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Professor Heller

CSCI 331 – Database Systems

Project

The queries were executed in batches. Each batch is presented in the following

order:

1) Screenshot of Editor tab

2) Screenshot of Results tab

3) Copy of Messages text

a. **three top queries from simple, medium and complex execution**

```
--1 Output the job title of all female employee's
USE AdventureWorks2017;
SELECT E.JobTitle, E.Gender
FROM HumanResources.Employee as E
WHERE Gender = 'F';
```

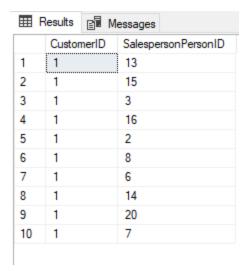|	JobTitle	Gender
1	Vice President of Engineering	F
2	Design Engineer	F
3	Research and Development Engineer	F
4	Research and Development Engineer	F
5	Tool Designer	F
6	Design Engineer	F
7	Marketing Assistant	F
8	Marketing Assistant	F
9	Marketing Specialist	F
10	Marketing Specialist	F
11	Production Supervisor - WC60	F
12	Production Technician - WC60	F
13	Production Technician - WC60	F
14	Production Technician - WC60	F
15	Production Technician - WC60	F
16	Production Technician - WC60	F
17	Production Supervisor - WC60	F
18	Production Technician - WC60	F
19	Production Technician - WC10	F

(84 rows affected)

```sql
--This table will show the employee who has served customer 20 more than once
USE Northwinds2020TSQLV6
SELECT EmployeeId, YEAR(OrderDate) AS orderyear, COUNT(*) AS numorders
FROM Sales.[Order]
WHERE CustomerId = 20
GROUP BY EmployeeId, YEAR(orderdate)
HAVING COUNT(*) > 1
ORDER BY EmployeeId, orderyear;
```
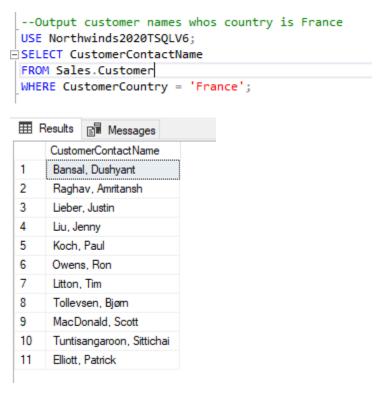
Results | Messages

	EmployeeId	orderyear	numorders
1	1	2014	2
2	1	2015	2
3	3	2015	2
4	3	2016	2
5	4	2015	3
6	7	2015	2
7	7	2016	2
8	8	2015	3

(8 rows affected)

```sql
--output all the salespersonIds who dealt customer 1 WHO have also had dealt with purchases with the Tax
--amount being over 100
USE WideWorldImporters;
DECLARE @cust AS INT =
    (
        SELECT DISTINCT O.CustomerID
        FROM Sales.Orders AS O
        WHERE O.CustomerID = 1
    );
SELECT O.CustomerID, O.SalespersonPersonID
FROM Sales.Orders AS O
    JOIN Sales.CustomerTransactions as CT
        ON O.CustomerID = CT.CustomerID
    Join  Sales.InvoiceLines AS I
        ON I.TaxAmount = CT.TaxAmount
WHERE O.CustomerID = @cust AND CT.TaxAmount > 100
GROUP BY O.CustomerID, O.SalespersonPersonID;
```

	CustomerID	SalespersonPersonID
1	1	13
2	1	15
3	1	3
4	1	16
5	1	2
6	1	8
7	1	6
8	1	14
9	1	20
10	1	7

(10 rows affected)

b. **three worst queries from simple, medium and complex execution**

```
--Output customer names whos country is France
USE Northwinds2020TSQLV6;
SELECT CustomerContactName
FROM Sales.Customer
WHERE CustomerCountry = 'France';
```

	CustomerContactName
1	Bansal, Dushyant
2	Raghav, Amritansh
3	Lieber, Justin
4	Liu, Jenny
5	Koch, Paul
6	Owens, Ron
7	Litton, Tim
8	Tollevsen, Bjørn
9	MacDonald, Scott
10	Tuntisangaroon, Sittichai
11	Elliott, Patrick

(11 rows affected)

```sql
----multiple queries to determine the years that more than 10 customers were attended to. 2nd query
--used to specify the distinct customer id's from query above.
USE Northwinds2020TSQLV6;
WITH C1 AS
(
    SELECT YEAR(orderdate) AS orderyear, CustomerId
    FROM Sales.[Order]
),
C2 AS
(
    SELECT orderyear, COUNT(DISTINCT CustomerId) AS numcusts
    FROM C1
    GROUP BY orderyear
)
SELECT orderyear, numcusts
FROM C2
WHERE numcusts > 10;
```

	orderyear	numcusts
1	2014	67
2	2015	86
3	2016	81

(3 rows affected)

```sql
--List all orders ids, date, customerId, and ship to country that had a discount percentage offered.
USE Northwinds2020TSQLV6;

WITH Sales
AS  (
    SELECT O.CustomerId, OD.OrderId, O.OrderDate, O.ShipToCountry, OD.DiscountPercentage
    FROM Sales.[Order] AS O
        INNER JOIN Sales.OrderDetail AS OD ON O.OrderId = OD.OrderId
)
SELECT S.OrderId, S.OrderDate,S.CustomerId, S.ShipToCountry, S.DiscountPercentage
FROM Sales AS S
WHERE S.DiscountPercentage > 0
GROUP BY S.OrderId, S.CustomerId, S.OrderDate, S.ShipToCountry, S.DiscountPercentage;
```

	OrderId	OrderDate	CustomerId	ShipToCountry	DiscountPercentage
37	10343	2014-10-31	44	Germany	0.050
38	10344	2014-11-01	89	USA	0.250
39	10346	2014-11-05	65	USA	0.100
40	10347	2014-11-06	21	Brazil	0.150
41	10348	2014-11-07	86	Germany	0.150
42	10350	2014-11-11	41	France	0.100
43	10351	2014-11-11	20	Austria	0.050
44	10352	2014-11-12	28	Portugal	0.150
45	10353	2014-11-13	59	Austria	0.200
46	10357	2014-11-19	46	Venezuela	0.200
47	10358	2014-11-20	41	France	0.050
48	10359	2014-11-21	72	UK	0.050
49	10361	2014-11-22	63	Germany	0.100
50	10368	2014-11-29	20	Austria	0.100
51	10369	2014-12-02	75	USA	0.250
52	10370	2014-12-03	14	Switzerland	0.150
53	10371	2014-12-03	41	France	0.200
54	10372	2014-12-04	62	Brazil	0.250
55	10373	2014-12-05	37	Ireland	0.200
56	10376	2014-12-09	51	Canada	0.050
57	10377	2014-12-09	72	UK	0.150
58	10379	2014-12-11	61	Brazil	0.100
59	10380	2014-12-12	37	Ireland	0.100
60	10385	2014-12-17	75	USA	0.200
61	10388	2014-12-19	72	UK	0.200

```
(387 rows affected)
```

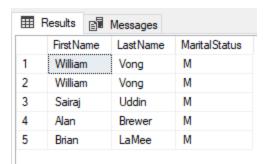**c. three worst queries from simple, medium and complex execution that were correct**

```sql
--print scheduling assistant who are married
USE AdventureWorksDW2017;
SELECT FirstName,LastName,MaritalStatus
FROM DimEmployee
WHERE Title = 'Scheduling Assistant' AND MaritalStatus = 'M';
```

	FirstName	LastName	MaritalStatus
1	William	Vong	M
2	William	Vong	M
3	Sairaj	Uddin	M
4	Alan	Brewer	M
5	Brian	LaMee	M

(5 rows affected)

```sql
--Rcent Orders in ASCENDING order
USE Northwinds2020TSQLV6;
GO
SELECT C.CustomerContactName,
C.CustomerCompanyName    AS 'CompanyName'
    ,O.OrderId
    ,CONVERT(VARCHAR, O.OrderDate, 101) AS 'RecentOrderDate' FROM Sales.[Order]
AS O INNER JOIN Sales.Customer
AS C    ON O.CustomerId = C.CustomerId
WHERE O.OrderDate = (SELECT MAX(O2.OrderDate)
FROM Sales.[Order] O2
WHERE O.CustomerId = O2.CustomerId) ORDER BY O.OrderDate ASC
```

	CustomerContactName	CompanyName	OrderId	RecentOrderDate
1	Benito, Almudena	Customer VMLOG	10259	07/18/2014
2	Wu, Qiong	Customer UISOJ	10545	05/22/2015
3	Smith, Denise	Customer LVJSO	10660	09/08/2015
4	Taylor, Maurice	Customer PVDZC	10724	10/30/2015
5	Russo, Giuseppe	Customer KIDPX	10725	10/31/2015
6	Elliott, Patrick	Customer ENQZT	10739	11/12/2015
7	Yuksel, Ayca	Customer FVXPQ	10785	12/18/2015
8	Liu, Jenny	Customer WVFAF	10789	12/22/2015
9	Zaki, Amr	Customer IAIJK	10810	01/01/2016
10	Veninga, Tjeerd	Customer EYHKM	10822	01/08/2016
11	Bansal, Dushyant	Customer QXVLA	10826	01/12/2016
12	Edwards, Josh	Customer YQQWW	10839	01/19/2016
13	Tuntisangaroon, Sittichai	Customer NRCSK	10850	01/23/2016
14	Birkby, Dana	Customer GYBBY	10848	01/23/2016
15	Strome, David	Customer KBUDE	10856	01/28/2016
16	Welcker, Brian	Customer AHPOP	10869	02/04/2016
17	Wright, David	Customer QXPPT	10884	02/12/2016
18	Lieber, Justin	Customer BSVAR	10890	02/16/2016
19	Hassall, Mark	Customer MLTDN	10926	03/04/2016
20	Higginbotham, Tom	Customer HGVLZ	10924	03/04/2016
21	Kolesnikova, Katerina	Customer MDLWA	10928	03/05/2016

(90 rows affected)

```sql
--WANTED TO OUTPUT the id numbers of employees who been at their job for more than 10 years and who have a
--pay rate greater than 75
USE AdventureWorks2017;
WITH EmlpoyeeInfo
AS (
    SELECT E.JobTitle, E.VacationHours,E.HireDate,PH.BusinessEntityID, PH.Rate,
    E.NationalIDNumber,
    DATEDIFF(YEAR,E.HireDate, GETDATE()) AS 'YEARS'
    FROM HumanResources.Employee AS E
        INNER JOIN HumanResources.EmployeePayHistory AS PH ON E.BusinessEntityID = PH.BusinessEntityID
    )
SELECT EI.NationalIDNumber, EI.HireDate, EI.Rate, EI.VacationHours
FROM EmlpoyeeInfo AS EI
WHERE EI.Rate > 75 AND YEARS > 10
ORDER BY EI.NationalIDNumber,
    EI.HireDate,
    EI.Rate,
    EI.VacationHours,
    EI.YEARS;
```

	NationalIDNumber	HireDate	Rate	VacationHours
1	295847284	2009-01-14	125.50	99
2	519899904	2009-02-03	84.1346	64

(2 rows affected)