

Отчет по лабораторной работе №2

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Вариант 3

Задание 1:

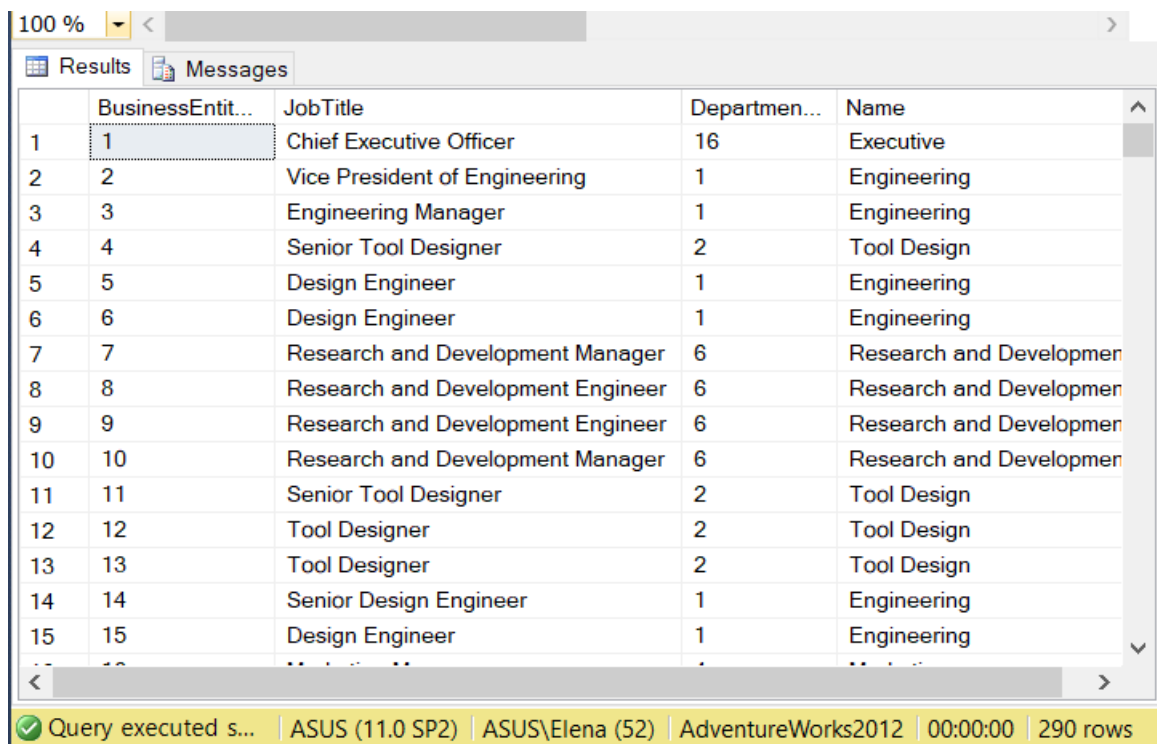
1) Задание:

Вывести на экран название отдела, где работает каждый сотрудник в настоящий момент

Запрос:

```
SELECT HumanResources.Employee.BusinessEntityID, JobTitle,  
HumanResources.Department.DepartmentID, Name  
FROM HumanResources.EmployeeDepartmentHistory  
INNER JOIN HumanResources.Employee  
ON HumanResources.Employee.BusinessEntityID =  
HumanResources.EmployeeDepartmentHistory.BusinessEntityID  
AND HumanResources.EmployeeDepartmentHistory.EndDate is NULL  
INNER JOIN HumanResources.Department  
ON HumanResources.Department.DepartmentID =  
HumanResources.EmployeeDepartmentHistory.DepartmentID  
GO
```

Результат:



	BusinessEntit...	JobTitle	Departmen...	Name
1	1	Chief Executive Officer	16	Executive
2	2	Vice President of Engineering	1	Engineering
3	3	Engineering Manager	1	Engineering
4	4	Senior Tool Designer	2	Tool Design
5	5	Design Engineer	1	Engineering
6	6	Design Engineer	1	Engineering
7	7	Research and Development Manager	6	Research and Development
8	8	Research and Development Engineer	6	Research and Development
9	9	Research and Development Engineer	6	Research and Development
10	10	Research and Development Manager	6	Research and Development
11	11	Senior Tool Designer	2	Tool Design
12	12	Tool Designer	2	Tool Design
13	13	Tool Designer	2	Tool Design
14	14	Senior Design Engineer	1	Engineering
15	15	Design Engineer	1	Engineering

Query executed successfully | ASUS (11.0 SP2) | ASUS\Elena (52) | AdventureWorks2012 | 00:00:00 | 290 rows

2) Задание:

Вывести на экран количество сотрудников в каждом отделе

Запрос:

```
SELECT HumanResources.Department.DepartmentID, Name, EmpCount=COUNT(*)
FROM HumanResources.Department
INNER JOIN HumanResources.EmployeeDepartmentHistory
ON HumanResources.EmployeeDepartmentHistory.DepartmentID =
HumanResources.Department.DepartmentID
GROUP BY HumanResources.Department.DepartmentID, Name
GO
```

Результат:

Results		Messages	
	Departmen...	Name	EmpCount
1	1	Engineering	7
2	2	Tool Design	4
3	3	Sales	18
4	4	Marketing	10
5	5	Purchasing	13
6	6	Research and Development	4
7	7	Production	180
8	8	Production Control	6
9	9	Human Resources	6
10	10	Finance	11
11	11	Information Services	10
12	12	Document Control	5
13	13	Quality Assurance	7
14	14	Facilities and Maintenance	7
15	15	Shipping and Receiving	6
16	16	Executive	2

✓ Query executed su... | ASUS (11.0 SP2) | ASUS\Elena (52) | AdventureWorks2012 | 00:00:00 | 16 rows

3) Задание:

Вывести на экран отчет истории изменения почасовых ставок как показано в примере

Запрос:

```
SELECT JobTitle, Rate, RateChangeDate,
       Report=CONCAT('The rate for ', JobTitle, ' was set to ', Rate, ' at ',
FORMAT(CAST(RateChangeDate AS DATE), 'dd MMM yyyy '))
FROM HumanResources.Employee
INNER JOIN HumanResources.EmployeePayHistory
ON HumanResources.Employee.BusinessEntityID =
HumanResources.EmployeePayHistory.BusinessEntityID;
GO
```

Результат:

	JobTitle	Rate	RateChangeDate	Report
1	Chief Executive Officer	125,50	2003-02-15 00:00:00.000	The rate for Chief Executive Officer was set to 125.50 at 15 Feb 2003
2	Vice President of Engineering	63,4615	2002-03-03 00:00:00.000	The rate for Vice President of Engineering was set to 63.46 at 03 Mar 2002
3	Engineering Manager	43,2692	2001-12-12 00:00:00.000	The rate for Engineering Manager was set to 43.27 at 12 Dec 2001
4	Senior Tool Designer	8,62	2002-01-05 00:00:00.000	The rate for Senior Tool Designer was set to 8.62 at 05 Jan 2002
5	Senior Tool Designer	23,72	2004-07-01 00:00:00.000	The rate for Senior Tool Designer was set to 23.72 at 01 Jul 2004
6	Senior Tool Designer	29,8462	2006-01-15 00:00:00.000	The rate for Senior Tool Designer was set to 29.85 at 15 Jan 2006
7	Design Engineer	32,6923	2002-02-06 00:00:00.000	The rate for Design Engineer was set to 32.69 at 06 Feb 2002
8	Design Engineer	32,6923	2002-02-24 00:00:00.000	The rate for Design Engineer was set to 32.69 at 24 Feb 2002
9	Research and Development Manager	50,4808	2003-03-12 00:00:00.000	The rate for Research and Development Manager was set to 50.48 at 12 Mar 2003
10	Research and Development Engineer	40,8654	2003-01-30 00:00:00.000	The rate for Research and Development Engineer was set to 40.87 at 30 Jan 2003
11	Research and Development Engineer	40,8654	2003-02-17 00:00:00.000	The rate for Research and Development Engineer was set to 40.87 at 17 Feb 2003
12	Research and Development Manager	42,4808	2003-06-04 00:00:00.000	The rate for Research and Development Manager was set to 42.48 at 04 Jun 2003
13	Senior Tool Designer	28,8462	2005-01-05 00:00:00.000	The rate for Senior Tool Designer was set to 28.85 at 05 Jan 2005
14	Tool Designer	25,00	2002-01-11 00:00:00.000	The rate for Tool Designer was set to 25.00 at 11 Jan 2002
15	Tool Designer	25,00	2005-01-23 00:00:00.000	The rate for Tool Designer was set to 25.00 at 23 Jan 2005
16	Senior Design Engineer	36,0577	2005-01-30 00:00:00.000	The rate for Senior Design Engineer was set to 36.06 at 30 Jan 2005

Query executed successfully. | ASUS (11.0 SP2) | ASUS\Elena (52) | AdventureWorks2012 | 00:00:00 | 316 rows

Задание 2:

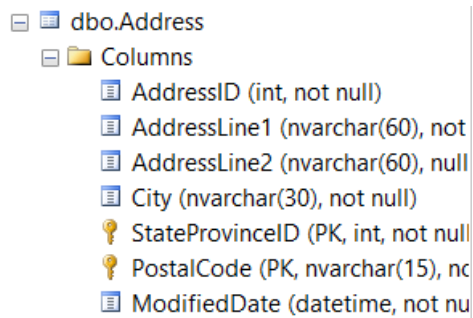
а) Задание:

Создайте таблицу `dbo.Address` с такой же структурой как `Person.Address`, кроме полей `geography`, `uniqueidentifier`, не включая индексы, ограничения и триггеры

Запрос:

```
CREATE TABLE dbo.Address
(
    AddressID          INT                NOT NULL,
    AddressLine1        nvarchar(60) not null,
    AddressLine2        nvarchar(60),
    City                nvarchar(30) not null,
    StateProvinceID     int                not null,
    PostalCode          nvarchar(15) not null,
    ModifiedDate        datetime          not null
)
GO
```

Результат:



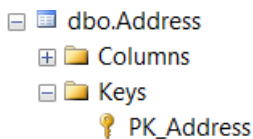
b) Задание:

Используя инструкцию ALTER TABLE, создайте для таблицы dbo.Address составной первичный ключ из полей StateProvinceID и PostalCode

Запрос:

```
ALTER TABLE dbo.Address  
ADD CONSTRAINT PK_Address Primary Key (PostalCode, StateProvinceID);  
GO
```

Результат:



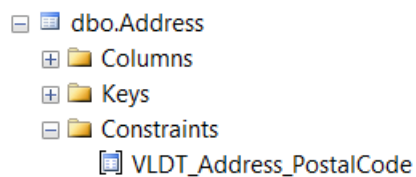
c) Задание:

Используя инструкцию ALTER TABLE, создайте для таблицы dbo.Address ограничение для поля PostalCode, запрещающее заполнение этого поля буквами

Запрос:

```
ALTER TABLE dbo.Address  
ADD CONSTRAINT VLDT_Address_PostalCode CHECK (LOWER(PostalCode) NOT LIKE '%[a-z]%');  
GO
```

Результат:



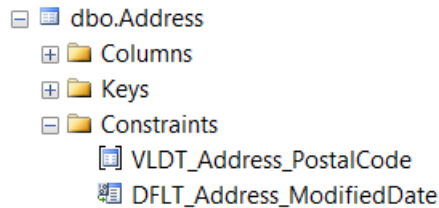
d) Задание:

Используя инструкцию ALTER TABLE, создайте для таблицы dbo.Address ограничение DEFAULT для поля ModifiedDate, задайте значение по умолчанию текущую дату и время

Запрос:

```
ALTER TABLE dbo.Address
ADD CONSTRAINT DFLT_Address_ModifiedDate DEFAULT GETDATE() FOR ModifiedDate;
GO
```

Результат:



e) Задание:

Заполните новую таблицу данными из Person.Address. Выберите для вставки только те адреса, где значение поля CountryRegionCode = 'US' из таблицы StateProvince. Также исключите данные, где PostalCode содержит буквы. Для группы данных из полей StateProvinceID и PostalCode выберите только строки с максимальным AddressID (это можно осуществить с помощью оконных функций)

Запрос:

```
INSERT INTO dbo.Address
(AddressID,
AddressLine1,
AddressLine2,
City,
StateProvinceID,
PostalCode,
ModifiedDate)
SELECT PA.AddressID,
       PA.AddressLine1,
       PA.AddressLine2,
       PA.City,
       PA.StateProvinceID,
       PA.PostalCode,
       PA.ModifiedDate
FROM (
        SELECT AddressID,
               MAX(AddressID) OVER ( PARTITION BY PostalCode,
Address.StateProvinceID) AS MaxAddressID,
               Address.AddressLine1,
               Address.AddressLine2,
               Address.City,
               Address.StateProvinceID,
               Address.PostalCode,
               Address.ModifiedDate
        FROM AdventureWorks2012.Person.Address) PA
INNER JOIN AdventureWorks2012.Person.StateProvince AS StPr
ON PA.StateProvinceID = StPr.StateProvinceID
AND StPr.CountryRegionCode = 'US'
```

```

AND (LOWER(PA.PostalCode) NOT LIKE '%[a-z]%' )
AND MaxAddressId = AddressID;
GO

```

Результат:

Results		Messages					
	Address...	AddressLine1	AddressLin...	City	StateProvinc...	PostalCo...	ModifiedDate
1	804	Ames Plaza	NULL	Saugus	30	01906	2006-08-01 00:00:00.000
2	759	99 Edgewater Drive	NULL	Norwood	30	02062	2007-09-01 00:00:00.000
3	815	Wrentham Village	NULL	Wrentham	30	02093	2007-09-01 00:00:00.000
4	381	7682 Fern Leaf Lane	NULL	Boston	30	02113	2006-03-05 00:00:00.000
5	39	3997 Via De Luna	NULL	Cambridge	30	02139	2006-10-25 00:00:00.000
6	13597	5458 Gladstone Drive	NULL	Braintree	30	02184	2007-05-09 00:00:00.000
7	765	58 Teed Drive	NULL	Randolph	30	02368	2005-08-01 00:00:00.000
8	772	675 East Ave.	NULL	Warwick	65	02889	2005-11-01 00:00:00.000
9	757	2532 Fairgrounds Road	NULL	West Kingston	65	02892	2007-07-01 00:00:00.000
10	811	Walnut Hill Plaza	NULL	Woonsocket	65	02895	2007-08-01 00:00:00.000
11	820	Westside Plaza	NULL	Nashua	46	03064	2006-07-01 00:00:00.000
12	809	Granite State Marketplace	NULL	Hooksett	46	03106	2005-09-01 00:00:00.000
13	816	Lake Region Factory Outlet	NULL	Tilton	46	03276	2005-08-01 00:00:00.000
14	821	Stateline Plaza	NULL	Plaistow	46	03865	2005-07-01 00:00:00.000
15	824	Dansk Square	NULL	Kittery	33	03904	2006-08-01 00:00:00.000

Query executed successfully.

f) Задание:

Уменьшите размер поля City на NVARCHAR(20)

Запрос:

```

ALTER TABLE Address
    ALTER COLUMN City NVARCHAR(20);
GO

```

Результат:

City (nvarchar(20), null)