0	White
•	Ford Mustang GT	Green
•	Ferrari 488 GTB	Red
•	Lamborghini Aventador	Black
•	Renault 5 GT Turbo	Yellow
•	Opel Corsa A 1.5 D	Red
•	Volkswagen Lupo 1.0	Green
•	Fiat Panda 1.2	Grey
•	Skoda Fabia 1.6	Blue

	PK_Car	DSC_RentalCompany	DSC_Car	Load_ID	HashColumn	Insert_Date	Update_Date	DSC_CarColor	
1	1	EcoCars	Nissan Micra 1.0	1	0x395775DCA51E5939F318F3D142D4E706E95F170C	2019-04-08 00:00:00.000	2019-04-08 00:00:00.000	White	
2	2	EcoCars	Volkswagen UP 1.0	1	0x81224FDA4CAB49D7FF4277BF09443908D4C2B2F9	2019-04-08 00:00:00.000	2019-04-08 00:00:00.000	Black	
3	3	EcoCars	Peugeot 108 1.0	1	0x35F4DB12ADD5200478AF064F864B2C1B0E08B774	2019-04-08 00:00:00.000	2019-04-08 00:00:00.000	White	
4	4	EcoCars	Smart Forfour 1.1	1	0xE9685D32B6A1A4FBFA243A03AF43F520DD2286ED	2019-04-08 00:00:00.000	2019-04-08 00:00:00.000	Black	
5	5	EcoCars	Renault Twingo 1.2	1	0x626C0D3182DFDC4009F8F09256195692E8016AD2	2019-04-08 00:00:00.000	2019-04-08 00:00:00.000	White	
6	6	EcoCars	Volkswagen Polo 1.2	1	0x141F6DE9FFD44EB265DABFB0131E4A6A41C0BEF9	2019-04-08 00:00:00.000	2019-04-08 00:00:00.000	Black	
7	7	SafeCars	Opel Adam 1.4 D	1	0xF11CF475BEC2AF43CEEDB54EB001AB4E2D09951A	2019-04-08 00:00:00.000	2019-04-08 00:00:00.000	White	
3	8	SafeCars	Opel Corsa 1.4 D	1	0x2C23C45FE7DB554C60100A5A8BAD22FB1B1E1301	2019-04-08 00:00:00.000	2019-04-08 00:00:00.000	Black	
)	9	SafeCars	Seat Ibiza 1.4 TDI	1	0x975563B4A53A218F8893229A73952B9F22ACFC25	2019-04-08 00:00:00.000	2019-04-08 00:00:00.000	Red	
0	10	SafeCars	Renault Clio 1.5 DCI	1	0x2D79724CE859EEB9746F460E469271648AEDAF87	2019-04-08 00:00:00.000	2019-04-08 00:00:00.000	Black	

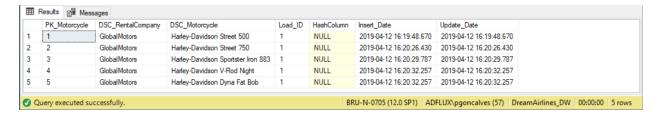
- 32. We closed a new contract with Global Motors and we will have available moto models as well.
  - a) Please create a new table called DimMotorcycle to store the new records.
    - Table structure:
      - · Schema: dw
      - Fields and table structure properties:

1.	[PK_Moto]	[int] IDENTITY(1,1)	NOT NULL
2.	[DSC_RentalCompany]	[nvarchar](20)	NULL
3.	[DSC_Moto]	[nvarchar](50)	NULL
4.	[Load_ID]	[int]	NULL
5.	[HashColumn]	[binary](20)	NULL
6.	[Insert_Date]	[datetime]	NULL
7.	[Update_Date]	[datetime]	NULL

**Obs**. For the Load\_ID you can use 1, Hashcolumn you can use NULL, and for Insert\_Date and Update\_Date you can use the GETDATE() function.

b) Insert the new records in DimMotos.

	DSC_RentalCompany	DSC_Moto
•	GlobalMotors	Harley-Davidson Street 500
•	GlobalMotors	Harley-Davidson Street 750
•	GlobalMotors	Harley-Davidson Sportster Iron 883
•	GlobalMotors	Harley-Davidson V-Rod Night
•	GlobalMotors	Harley-Davidson Dyna Fat Bob



- 33. The BI architect changed his mind, and prefer to change the name of the DimCar to DimVehicle and insert the new records.
  - a. Change the name of DimCar to DimVehicle
  - b. Insert the new rows from DimMoto to Dim DimVehicle
  - c. Truncate the table DimMoto
  - d. Drop the table Dim Moto
- 34. The next step in our DWH will be creating an OLAP cube, in order to do that we need to generate the views that will be the source of the cube. Generate a view for each dimension and factual table.