**Complementos de Base de Dados**

Laboratório 1 – Introdução ao SQL Server 2017

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***Etapa 2***

***a & b-) Listar todos os clientes (Nome Completo: primeiro, meio, último nome e email) // b: Ordenar pelo último Nome***

select concat(FirstName, ' ' , MiddleName, ' ' , LastName) as 'Nome Completo', EmailAddress as 'Email'

from AdventureWorksLT2012.SalesLt.Customer

order by LastName desc;

***c-) Listar os clientes que não tem nenhuma ordem de compra***

Select sc.CustomerID, sc.FirstName from AdventureWorksLT2012.SalesLT.SalesOrderHeader sh

full outer join AdventureWorksLT2012.SalesLT.Customer sc on sh.CustomerID = sc.CustomerID where SalesOrderID is null;

***Etapa 3***

***a-) Total de vendas por cliente***

Select CustomerID,sum(TotalDue) as Total from AdventureWorksLT2012.SalesLT.SalesOrderHeader

group by CustomerID

order by CustomerID asc;

***b-) O Cliente com o maior valor de vendas***

Select TOP 1 CustomerID, max(TotalDue) as Total

from AdventureWorksLT2012.SalesLT.SalesOrderHeader

group by CustomerID

order by max(totalDue) desc;

***c-) A percentagem de vendas por produto (nome do produto), ordenado pela % descendente***

select Percentagem.Product as Name,round(Percentagem/Total,2,2) as PV from

(Select cast(sum(UnitPrice - UnitPriceDiscount) as float) as Total

from AdventureWorksLT2012.SalesLT.Product sp

join AdventureWorksLT2012.SalesLT.SalesOrderDetail sd

on sp.ProductID = sd.ProductID) as Total

join

(Select cast(sum(UnitPrice - UnitPriceDiscount) as float) \* 100 as Percentagem,sp.Name as Product

from AdventureWorksLT2012.SalesLT.Product sp

join AdventureWorksLT2012.SalesLT.SalesOrderDetail sd

on sp.ProductID = sd.ProductID

group by sp.Name, sp.ProductID) as Percentagem on 1=1 order by Percentagem/Total desc;

***d-)Listagem de produtos (nome e descrição) através da view existente***

Select Name,Description from AdventureWorksLT2012.SalesLT.vProductAndDescription;

***e-) Listagem de produtos (nome, categoria, “categoria profissional”)***

Select sp.Name,gc.ParentProductCategoryName, gc.ProductCategoryName from AdventureWorksLT2012.SalesLT.Product sp

join AdventureWorksLT2012.SalesLT.vGetAllCategories gc on sp.ProductCategoryID = gc.ProductCategoryID;

***f-) Listagem de produtos (nome e preço) da categoria “Bikes”***

Select sp.Name,sp.ListPrice from AdventureWorksLT2012.SalesLT.Product sp

join AdventureWorksLT2012.SalesLT.vGetAllCategories gc

on sp.ProductCategoryID = gc.ProductCategoryID and gc.ParentProductCategoryName = 'Bikes';

***g-) Quantidade de produtos por categoria (mostrando o nome da categoria e o número de produtos associados), ordenados por número de produtos***

Select count(\*) as Number\_Products, gc.ProductCategoryName from AdventureWorksLT2012.SalesLT.Product sp

join AdventureWorksLT2012.SalesLT.vGetAllCategories gc on sp.ProductCategoryID = gc.ProductCategoryID

group by gc.ProductCategoryID,gc.ProductCategoryName order by count(\*) asc;

***h-) Listar apenas as categorias com mais de 20 produtos***

Select count(\*) as Number\_Products, gc.ProductCategoryName from AdventureWorksLT2012.SalesLT.Product sp

join AdventureWorksLT2012.SalesLT.vGetAllCategories gc on sp.ProductCategoryID = gc.ProductCategoryID

group by gc.ProductCategoryID,gc.ProductCategoryName having count(\*) > 20 order by count(\*) asc;

***Etapa 4***

***a-) Criar uma tabela com o nome Estatisticas com a seguinte estrutura:***

***Area – varchar(32) – Indica a area lógica do negócio (Products,Costumer)***

***NomeTabela – varchar(32) – Nome da Tabela***

***NumRegistos int – Número de registos introduzidos***

CREATE TABLE Estatisticas (

Area varchar(40),

NomeTabela varchar(40),

NumRegistos int,

);

\*Foi acrescentado mais espaços aos dois primeiros campos, devido a existir uma tabela que passava o limite de caracteres definido no exercício.

***b & c-) Supondo que a coluna ModifiedDate da tabela SalesLT.Customer indica a data de criação de um registo, calcule o número médio de registos que são criados por ano (nota: como ponto de partida crie uma query que calcula o número de registos criado por cada ano) // c: Introduza na tabela Estatísticas o resultado da query anterior (nota: faça o insert com base no comando select).***

insert into Estatisticas

Select 'Customer' as 'Area', 'SalesLT.Customer' as 'NomeTabela', avg(Registos) as 'NumRegistos' from (

Select count(\*) as Registos, year(ModifiedDate) as Ano

from AdventureWorksLT2012.SalesLT.Customer group by year(ModifiedDate)) as Reg;

***d-) Repita a alínea anterior para as restantes tabelas***

-- Produtos

insert into Estatisticas

Select 'Products' as 'Area', 'SalesLT.Products' as 'NomeTabela', avg(Registos) as 'NumRegistos' from (

Select count(\*) as Registos, year(ModifiedDate) as Ano

from AdventureWorksLT2012.SalesLT.Product group by year(ModifiedDate)) as Reg;

-- Endereços (Adress)

insert into Estatisticas

Select 'Address' as 'Area', 'SalesLT.Address' as 'NomeTabela', avg(Registos) as 'NumRegistos' from (

Select count(\*) as Registos, year(ModifiedDate) as Ano

from AdventureWorksLT2012.SalesLT.Address group by year(ModifiedDate)) as Reg;

-- ProductModel

insert into Estatisticas

Select 'ProductModel' as 'Area', 'SalesLT.ProductModel' as 'NomeTabela', avg(Registos) as 'NumRegistos' from (

Select count(\*) as Registos, year(ModifiedDate) as Ano

from AdventureWorksLT2012.SalesLT.ProductModel group by year(ModifiedDate)) as Reg;

-- Customer Address

insert into Estatisticas

Select 'CustomerAddress' as 'Area', 'SalesLT.CustomerAddress' as 'NomeTabela', avg(Registos) as 'NumRegistos' from (

Select count(\*) as Registos, year(ModifiedDate) as Ano

from AdventureWorksLT2012.SalesLT.CustomerAddress group by year(ModifiedDate)) as Reg;

-- ProductCategory

insert into Estatisticas

Select 'ProductCategory' as 'Area', 'SalesLT.ProductCategory' as 'NomeTabela', avg(Registos) as 'NumRegistos' from (

Select count(\*) as Registos, year(ModifiedDate) as Ano

from AdventureWorksLT2012.SalesLT.ProductCategory group by year(ModifiedDate)) as Reg;

-- ProductDescription

insert into Estatisticas

Select 'ProductDescription' as 'Area', 'SalesLT.ProductDescription' as 'NomeTabela', avg(Registos) as 'NumRegistos' from (

Select count(\*) as Registos, year(ModifiedDate) as Ano

from AdventureWorksLT2012.SalesLT.ProductCategory group by year(ModifiedDate)) as Reg;

-- ProductModelProductDescription

insert into Estatisticas

Select 'ProductModelProductDescription' as 'Area',

'SalesLT.ProductModelProductDescription' as 'NomeTabela', avg(Registos) as 'NumRegistos' from (

Select count(\*) as Registos, year(ModifiedDate) as Ano

from AdventureWorksLT2012.SalesLT.ProductModelProductDescription group by year(ModifiedDate)) as Reg;

-- SalesOrderDetail

insert into Estatisticas

Select 'SalesOrderDetail' as 'Area', 'SalesLT.SalesOrderDetail' as 'NomeTabela', avg(Registos) as 'NumRegistos' from (

Select count(\*) as Registos, year(ModifiedDate) as Ano

from AdventureWorksLT2012.SalesLT.SalesOrderDetail group by year(ModifiedDate)) as Reg;

--SalesOrderHeader

insert into Estatisticas

Select 'SalesOrderHeader' as 'Area', 'SalesLT.SalesOrderHeader' as 'NomeTabela', avg(Registos) as 'NumRegistos' from (

Select count(\*) as Registos, year(ModifiedDate) as Ano

from AdventureWorksLT2012.SalesLT.SalesOrderHeader group by year(ModifiedDate)) as Reg;