

## Лабораторная работа 2

### Вариант 9

#### Задание 1

1) Вывести на экран среднее значение почасовой ставки для каждого сотрудника

```
select
    e.BusinessEntityID,
    e.JobTitle,
    sum(eph.Rate) / count(eph.Rate) as AverageRate
from HumanResources.Employee as e
inner join HumanResources.EmployeePayHistory as eph
on e.BusinessEntityID = eph.BusinessEntityID
group by e.BusinessEntityID, e.JobTitle;
go
```

Results Messages			
	BusinessEntit...	JobTitle	AverageR...
1	1	Chief Executive Officer	125.50
2	2	Vice President of Engineering	63.4615
3	3	Engineering Manager	43.2692
4	4	Senior Tool Designer	20.7287
5	5	Design Engineer	32.6923
6	6	Design Engineer	32.6923
7	7	Research and Development Manager	50.4808
8	8	Research and Development Engineer	40.8654
9	9	Research and Development Engineer	40.8654
10	10	Research and Development Manager	42.4808
11	11	Senior Tool Designer	28.8462
12	12	Tool Designer	25.00
13	13	Tool Designer	25.00
14	14	Senior Design Engineer	36.0577
15	15	Design Engineer	32.6923

2) Вывести на экран историю почасовых ставок сотрудников с информацией для отчета как показано в примере. Если ставка меньше или равна 50 вывести 'less or equal 50'; больше 50, но меньше или равна 100 – вывести 'more than 50 but less or equal 100'; если ставка больше 100 вывести 'more than 100'.

```
select
    e.BusinessEntityID,
    e.JobTitle,
    eph.Rate,
    case
        when eph.Rate <= 50 then 'less or equal 50'
        when eph.Rate > 50 and eph.Rate <= 100 then 'more than 50 but less or equal 100'
        when eph.Rate > 100 then 'more than 100'
    end as RateReport
from HumanResources.Employee as e
inner join HumanResources.EmployeePayHistory as eph
on e.BusinessEntityID = eph.BusinessEntityID;
go
```

Results Messages				
	BusinessEntit...	JobTitle	Rate	RateReport
1	1	Chief Executive Officer	125.50	more than 100
2	2	Vice President of Engineering	63.4615	more than 50 but less or equal 100
3	3	Engineering Manager	43.2692	less or equal 50
4	4	Senior Tool Designer	8.62	less or equal 50
5	4	Senior Tool Designer	23.72	less or equal 50
6	4	Senior Tool Designer	29.8462	less or equal 50
7	5	Design Engineer	32.6923	less or equal 50
8	6	Design Engineer	32.6923	less or equal 50
9	7	Research and Development Manager	50.4808	more than 50 but less or equal 100
10	8	Research and Development Engineer	40.8654	less or equal 50
11	9	Research and Development Engineer	40.8654	less or equal 50
12	10	Research and Development Manager	42.4808	less or equal 50
13	11	Senior Tool Designer	28.8462	less or equal 50
14	12	Tool Designer	25.00	less or equal 50
15	13	Tool Designer	25.00	less or equal 50

3) Вычислить максимальную почасовую ставку работающих в настоящий момент сотрудников в каждом отделе. Вывести на экран названия отделов, в которых максимальная почасовая ставка больше 60. Отсортировать результат по значению максимальной ставки.

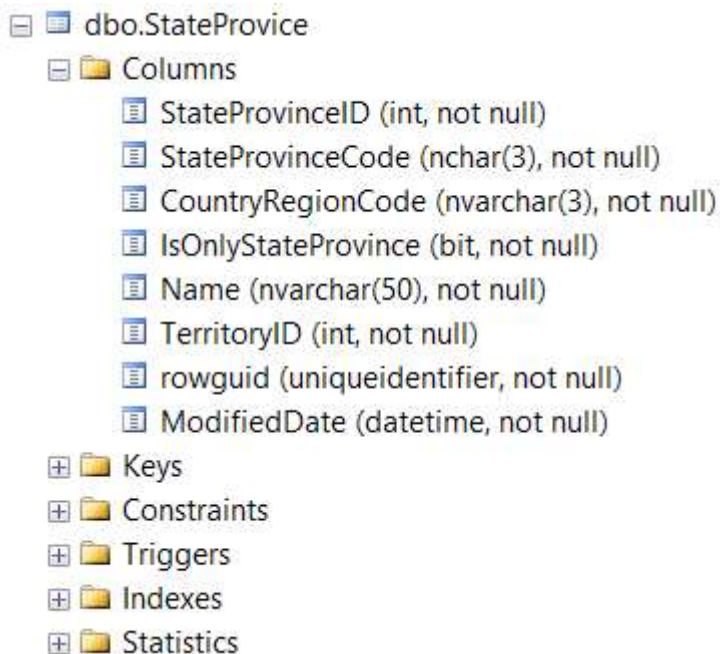
```
select
    *
from (
    select
        d.Name,
        max(eph.Rate) as MaxRate
    from HumanResources.Employee as e
    inner join HumanResources.EmployeePayHistory as eph
    on e.BusinessEntityID = eph.BusinessEntityID
    inner join HumanResources.EmployeeDepartmentHistory as edh
    on e.BusinessEntityID = edh.BusinessEntityID
    inner join HumanResources.Department as d
    on edh.DepartmentID = d.DepartmentID
    group by d.DepartmentID, d.Name) as maxRates
where maxRates.MaxRate > 60
order by maxRates.MaxRate asc;
go
```

Results			Messages		
	Name	MaxRate			
1	Finance	60.0962			
2	Engineering	63.4615			
3	Sales	72.1154			
4	Production	84.1346			
5	Executive	125.50			

## Задание 2

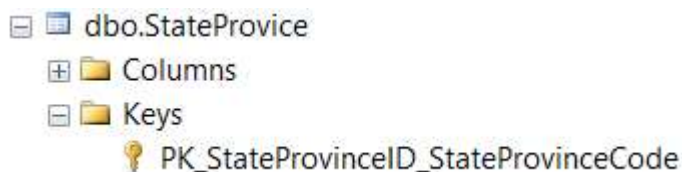
1) создайте таблицу `dbo.StateProvince` с такой же структурой как `Person.StateProvince`, кроме поля `uniqueidentifier`, не включая индексы, ограничения и триггеры;

```
create table dbo.StateProvince (  
    StateProvinceID int not null,  
    StateProvinceCode nchar(3) not null,  
    CountryRegionCode nvarchar(3) not null,  
    IsOnlyStateProvince bit not null,  
    Name nvarchar(50) not null,  
    TerritoryID int not null,  
    rowguid uniqueidentifier not null,  
    ModifiedDate datetime not null);  
go
```



2) используя инструкцию `ALTER TABLE`, создайте для таблицы `dbo.StateProvince` составной первичный ключ из полей `StateProvinceID` и `StateProvinceCode`;

```
alter table dbo.StateProvince  
add constraint PK_StateProvinceID_StateProvinceCode  
primary key (StateProvinceID, StateProvinceCode);  
go
```



3) используя инструкцию ALTER TABLE, создайте для таблицы dbo.StateProvince ограничение для поля TerritoryID, чтобы значение поля могло содержать только четные цифры;

```
alter table dbo.StateProvince  
add check (floor(TerritoryID / 2) * 2 = TerritoryID);  
go
```



4) используя инструкцию ALTER TABLE, создайте для таблицы dbo.StateProvince ограничение DEFAULT для поля TerritoryID, задайте значение по умолчанию 2;

```
alter table dbo.StateProvince  
add constraint DF_TerritoryID  
default 2 for TerritoryID;  
go
```





5)заполните новую таблицу данными из Person.StateProvince. Выберите для вставки только те адреса, которые имеют тип 'Shipping' в таблице Person.AddressType. С помощью оконных функций для группы данных из полей StateProvinceID и StateProvinceCode выберите только строки с максимальным AddressID. Поле TerritoryID заполните значениями по умолчанию;

```

insert into dbo.StateProvince (
    StateProvinceID,
    StateProvinceCode,
    CountryRegionCode,
    IsOnlyStateProvince,
    Name,
    rowguid,
    ModifiedDate)
select
    StateProvinceID,
    StateProvinceCode,
    CountryRegionCode,
    IsOnlyStateProvinceFlag,
    Name,
    rowguid,
    ModifiedDate
from (
    select
        sp.StateProvinceID as StateProvinceID,
        sp.StateProvinceCode as StateProvinceCode,
        sp.CountryRegionCode as CountryRegionCode,
        sp.IsOnlyStateProvinceFlag as IsOnlyStateProvinceFlag,
        sp.Name as Name,
        sp.rowguid as rowguid,
        sp.ModifiedDate as ModifiedDate,
        a.AddressID as AddressID,
        max(a.AddressID) over (partition by sp.StateProvinceID, sp.StateProvinceCode) as MaxAddressID
    from Person.StateProvince as sp
    inner join Person.Address as a
    on sp.StateProvinceID = a.StateProvinceID
    inner join Person.BusinessEntityAddress bea
    on a.AddressID = bea.AddressID
    inner join Person.AddressType at
    on at.AddressTypeID = bea.AddressTypeID
    where at.Name = 'Shipping') as t
where t.MaxAddressID = t.AddressID;

select * from dbo.StateProvince;
go

```

	StatePr...	StatePr...	Country...	IsO...	Name	Territor...	rowguid	ModifiedDate
1	6	AZ	US	0	Arizona	2	FB8BE18E-F441-44F0-A4A9-1D0F204CB701	2008-03-11 10:17:21.587
2	9	CA	US	0	California	2	3B2FF23C-1C75-40AE-9093-F4EB42263F4E	2008-03-11 10:17:21.587
3	10	CO	US	0	Colorado	2	292DF595-7D3C-41FB-A040-7C184D379FCE	2008-03-11 10:17:21.587
4	15	FL	US	0	Florida	2	EE8BA90D-B2C3-418E-93DF-20E33F095959	2008-03-11 10:17:21.587
5	32	MD	US	0	Maryland	2	B3D8517D-A857-41E7-A692-A1CB02A5F667	2008-03-11 10:17:21.587
6	36	MN	US	0	Minnesota	2	553C8DAA-4142-427C-B772-66BEDADEF372	2008-03-11 10:17:21.587
7	63	QC	CA	0	Quebec	2	FF830158-3466-495F-BFCF-8A1B82A65355	2008-03-11 10:17:21.587
8	73	TX	US	0	Texas	2	99C542E0-5D3D-43A6-8D96-AF65A985D6E4	2008-03-11 10:17:21.587
9	79	WA	US	0	Washington	2	16274DF0-6F05-43A6-BC18-AD171017A1EB	2008-03-11 10:17:21.587

6)измените тип поля IsOnlyStateProvinceFlag на smallint, разрешите добавление null значений.

```
alter table dbo.StateProvince  
alter column IsOnlyStateProvince smallint null;  
go
```

