

Лабораторная работа №2

Задание 1

1. Вывести на экран последнюю дату изменения почасовой ставки для каждого сотрудника.

```
select Employee.BusinessEntityID, JobTitle, max(RateChangeDate) as LastRateDate
from HumanResources.Employee
inner join HumanResources.EmployeePayHistory
on Employee.BusinessEntityID = EmployeePayHistory.BusinessEntityID
group by Employee.BusinessEntityID, JobTitle;
go
```

	BusinessEntityID	JobTitle	LastRateDate
1	1	Chief Executive Officer	2003-02-15 00:00:00.000
2	2	Vice President of Engineering	2002-03-03 00:00:00.000
3	3	Engineering Manager	2001-12-12 00:00:00.000
4	4	Senior Tool Designer	2006-01-15 00:00:00.000
5	5	Design Engineer	2002-02-06 00:00:00.000
6	6	Design Engineer	2002-02-24 00:00:00.000
7	7	Research and Development Manager	2003-03-12 00:00:00.000
8	8	Research and Development Engineer	2003-01-30 00:00:00.000
9	9	Research and Development Engineer	2003-02-17 00:00:00.000
10	10	Research and Development Manager	2003-06-04 00:00:00.000
11	11	Senior Tool Designer	2006-01-05 00:00:00.000

2. Вывести на экран количество лет, которые каждый сотрудник проработал в каждом отделе. Если сотрудник работает в отделе по настоящее время, количество лет считайте до сегодняшнего дня.

```
select
    Employee.BusinessEntityID,
    Employee.JobTitle,
    Department.Name as DepName,
    EmployeeDepartmentHistory.StartDate,
    EmployeeDepartmentHistory.EndDate,
    datediff(year, StartDate, isnull(EndDate, CURRENT_TIMESTAMP)) as Years
from HumanResources.Employee
inner join HumanResources.EmployeeDepartmentHistory
on Employee.BusinessEntityID = EmployeeDepartmentHistory.BusinessEntityID
inner join HumanResources.Department
on EmployeeDepartmentHistory.DepartmentID = Department.DepartmentID;
go
```

	BusinessEntityID	JobTitle	DepName	StartDate	EndDate	Years
1	1	Chief Executive Officer	Executive	2003-02-15	NULL	17
2	2	Vice President of Engineering	Engineering	2002-03-03	NULL	18
3	3	Engineering Manager	Engineering	2001-12-12	NULL	19
4	4	Senior Tool Designer	Engineering	2002-01-05	2004-06-30	2
5	4	Senior Tool Designer	Tool Design	2004-07-01	NULL	16
6	5	Design Engineer	Engineering	2002-02-06	NULL	18
7	6	Design Engineer	Engineering	2002-02-24	NULL	18
8	7	Research and Development Manager	Research and Development	2003-03-12	NULL	17
9	8	Research and Development Engineer	Research and Development	2003-01-30	NULL	17
10	9	Research and Development Engineer	Research and Development	2003-02-17	NULL	17
11	10	Research and Development Manager	Research and Development	2003-06-04	NULL	17

3. Вывести на экран информацию обо всех сотрудниках, с указанием отдела, в котором они работают в настоящий момент. Вывести также первое слово из названия группы отделов.

```

select
    Employee.BusinessEntityID,
    Employee.JobTitle,
    Department.Name as DepName,
    Department.GroupName,
    left(GROUPNAME, CHARINDEX(' ', GROUPNAME)) as DepGroup
from HumanResources.Employee
inner join HumanResources.EmployeeDepartmentHistory
on Employee.BusinessEntityID = EmployeeDepartmentHistory.BusinessEntityID
inner join HumanResources.Department
on EmployeeDepartmentHistory.DepartmentID = Department.DepartmentID
where EndDate is null;
go

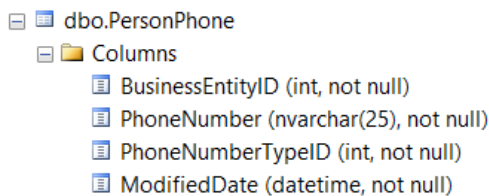
```

Results		Messages			
	BusinessEntityID	JobTitle	DepName	GroupName	DepGroup
1	1	Chief Executive Officer	Executive	Executive General and Administration	Executive
2	2	Vice President of Engineering	Engineering	Research and Development	Research
3	3	Engineering Manager	Engineering	Research and Development	Research
4	4	Senior Tool Designer	Tool Design	Research and Development	Research
5	5	Design Engineer	Engineering	Research and Development	Research
6	6	Design Engineer	Engineering	Research and Development	Research
7	7	Research and Development Manager	Research and Development	Research and Development	Research
8	8	Research and Development Engineer	Research and Development	Research and Development	Research
9	9	Research and Development Engineer	Research and Development	Research and Development	Research
10	10	Research and Development Manager	Research and Development	Research and Development	Research
11	11	Senior Tool Designer	Tool Design	Research and Development	Research

Задание 2

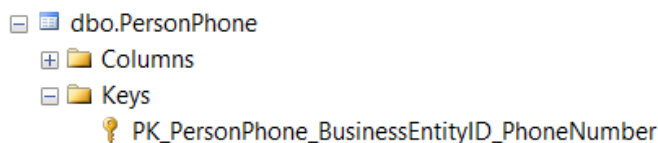
1. создайте таблицу dbo.PersonPhone с такой же структурой как Person.PersonPhone, не включая индексы, ограничения и триггеры

```
create table dbo.PersonPhone(  
    BusinessEntityID int not null,  
    PhoneNumber nvarchar(25) not null,  
    PhoneNumberTypeID int not null,  
    ModifiedDate datetime not null);  
go
```



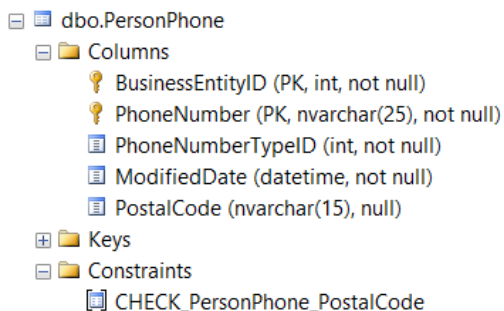
2. используя инструкцию ALTER TABLE, создайте для таблицы dbo.PersonPhone составной первичный ключ из полей BusinessEntityID и PhoneNumber

```
alter table dbo.PersonPhone  
add constraint PK_PersonPhone_BusinessEntityID_PhoneNumber  
primary key (BusinessEntityID, PhoneNumber);  
go
```



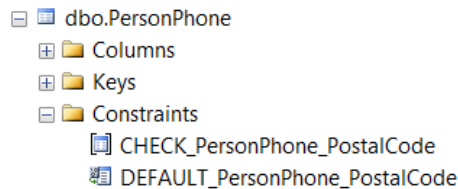
3. используя инструкцию ALTER TABLE, создайте для таблицы dbo.PersonPhone новое поле PostalCode nvarchar(15) и ограничение для этого поля, запрещающее заполнение этого поля буквами

```
alter table dbo.PersonPhone  
add PostalCode nvarchar(15);  
go  
  
alter table dbo.PersonPhone  
add constraint CHECK_PersonPhone_PostalCode  
check (patindex('%[a-zA-Z]%', PostalCode) = 0);  
go
```



4. используя инструкцию ALTER TABLE, создайте для таблицы dbo.PersonPhone ограничение DEFAULT для поля PostalCode, задайте значение по умолчанию '0'

```
alter table dbo.PersonPhone
add constraint DEFAULT_PersonPhone_PostalCode
default '0' for PostalCode;
go
```



5. заполните новую таблицу данными из Person.PersonPhone, только контактами с типом 'Cell' из таблицы PhoneNumberType

```
insert into dbo.PersonPhone (
    BusinessEntityID,
    PhoneNumber,
    PhoneNumberTypeID,
    ModifiedDate)
select
    Person.PersonPhone.BusinessEntityID,
    Person.PersonPhone.PhoneNumber,
    Person.PersonPhone.PhoneNumberTypeID,
    Person.PersonPhone.ModifiedDate
from Person.PersonPhone
inner join Person.PhoneNumberType
on Person.PersonPhone.PhoneNumberTypeID = Person.PhoneNumberType.PhoneNumberTypeID
where Person.PhoneNumberType.Name = 'Cell';
go

select
    dbo.PersonPhone.BusinessEntityID,
    dbo.PersonPhone.PhoneNumber,
    dbo.PersonPhone.PhoneNumberTypeID,
    Person.PhoneNumberType.Name as PhoneNumberTypeName,
    dbo.PersonPhone.ModifiedDate,
    dbo.PersonPhone.PostalCode
from dbo.PersonPhone
inner join Person.PhoneNumberType
on dbo.PersonPhone.PhoneNumberTypeID = Person.PhoneNumberType.PhoneNumberTypeID;
go
```

Results						
	BusinessEntit...	PhoneNumber	PhoneNumberTyp...	PhoneNumberTypeNa...	ModifiedDate	PostalCo...
1	1	697-555-0142	1	Cell	2003-02-08 00:00:00.000	0
2	3	212-555-0187	1	Cell	2001-12-05 00:00:00.000	0
3	4	612-555-0100	1	Cell	2001-12-29 00:00:00.000	0
4	5	849-555-0139	1	Cell	2002-01-30 00:00:00.000	0
5	8	815-555-0138	1	Cell	2003-01-23 00:00:00.000	0
6	9	185-555-0186	1	Cell	2003-02-10 00:00:00.000	0
7	11	719-555-0181	1	Cell	2004-12-29 00:00:00.000	0
8	14	465-555-0156	1	Cell	2005-01-23 00:00:00.000	0
9	15	970-555-0138	1	Cell	2005-02-11 00:00:00.000	0
10	17	150-555-0189	1	Cell	2001-02-19 00:00:00.000	0
11	19	124-555-0114	1	Cell	2005-02-10 00:00:00.000	0

6. измените тип поля PhoneNumberTypeID на bigint и допускающим NULL значения

```
alter table dbo.PersonPhone
alter column PhoneNumberTypeID bigint null;
go
```

dbo.PersonPhone	dbo.PersonPhone
Columns	Columns
BusinessEntityID (PK, int, not null)	BusinessEntityID (PK, int, not null)
PhoneNumber (PK, nvarchar(25), not null)	PhoneNumber (PK, nvarchar(25), not null)
PhoneNumberTypeID (int, not null)	PhoneNumberTypeID (bigint, null)
ModifiedDate (datetime, not null)	ModifiedDate (datetime, not null)
PostalCode (nvarchar(15), not null)	PostalCode (nvarchar(15), not null)

-->

	BusinessEntityID	PhoneNumber	PhoneNumberTypeID	PhoneNumberTypeName	ModifiedDate	PostalCode
1	1	697-555-0142	1	Cell	2003-02-08 00:00:00.000	0
2	3	212-555-0187	1	Cell	2001-12-05 00:00:00.000	0
3	4	612-555-0100	1	Cell	2001-12-29 00:00:00.000	0
4	5	849-555-0139	1	Cell	2002-01-30 00:00:00.000	0
5	8	815-555-0138	1	Cell	2003-01-23 00:00:00.000	0
6	9	185-555-0186	1	Cell	2003-02-10 00:00:00.000	0
7	11	719-555-0181	1	Cell	2004-12-29 00:00:00.000	0
8	14	465-555-0156	1	Cell	2005-01-23 00:00:00.000	0
9	15	970-555-0138	1	Cell	2005-02-11 00:00:00.000	0
10	17	150-555-0189	1	Cell	2001-02-19 00:00:00.000	0
11	19	124-555-0114	1	Cell	2005-03-10 00:00:00.000	0