

به نام خدا

حدیث غفوری 9825413

سوال 1

```
--select *
from Sales.SalesOrderHeader as o
join Sales.SalesTerritory as t on t.TerritoryID = o.TerritoryID
where Status=5 and
TotalDue>100000 and TotalDue < 500000
and (t.CountryRegionCode = 'US' OR t.CountryRegionCode = 'FR');
```

SalesOrderID	RevisionNumber	OrderDate	DueDate	ShipDate	Status	OnlineOrderFlag	SalesOrderNumber	PurchaseOrderNumber	AccountNumber	CustomerID	SalesPe
1	44762	2005-12-01 00:00:00.000	2005-12-13 00:00:00.000	2005-12-08 00:00:00.000	5	0	SO44762	PO13543176259	10-4020-000293	29690	281
2	46643	2006-07-01 00:00:00.000	2006-07-13 00:00:00.000	2006-07-08 00:00:00.000	5	0	SO46643	PO899110603	10-4020-000290	29689	283
3	47033	2006-08-01 00:00:00.000	2006-08-13 00:00:00.000	2006-08-08 00:00:00.000	5	0	SO47033	PO4727113716	10-4020-000343	30112	280
4	50297	2007-05-01 00:00:00.000	2007-05-13 00:00:00.000	2007-05-08 00:00:00.000	5	0	SO50297	PO4727113542	10-4020-000343	30112	284
5	51123	2007-07-01 00:00:00.000	2007-07-13 00:00:00.000	2007-07-08 00:00:00.000	5	0	SO51123	PO899150137	10-4020-000290	29689	283
6	51711	2007-08-01 00:00:00.000	2007-08-13 00:00:00.000	2007-08-08 00:00:00.000	5	0	SO51711	PO18414129790	10-4020-000236	29997	283
7	51721	2007-08-01 00:00:00.000	2007-08-13 00:00:00.000	2007-08-08 00:00:00.000	5	0	SO51721	PO14500124798	10-4020-000650	30107	276
8	51783	2007-08-01 00:00:00.000	2007-08-13 00:00:00.000	2007-08-08 00:00:00.000	5	0	SO51783	PO18676114917	10-4020-000697	29818	276
9	51830	2007-08-01 00:00:00.000	2007-08-13 00:00:00.000	2007-08-08 00:00:00.000	5	0	SO51830	PO7627127132	10-4020-000433	29617	274
10	57105	2007-11-01 00:00:00.000	2007-11-13 00:00:00.000	2007-11-08 00:00:00.000	5	0	SO57105	PO18676113963	10-4020-000697	29818	276
11	69471	2008-05-01 00:00:00.000	2008-05-13 00:00:00.000	2008-05-08 00:00:00.000	5	0	SO69471	PO18676191433	10-4020-000697	29818	276
12	69508	2008-05-01 00:00:00.000	2008-05-13 00:00:00.000	2008-05-08 00:00:00.000	5	0	SO69508	PO7627176234	10-4020-000433	29617	284
13	67297	2008-04-01 00:00:00.000	2008-04-13 00:00:00.000	2008-04-08 00:00:00.000	5	0	SO67297	PO2552176926	10-4020-000506	29497	280
14	53506	2007-09-01 00:00:00.000	2007-09-13 00:00:00.000	2007-09-08 00:00:00.000	5	0	SO53506	PO11455145357	10-4020-000072	29701	277
15	50683	2007-06-01 00:00:00.000	2007-06-13 00:00:00.000	2007-06-08 00:00:00.000	5	0	SO50683	PO11455112273	10-4020-000072	29701	277
16	48336	2006-12-01 00:00:00.000	2006-12-13 00:00:00.000	2006-12-08 00:00:00.000	5	0	SO48336	PO11455111823	10-4020-000072	29701	275

Query executed successfully. WHOAMI (15.0 RTM) WHOAMI\Win 10 (63) AdventureWorks2012 00:00:00 82 rows

سوال 2

```
--2
select o.SalesOrderID,o.CustomerID,o.TotalDue,o.OrderDate,t.Name
from Sales.SalesOrderHeader as o
join Sales.SalesTerritory as t on t.TerritoryID = o.TerritoryID
```

	SalesOrderID	CustomerID	TotalDue	OrderDate	Name
1	43659	29825	23153.2339	2005-07-01 00:00:00.000	Southeast
2	43660	29672	1457.3288	2005-07-01 00:00:00.000	Southeast
3	43661	29734	36865.8012	2005-07-01 00:00:00.000	Canada
4	43662	29994	32474.9324	2005-07-01 00:00:00.000	Canada
5	43663	29565	472.3108	2005-07-01 00:00:00.000	Southwest
6	43664	29898	27510.4109	2005-07-01 00:00:00.000	Northwest
7	43665	29580	16158.6961	2005-07-01 00:00:00.000	Northwest

سوال 3

ابتدا باید حساب کنیم هر کالا در هر منطقه چه تعداد فروش داشته
طبق دستور زیر:

```
select t.Name,d.ProductID,sum(d.OrderQty) as sum_orders
from Sales.SalesOrderHeader as h
join Sales.SalesOrderDetail as d on h.SalesOrderID = d.SalesOrderID
join Sales.SalesTerritory as t on t.TerritoryID = h.TerritoryID
group by t.Name,d.ProductID
order by d.ProductID
```

	Name	ProductID	sum_orders
1	Germany	707	412
2	Australia	707	541
3	Central	707	349
4	Canada	707	1159
5	Northwest	707	689
6	Southwest	707	1361
7	France	707	503

سپس باید ماکس تعداد سفارش ها را در هر منطقه بدست آوریم به کمک دستور قبلی. در نهایت باید این دو جدول را جویین کنیم و منطقه ای را انتخاب کنیم که در آن ماکس تعداد فروش کالا برابر با جمع تعداد فروش در آن منطقه بوده.

اینگونه برای همه کالا ها منطقه ای را پیدا کردیم که بیشترین فروش آن کالا در آن اتفاق افتاده است.

```

with sum_orders(ProductID,TerritoryName,SumOrders) as(
select d.ProductID,t.Name,sum(d.OrderQty)
from Sales.SalesOrderHeader as h
join Sales.SalesOrderDetail as d on h.SalesOrderID = d.SalesOrderID
join Sales.SalesTerritory as t on t.TerritoryID = h.TerritoryID
group by t.Name,d.ProductID
),max_orders( ProductId,MaxOrders) as (
select ProductId, max(SumOrders) as MaxOrders
from sum_orders
group by ProductID

```

	ProductID	TerritoryName	SumOrders	MaxOrders
1	707	Southwest	1361	1361
2	708	Southwest	1332	1332
3	709	Northwest	312	312
4	710	Northwest	33	33
5	711	Southwest	1385	1385
6	712	Southwest	1702	1702
7	713	Southwest	93	93

خروجی با جزئیات بیشتر:

```

group by t.Name,d.ProductID
),max_orders( ProductId,MaxOrders) as (
select ProductId, max(SumOrders) as MaxOrders
from sum_orders
group by ProductID
)
select s.ProductID,s.TerritoryName,s.SumOrders,m.MaxOrders,p.Name,p.ProductNumber,p.Color,p
from sum_orders as s join max_orders as m on s.ProductID = m.ProductId
join Production.Product as p on p.ProductID = s.ProductID
where s.SumOrders = m.MaxOrders
order by s.ProductId

```

	ProductID	TerritoryName	SumOrders	MaxOrders	Name	ProductNumber	Color
1	707	Southwest	1361	1361	Sport-100 Helmet, Red	HL-U509-R	Red
2	708	Southwest	1332	1332	Sport-100 Helmet, Black	HL-U509	Black
3	709	Northwest	312	312	Mountain Bike Socks, M	SO-B909-M	White
4	710	Northwest	33	33	Mountain Bike Socks, L	SO-B909-L	White
5	711	Southwest	1385	1385	Sport-100 Helmet, Blue	HL-U509-B	Blue
6	712	Southwest	1702	1702	AWC Logo Cap	CA-1098	Multi
7	713	Southwest	93	93	Long Sleeve Logo Jersey, S	HL-L0102-S	Multi

سوال 4

--4

```
create table NAmerica_sales (  
    SalesOrderID int ,  
    TerritoryID int,  
    Status tinyint NOT NULL,  
    TotalDue money NOT NULL,  
    CountryRegionCode nvarchar(3),  
    CustomerID int  
);
```

وارد کردن داده های سوال ۱ در جدول ایجاد شده:

```
insert into NAmerica_sales  
select o.SalesOrderID,t.TerritoryID,Status,TotalDue,CountryRegionCode,CustomerID  
from Sales.SalesOrderHeader as o  
join Sales.SalesTerritory as t on t.TerritoryID = o.TerritoryID  
where Status=5 and  
TotalDue>100000 and TotalDue < 500000  
and t.CountryRegionCode = 'US';
```

اضافه کردن ستون جدید به جدول:

```
alter table NAmerica_sales  
add level char(4)  
check (level in ('Low','High','Mid'));
```

181 %

Messages

Commands completed successfully.

Completion time: 2022-03-08T10:35:06.6093751+03:30

نمایش جدول:

```
select * from NAmerica_sales;
```

```
--alter table NAmerica sales
```

	SalesOrderID	TerritoryID	Status	TotalDue	CountryRegionCode	CustomerID	level
1	44762	1	5	104545.315	US	29690	NULL
2	46643	1	5	123497.0664	US	29689	NULL
3	47033	1	5	105493.6317	US	30112	NULL
4	50297	1	5	116390.7349	US	30112	NULL
5	51123	1	5	105281.9588	US	29689	NULL
6	51711	1	5	114536.7764	US	29997	NULL
7	51721	1	5	109948.7407	US	30107	NULL
8	51783	1	5	120955.8851	US	29818	NULL

Query executed successfully

اپدیت لول بر اساس میانگین فروش:

```
update NAmerica_sales
set level = case
when TotalDue > (select avg(TotalDue) from NAmerica_sales ) then 'High'
when TotalDue = (select avg(TotalDue) from NAmerica_sales ) then 'Mid'
else 'Low'
end;
```

Messages

(69 rows affected)

Completion time: 2022-03-08T10:42:18.8707544+03:30

```

select * from NAmerica_sales;

--alter table NAmerica_sales
--add level char(4)

```

	SalesOrderID	TerritoryID	Status	TotalDue	CountryRegionCode	CustomerID	level
1	44762	1	5	104545.315	US	29690	Low
2	46643	1	5	123497.0664	US	29689	High
3	47033	1	5	105493.6317	US	30112	Low
4	50297	1	5	116390.7349	US	30112	Low
5	51123	1	5	105281.9588	US	29689	Low
6	51711	1	5	114536.7764	US	29997	Low
7	51721	1	5	109948.7407	US	30107	Low
8	51783	1	5	120955.8851	US	29818	High

سوال 5

```

with get_salary(id,salary,level) as(
select BusinessEntityID,max(Rate) as salary,
case
when max(Rate) < 29 then 3
when max(Rate) >=29 and max(Rate) <50 then 2
else 1
end as level
from HumanResources.EmployeePayHistory
group by BusinessEntityID
)

select id,case
when salary < (select max(salary)/4 from get_salary) then salary + 0.2 * salary

```

	id	new_salary	level
1	1	131.775000	1
2	2	69.807650	1
3	3	49.759580	2
4	4	35.815440	2
5	5	37.596145	2
6	6	37.596145	2

Query executed successfully.

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```

with get_salary(id,salary,level) as(
select BusinessEntityID,max(Rate) as salary,
case
when max(Rate) < 29 then 3
when max(Rate) >=29 and max(Rate) <50 then 2
else 1
end as level
from HumanResources.EmployeePayHistory
group by BusinessEntityID
)

select id,case
when salary < (select max(salary)/4 from get_salary) then salary + 0.2 * salary
when salary between (select max(salary)/4 from get_salary) and (select max(salary)/2 from get_salary) then salary + 0.15 * salary
when salary between (select max(salary)/2 from get_salary) and (select max(salary)*3/4 from get_salary) then salary + 0.1 * salary
else salary + 0.05 * salary
end as new_salary ,level
from get_salary
order by id

--create view employees_salary as

```

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Results Messages

	id	new_salary	level
1	1	131.775000	1
2	2	69.807650	1
3	3	49.759580	2
4	4	35.815440	2
5	5	37.596145	2
6	6	37.596145	2

Query executed successfully.

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