Задание 1 (7 вариант)

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

```sql
/*
Вывести на экран последнюю дату изменения почасовой ставки для каждого сотрудника.
*/
SELECT Employee.[BusinessEntityID], Employee.[JobTitle], MAX(EmployeePayHistory.[RateChangeDate]) AS LastRateDate
    FROM HumanResources.Employee as Employee
    INNER JOIN HumanResources.EmployeePayHistory as EmployeePayHistory
        ON EmployeePayHistory.[BusinessEntityID] = Employee.[BusinessEntityID]
    GROUP BY Employee.[BusinessEntityID], Employee.[JobTitle];
```

Результат выполнения:

```sql
/*
Вывести на экран последнюю дату изменения почасовой ставки для каждого сотрудника.
*/
SELECT Employee.[BusinessEntityID], Employee.[JobTitle], MAX(EmployeePayHistory.[RateChangeDate]) AS LastRateDate
    FROM HumanResources.Employee as Employee
    INNER JOIN HumanResources.EmployeePayHistory as EmployeePayHistory
        ON EmployeePayHistory.[BusinessEntityID] = Employee.[BusinessEntityID]
    GROUP BY Employee.[BusinessEntityID], Employee.[JobTitle];

/*
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,
```

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Results | Messages

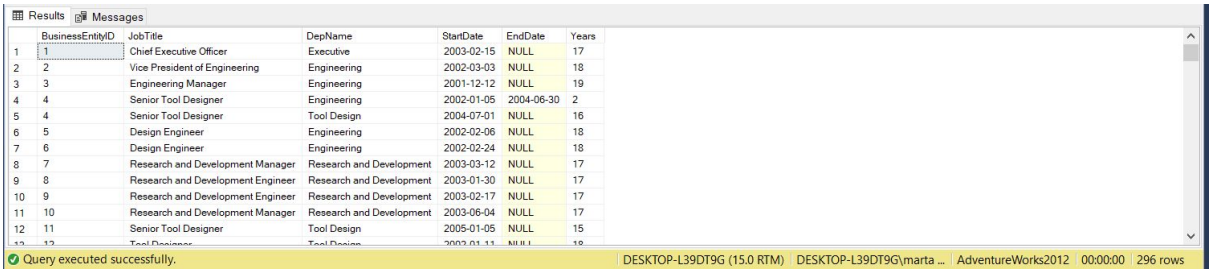
	BusinessEntityID	JobTitle	LastRateDate
1	1	Chief Executive Officer	2003-02-15 00:00:00.000
2	2	Vice President of Engineering	2002-03-03 00:00:00.000
3	3	Engineering Manager	2001-12-12 00:00:00.000
4	4	Senior Tool Designer	2006-01-15 00:00:00.000
5	5	Design Engineer	2002-02-06 00:00:00.000
6	6	Design 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	2005-01-05 00:00:00.000
12	12	Tool Designer	2002-01-11 00:00:00.000
13	13	Tool Designer	2005-01-23 00:00:00.000
14	14	Senior Design Engineer	2005-01-30 00:00:00.000
15	15	Design Engineer	2005-02-18 00:00:00.000

Query executed successfully. | DESKTOP-L39DT9G (15.0 RTM) | DESKTOP-L39DT9G\marta ... | AdventureWorks2012 | 00:00:00 | 290 rows

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.

```
/*
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(YY, EmployeeDepartmentHistory.[StartDate], ISNULL(EmployeeDepartmentHistory.[EndDate], GETDATE())) AS Years
    FROM HumanResources.Employee AS Employee
    INNER JOIN HumanResources.EmployeeDepartmentHistory AS EmployeeDepartmentHistory
        ON Employee.[BusinessEntityID] = EmployeeDepartmentHistory.[BusinessEntityID]
    INNER JOIN HumanResources.Department AS Department
        ON Department.[DepartmentID] = EmployeeDepartmentHistory.[DepartmentID];
```

Результат выполнения:



Results | Messages

	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
12	11	Senior Tool Designer	Tool Design	2005-01-05	NULL	15

Query executed successfully. DESKTOP-L39DT9G (15.0 RTM) DESKTOP-L39DT9G\marta ... AdventureWorks2012 00:00:00 296 rows

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.

```sql
/*
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.[DepartmentID],
    Department.[GroupName],
    CASE
        WHEN CHARINDEX(' ', Department.[GroupName]) > 0
            THEN LEFT(Department.[GroupName], CHARINDEX(' ', Department.[GroupName]) -1)
        ELSE Department.[GroupName]
        END
        AS DepGroup
    FROM HumanResources.Employee as Employee
    INNER JOIN HumanResources.EmployeeDepartmentHistory AS EmployeeDepartmentHistory
        ON EmployeeDepartmentHistory.[BusinessEntityID] = Employee.[BusinessEntityID]
    INNER JOIN HumanResources.Department as Department
        ON Department.[DepartmentID] = EmployeeDepartmentHistory.[DepartmentID]
        AND EmployeeDepartmentHistory.[EndDate] IS NULL;
```

Результат выполнения:

Results | Messages

	BusinessEntityID	JobTitle	DepName	DepartmentID	GroupName	DepGroup
1	1	Chief Executive Officer	Executive	16	Executive General and Administration	Executive
2	2	Vice President of Engineering	Engineering	1	Research and Development	Research
3	3	Engineering Manager	Engineering	1	Research and Development	Research
4	4	Senior Tool Designer	Tool Design	2	Research and Development	Research
5	5	Design Engineer	Engineering	1	Research and Development	Research
6	6	Design Engineer	Engineering	1	Research and Development	Research
7	7	Research and Development...	Research ...	6	Research and Development	Research
8	8	Research and Development...	Research ...	6	Research and Development	Research
9	9	Research and Development...	Research ...	6	Research and Development	Research
10	10	Research and Development...	Research ...	6	Research and Development	Research
11	11	Senior Tool Designer	Tool Design	2	Research and Development	Research
12	12	Tool Designer	Tool Design	2	Research and Development	Research
13	13	Tool Designer	Tool Design	2	Research and Development	Research
14	14	Senior Design Engineer	Engineering	1	Research and Development	Research
15	15	Design Engineer	Engineering	1	Research and Development	Research
16	16	Marketing Manager	Marketing	4	Sales and Marketing	Sales
17	17	Marketing Assistant	Marketing	4	Sales and Marketing	Sales
18	18	Marketing Specialist	Marketing	4	Sales and Marketing	Sales
19	19	Marketing Assistant	Marketing	4	Sales and Marketing	Sales

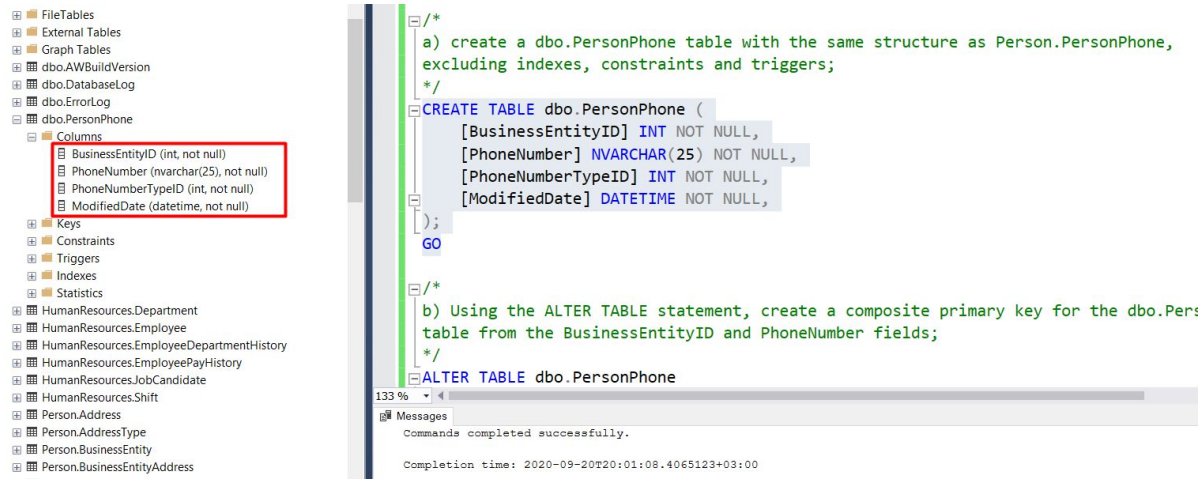
Query executed successfully. | DESKTOP-L39DT9G (15.0 RTM) | DESKTOP-L39DT9G\marta ... | AdventureWorks2012 | 00:00:00 | 290 rows

Задание 2 (7 вариант)

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

```sql
/*
a) create a dbo.PersonPhone table with the same structure as Person.PersonPhone,
excluding indexes, constraints and triggers;
*/
CREATE TABLE dbo.PersonPhone (
    [BusinessEntityID] INT NOT NULL,
    [PhoneNumber] NVARCHAR(25) NOT NULL,
    [PhoneNumberTypeID] INT NOT NULL,
    [ModifiedDate] DATETIME NOT NULL,
);
GO
```

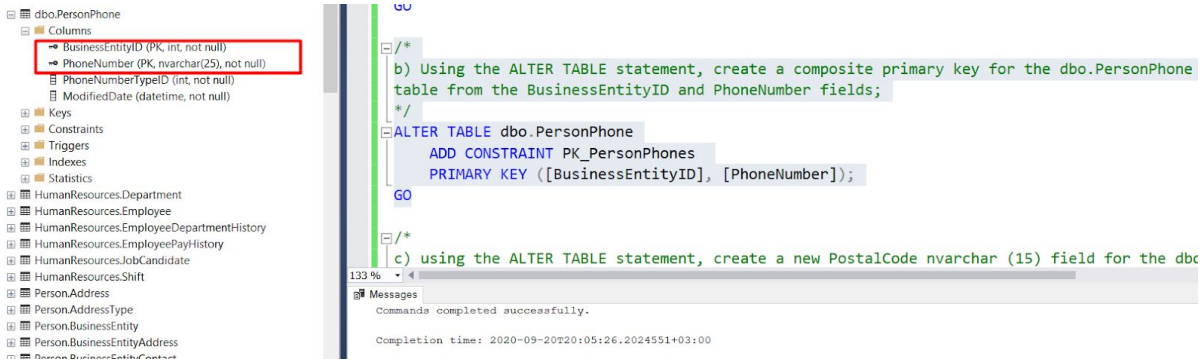
Результат выполнения:



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

```
/*
b) Using the ALTER TABLE statement, create a composite primary key for the dbo.PersonPhone
table from the BusinessEntityID and PhoneNumber fields;
*/
ALTER TABLE dbo.PersonPhone
    ADD CONSTRAINT PK_PersonPhones
    PRIMARY KEY ([BusinessEntityID], [PhoneNumber]);
GO
```

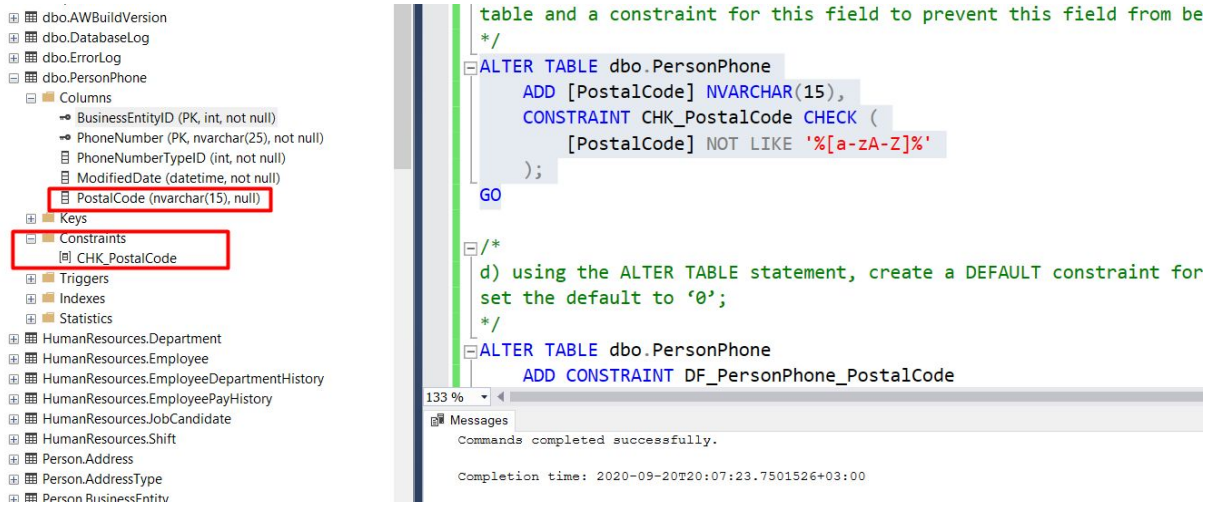
Результат выполнения:



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

```
/*
c) using the ALTER TABLE statement, create a new PostalCode nvarchar (15) field for the dbo.PersonPhone
table and a constraint for this field to prevent this field from being filled with letters;
*/
ALTER TABLE dbo.PersonPhone
    ADD [PostalCode] NVARCHAR(15),
    CONSTRAINT CHK_PostalCode CHECK (
        [PostalCode] NOT LIKE '%[a-zA-Z]%'
    );
GO
```

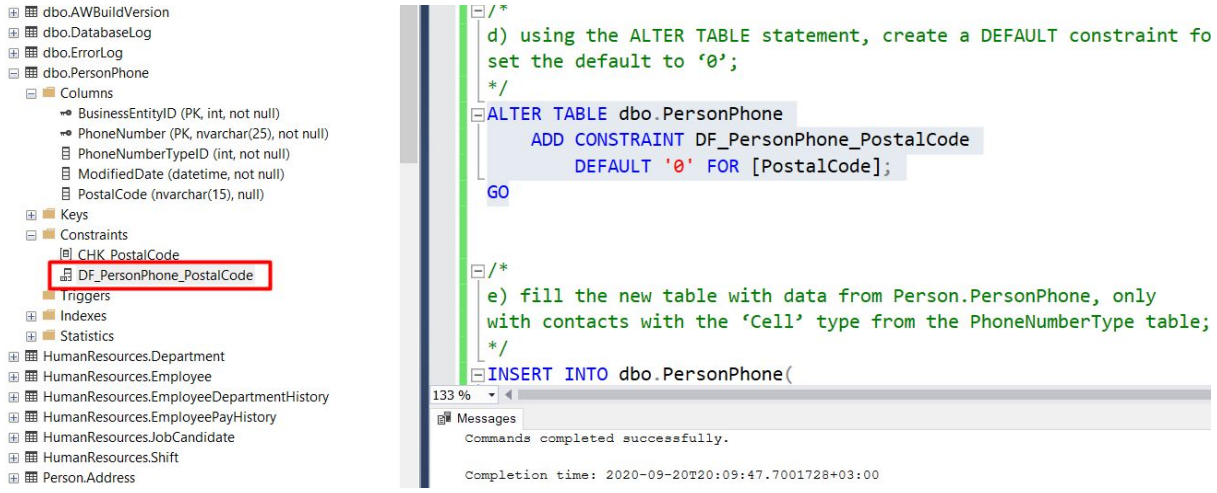
Результат выполнения:



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 DF_PersonPhone_PostalCode
        DEFAULT '0' FOR [PostalCode];
GO
```

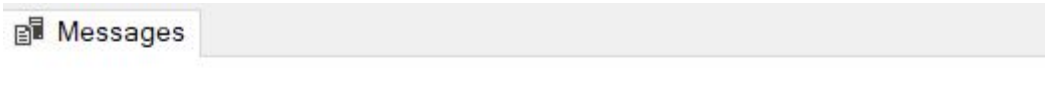
Результат выполнения:



5. Заполните новую таблицу данными из Person.PersonPhone, только контактами с типом ‘Cell’ из таблицы PhoneNumberType

```
/*
e) fill the new table with data from Person.PersonPhone, only
with contacts with the ‘Cell’ type from the PhoneNumberType table;
*/
INSERT INTO dbo.PersonPhone(
    [BusinessEntityID],
    [PhoneNumber],
    [PhoneNumberTypeID],
    [ModifiedDate]
)
SELECT PersonPhone.[BusinessEntityID],
    PersonPhone.[PhoneNumber],
    PersonPhone.[PhoneNumberTypeID],
    PersonPhone.[ModifiedDate]
FROM Person.PersonPhone as PersonPhone
INNER JOIN Person.PhoneNumberType as PhoneNumberType
    ON PhoneNumberType.[PhoneNumberTypeID] = PersonPhone.[PhoneNumberTypeID]
        WHERE PhoneNumberType.[Name] = 'Cell';
GO
```

Результат выполнения:




```
SELECT * FROM dbo.PersonPhone;
```

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Results | Messages

	BusinessEntityID	PhoneNumber	PhoneNumberTypeID	ModifiedDate	PostalCode
1	1	697-555-0142	1	2003-02-08 00:00:00.000	0
2	3	212-555-0187	1	2001-12-05 00:00:00.000	0
3	4	612-555-0100	1	2001-12-29 00:00:00.000	0
4	5	849-555-0139	1	2002-01-30 00:00:00.000	0
5	8	815-555-0138	1	2003-01-23 00:00:00.000	0
6	9	185-555-0186	1	2003-02-10 00:00:00.000	0
7	11	719-555-0181	1	2004-12-29 00:00:00.000	0
8	14	465-555-0156	1	2005-01-23 00:00:00.000	0
9	15	970-555-0138	1	2005-02-11 00:00:00.000	0
10	17	150-555-0189	1	2001-02-19 00:00:00.000	0
11	19	124-555-0114	1	2005-03-10 00:00:00.000	0
12	21	138-555-0118	1	2003-03-27 00:00:00.000	0
13	27	632-555-0129	1	2002-03-23 00:00:00.000	0
14	30	955-555-0169	1	2003-02-23 00:00:00.000	0
15	31	818-555-0128	1	2003-01-29 00:00:00.000	0
16	32	314-555-0113	1	2003-01-23 00:00:00.000	0
17	34	753-555-0129	1	2003-03-13 00:00:00.000	0
18	35	429-555-0137	1	2003-03-05 00:00:00.000	0
19	36	587-555-0115	1	2003-03-07 00:00:00.000	0
20	37	315-555-0144	1	2003-04-01 00:00:00.000	0

Query executed successfully. | DESKTOP-L39DT9G (15.0 RTM) | DESKTOP-L39DT9G\marta ... | AdventureWorks2012 | 00:00:00 | 10 096 rows

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

```
/*
f) change the field type PhoneNumberTypeID to bigint and and make it nullable.
*/
ALTER TABLE dbo.PersonPhone
    ALTER COLUMN [PhoneNumberTypeID] BIGINT NULL;
GO
```

Результат выполнения: