

Лабораторная работа №2

Задание 1

Вариант 10

- 1) Вывести на экран почасовую ставку каждого сотрудника, округленную до целого числа.

```
SELECT Employee.BusinessEntityID, JobTitle, ROUND(Rate, 0) AS RoundRate
FROM HumanResources.Employee
INNER JOIN HumanResources.EmployeePayHistory
ON Employee.BusinessEntityID = EmployeePayHistory.BusinessEntityID;
GO
```

	BusinessEntityID	Job Title	RoundRate
1	1	Chief Executive Officer	126,00
2	2	Vice President of Engineering	63,00
3	3	Engineering Manager	43,00
4	4	Senior Tool Designer	9,00
5	4	Senior Tool Designer	24,00
6	4	Senior Tool Designer	30,00
7	5	Design Engineer	33,00
8	6	Design Engineer	33,00
9	7	Research and Development Manager	50,00
10	8	Research and Development Engineer	41,00
11	9	Research and Development Engineer	41,00

- 2) Вывести на экран порядковый номер изменения почасовой ставки для каждого сотрудника по дате изменения ставки.

```
SELECT
    Employee.BusinessEntityID,
    JobTitle,
    Rate,
    ROW_NUMBER() OVER(PARTITION BY Employee.BusinessEntityID ORDER BY RateChangeDate ASC) AS ChangeNumber
FROM HumanResources.Employee
INNER JOIN HumanResources.EmployeePayHistory
ON Employee.BusinessEntityID = EmployeePayHistory.BusinessEntityID;
GO
```

	BusinessEntityID	Job Title	Rate	ChangeNumber
1	1	Chief Executive Officer	125,50	1
2	2	Vice President of Engineering	63,4615	1
3	3	Engineering Manager	43,2692	1
4	4	Senior Tool Designer	8,62	1
5	4	Senior Tool Designer	23,72	2
6	4	Senior Tool Designer	29,8462	3
7	5	Design Engineer	32,6923	1
8	6	Design Engineer	32,6923	1
9	7	Research and Development Manager	50,4808	1
10	8	Research and Development Engineer	40,8654	1
11	9	Research and Development Engineer	40,8654	1

- 3) Вывести на экран информацию об отделах и работающих в них сотрудниках, отсортированную по полю JobTitle, а затем по полю HireDate в порядке убывания (если JobTitle сотрудника содержит одно слово) или по полю BirthDate в порядке убывания (если JobTitle сотрудника содержит несколько слов).

```
SELECT Name, JobTitle, HireDate, BirthDate
FROM HumanResources.Department
INNER JOIN HumanResources.EmployeeDepartmentHistory
    ON Department.DepartmentID = EmployeeDepartmentHistory.DepartmentID
INNER JOIN HumanResources.Employee
    ON EmployeeDepartmentHistory.BusinessEntityID = Employee.BusinessEntityID
ORDER BY JobTitle ASC,
    CASE CHARINDEX(' ', LTRIM(RTRIM(JobTitle)))
        WHEN 0 THEN HireDate
        ELSE BirthDate END DESC;
GO
```

Результаты		Сообщения		
	Name	JobTitle	HireDate	BirthDate
1	Finance	Accountant	2003-04-09	1973-08-01
2	Finance	Accountant	2003-03-22	1970-02-04
3	Finance	Accounts Manager	2003-03-03	1977-08-08
4	Finance	Accounts Payable Specialist	2003-04-02	1973-04-09
5	Finance	Accounts Payable Specialist	2003-03-15	1971-03-18
6	Finance	Accounts Receivable Specialist	2003-02-25	1978-10-22
7	Finance	Accounts Receivable Specialist	2003-01-19	1970-04-07
8	Finance	Accounts Receivable Specialist	2003-02-07	1970-03-26
9	Information Services	Application Specialist	2003-03-07	1982-04-14
10	Information Services	Application Specialist	2003-01-24	1979-03-03
11	Information Services	Application Specialist	2003-02-12	1975-07-28

Задание 2

Вариант 10

а) создайте таблицу `dbo.Employee` с такой же структурой как `HumanResources.Employee`, кроме полей `OrganizationLevel`, `SalariedFlag`, `CurrentFlag`, а также кроме полей с типом `hierarchyid`, `uniqueidentifier`, не включая индексы, ограничения и триггеры;

```
CREATE TABLE dbo.Employee(  
    BusinessEntityID INT NOT NULL,  
    NationalIDNumber NVARCHAR(15) NOT NULL,  
    LoginID NVARCHAR(256) NOT NULL,  
    JobTitle NVARCHAR(50) NOT NULL,  
    BirthDate DATE NOT NULL,  
    MaritalStatus NCHAR(1) NOT NULL,  
    Gender NCHAR(1) NOT NULL,  
    HireDate DATE NOT NULL,  
    VacationHours SMALLINT NOT NULL,  
    SickLeaveHours SMALLINT NOT NULL,  
    ModifiedDate DATETIME NOT NULL  
);
```

Сообщения
Выполнение команд успешно завершено.

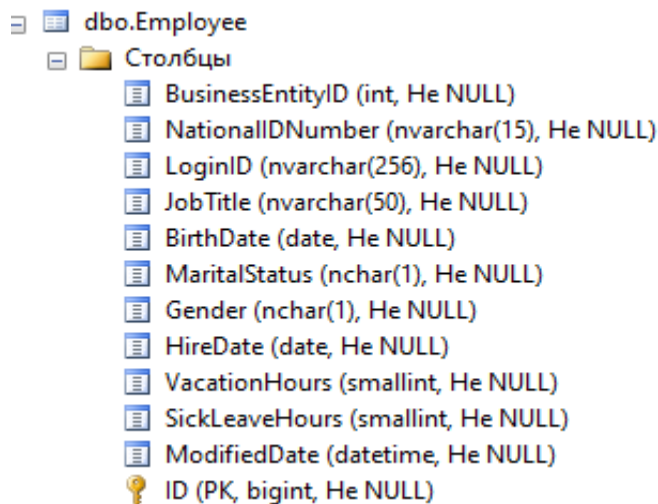
dbo.Employee

- Столбцы
 - BusinessEntityID (int, He NULL)
 - NationalIDNumber (nvarchar(15), He NULL)
 - LoginID (nvarchar(256), He NULL)
 - JobTitle (nvarchar(50), He NULL)
 - BirthDate (date, He NULL)
 - MaritalStatus (nchar(1), He NULL)
 - Gender (nchar(1), He NULL)
 - HireDate (date, He NULL)
 - VacationHours (smallint, He NULL)
 - SickLeaveHours (smallint, He NULL)
 - ModifiedDate (datetime, He NULL)

б) используя инструкцию `ALTER TABLE`, добавьте в таблицу `dbo.Employee` новое поле `ID`, которое является первичным ключом типа `bigint` и имеет свойство `identity`. Начальное значение для поля `identity` задайте 0 и приращение задайте 2;

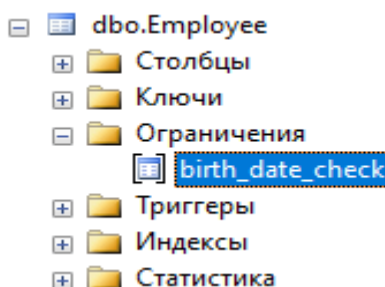
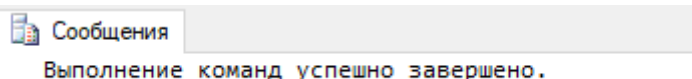
```
ALTER TABLE dbo.Employee  
ADD ID BIGINT PRIMARY KEY IDENTITY (0, 2);  
GO
```

Сообщения
Выполнение команд успешно завершено.



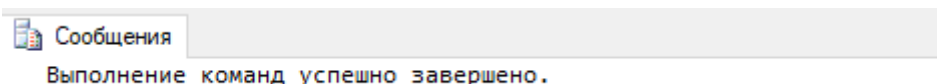
с) используя инструкцию ALTER TABLE, создайте для таблицы dbo.Employee ограничение для поля BirthDate, запрещающее заполнение поля датами ранее 1900 года и позже текущей даты;

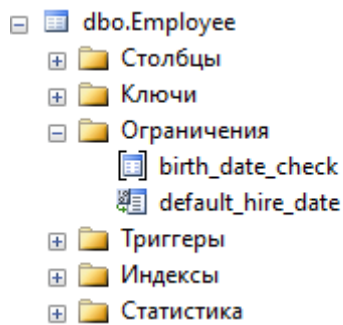
```
ALTER TABLE dbo.Employee
ADD CONSTRAINT birth_date_check
CHECK (BirthDate >= CONVERT(DATE, '1900-01-01', 23) and BirthDate <= CONVERT(DATE, GETDATE()));
GO
```



d) используя инструкцию ALTER TABLE, создайте для таблицы dbo.Employee ограничение DEFAULT для поля HireDate, задайте значение по умолчанию текущую дату;

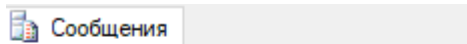
```
ALTER TABLE dbo.Employee
ADD CONSTRAINT default_hire_date DEFAULT CONVERT(DATE, GETDATE()) FOR HireDate;
GO
```





е) заполните новую таблицу данными из HumanResources.Employee только для тех сотрудников, у которых EmailPromotion = 0 в таблице Person.Person. Поле HireDate заполните значениями по умолчанию;

```
]INSERT INTO dbo.Employee (  
    BusinessEntityID,  
    NationalIDNumber,  
    LoginID,  
    JobTitle,  
    BirthDate,  
    MaritalStatus,  
    Gender,  
    VacationHours,  
    SickLeaveHours,  
    ModifiedDate)  
(SELECT  
    Employee.BusinessEntityID,  
    Employee.NationalIDNumber,  
    Employee.LoginID,  
    Employee.JobTitle,  
    Employee.BirthDate,  
    Employee.MaritalStatus,  
    Employee.Gender,  
    Employee.VacationHours,  
    Employee.SickLeaveHours,  
    Employee.ModifiedDate  
FROM HumanResources.Employee  
INNER JOIN Person.Person on Employee.BusinessEntityID = Person.BusinessEntityID  
WHERE Person.EmailPromotion = 0);  
GO
```



(строк обработано: 162)

Результаты		Сообщения						
	ID	BusinessEntityID	NationalIDNumber	LoginID	JobTitle	HireDate	BirthDate	M, ^
1	0	22	95958330	adventure-works\sariya0	Marketing Specialist	2020-09-30	1981-06-21	S
2	2	23	767955365	adventure-works\mary0	Marketing Specialist	2020-09-30	1956-10-14	M
3	4	24	72636981	adventure-works\jill0	Marketing Specialist	2020-09-30	1973-07-19	M
4	6	25	519899904	adventure-works\james1	Vice President of Production	2020-09-30	1977-02-07	S
5	8	26	277173473	adventure-works\peter0	Production Control Manager	2020-09-30	1976-12-04	M
6	10	27	446466105	adventure-works\jo0	Production Supervisor - WC60	2020-09-30	1950-11-09	S
7	12	28	14417807	adventure-works\guy1	Production Technician - WC60	2020-09-30	1976-05-15	M
8	14	11	974026903	adventure-works\ovidiu0	Senior Tool Designer	2020-09-30	1972-02-18	S
9	16	9	658797903	adventure-works\gigi0	Research and Development Engineer	2020-09-30	1973-02-21	M
10	18	41	458159238	adventure-works\bryan0	Production Technician - WC60	2020-09-30	1967-09-28	S
11	20	8	811994146	adventure-works\diane1	Research and Development Engineer	2020-09-30	1980-07-06	S
12	22	6	998320692	adventure-works\jossef0	Design Engineer	2020-09-30	1953-04-11	M
13	24	5	695256908	adventure-works\gail0	Design Engineer	2020-09-30	1946-10-29	M
14	26	4	112457891	adventure-works\rob0	Senior Tool Designer	2020-09-30	1969-01-23	S

f) измените тип поля MaritalStatus на NVARCHAR(1) и разрешите добавление null значений для него.

```
ALTER TABLE dbo.Employee
    ALTER COLUMN MaritalStatus NVARCHAR(1) NULL;
GO
```

Сообщения

Выполнение команд успешно завершено.

dbo.Employee

Столбцы

BusinessEntityID (int, He NULL)

NationalIDNumber (nvarchar(15), He NUL

LoginID (nvarchar(256), He NULL)

JobTitle (nvarchar(50), He NULL)

BirthDate (date, He NULL)

MaritalStatus (nvarchar(1), NULL)

Gender (nchar(1), He NULL)

HireDate (date, He NULL)

VacationHours (smallint, He NULL)

SickLeaveHours (smallint, He NULL)

ModifiedDate (datetime, He NULL)

ID (PK, bigint, He NULL)