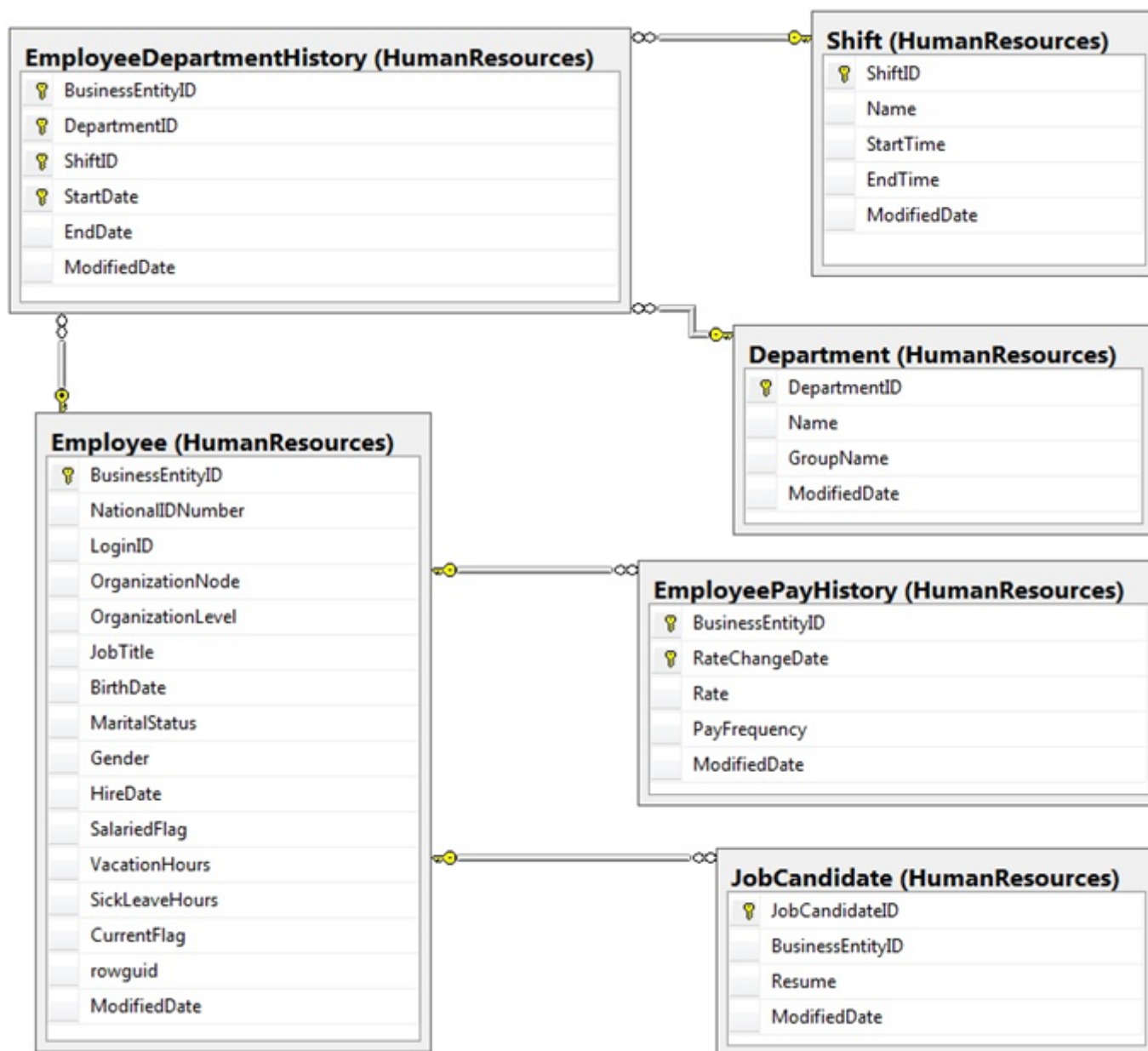


Задание №1

Операции соединения INNER JOIN с применением встроенных функций SQL Server без использования подзапросов.

Задания направлены на выборку данных из таблиц, принадлежащих схеме HumanResources:



Вариант 1

Вывести на экран список сотрудников с указанием максимальной ставки, по которой им выплачивали денежные средства.

	BusinessEntityID	Job Title	MaxRate
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	29.8462
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	29.8462

290 rows

Разбить все почасовые ставки на группы таким образом, чтобы одинаковые ставки входили в одну группу. Номера групп должны быть распределены по возрастанию ставок. Назовите столбец [RankRate].

	BusinessEntityID	Job Title	Rate	RankRate
1	167	Production Technician - WC30	6.50	1
2	170	Production Technician - WC30	6.50	1
3	172	Production Technician - WC30	6.50	1
4	175	Production Technician - WC30	6.50	1
5	176	Production Technician - WC30	6.50	1
6	177	Production Technician - WC30	6.50	1
7	178	Production Technician - WC30	6.50	1
8	174	Production Technician - WC30	6.75	2
9	178	Production Technician - WC30	7.00	3
10	174	Production Technician - WC30	7.25	4
11	175	Production Technician - WC30	7.25	4

316 rows

Вывести на экран информацию об отделах и работающих в них сотрудниках, отсортированную по полю ShiftID в отделе 'Document Control' и по полю BusinessEntityID во всех остальных отделах

	DepName	BusinessEntityID	Job Title	ShiftID
1	Document Control	219	Document Control Assistant	1
2	Document Control	220	Document Control Assistant	1
3	Document Control	217	Document Control Manager	1
4	Document Control	221	Control Specialist	2
5	Document Control	218	Control Specialist	3
6	Engineering	2	Vice President of Engineering	1
7	Engineering	3	Engineering Manager	1
8	Engineering	5	Design Engineer	1
9	Engineering	6	Design Engineer	1
10	Engineering	14	Senior Design Engineer	1
11	Engineering	15	Design Engineer	1
12	Executive	1	Chief Executive Officer	1
13	Executive	234	Chief Financial Officer	1

290 rows

Вариант 2

Вывести на экран историю сотрудника, который работает на позиции ‘Purchasing Manager’. В каких отделах компании он работал, с указанием периодов работы в каждом отделе.

	BusinessEntityID	JobTitle	DepartmentName	StartDate	EndDate
1	250	Purchasing Manager	Marketing	2005-03-28	2005-08-30
2	250	Purchasing Manager	Quality Assurance	2005-08-31	2006-08-15
3	250	Purchasing Manager	Purchasing	2006-08-16	NULL

Вывести на экран список сотрудников, у которых почасовая ставка изменялась хотя бы один раз.

	BusinessEntityID	JobTitle	RateCount
1	4	Senior Tool Designer	3
2	16	Marketing Manager	3
3	167	Production Technician - WC30	3
4	170	Production Technician - WC30	3
5	172	Production Technician - WC30	3
6	174	Production Technician - WC30	3
7	175	Production Technician - WC30	3
8	176	Production Technician - WC30	3
9	177	Production Technician - WC30	3
10	178	Production Technician - WC30	3
11	224	Scheduling Assistant	3
12	234	Chief Financial Officer	3
13	250	Purchasing Manager	3

Вывести на экран максимальную почасовую ставку в каждом отделе. Вывести только актуальную информацию. Если сотрудник больше не работает в отделе — не учитывать такие данные.

	DepartmentID	Name	MaxRate
1	1	Engineering	63.4615
2	2	Tool Design	29.8462
3	3	Sales	72.1154
4	4	Marketing	37.50
5	5	Purchasing	30.00
6	6	Research and Development	50.4808
7	7	Production	84.1346
8	8	Production Control	24.5192
9	9	Human Resources	27.1394
10	10	Finance	43.2692

16 rows

Вариант 3

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

	BusinessEntityID	JobTitle	DepartmentID	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

290 rows

Вывести на экран количество сотрудников в каждом отделе

	DepartmentID	Name	EmpCount
1	1	Engineering	6
2	2	Tool Design	4
3	3	Sales	18
4	4	Marketing	9
5	5	Purchasing	12
6	6	Research and Development	4
7	7	Production	179
8	8	Production Control	6
9	9	Human Resources	6

16 rows

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

	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

316 rows

Вариант 4

Вывести на экран неповторяющийся список должностей в каждом отделе, отсортированный по названию отдела. Посчитайте количество сотрудников, работающих в каждом отделе.

	DepartmentName	Job Title	EmpCount
1	Document Control	Control Specialist	5
2	Document Control	Document Control Assistant	5
3	Document Control	Document Control Manager	5
4	Engineering	Design Engineer	6
5	Engineering	Engineering Manager	6
6	Engineering	Senior Design Engineer	6
7	Engineering	Vice President of Engineering	6
8	Executive	Chief Executive Officer	2
9	Executive	Chief Financial Officer	2
10	Facilities and Maintenance	Facilities Administrative Assistant	7

67 rows

Вывести на экран сотрудников, которые работают в ночную смену.

	BusinessEntityID	Job Title	Name	StartTime	EndTime
1	40	Production Supervisor - WC60	Night	23:00:00.0000000	07:00:00.0000000
2	41	Production Technician - WC60	Night	23:00:00.0000000	07:00:00.0000000
3	42	Production Technician - WC60	Night	23:00:00.0000000	07:00:00.0000000
4	43	Production Technician - WC60	Night	23:00:00.0000000	07:00:00.0000000
5	44	Production Technician - WC60	Night	23:00:00.0000000	07:00:00.0000000
6	45	Production Technician - WC60	Night	23:00:00.0000000	07:00:00.0000000
7	46	Production Technician - WC60	Night	23:00:00.0000000	07:00:00.0000000
8	55	Production Supervisor - WC50	Night	23:00:00.0000000	07:00:00.0000000
9	56	Production Technician - WC50	Night	23:00:00.0000000	07:00:00.0000000

52 rows

Вывести на экран почасовые ставки сотрудников. Добавить столбец с информацией о предыдущей почасовой ставке для каждого сотрудника. Добавить еще один столбец с указанием разницы между текущей ставкой и предыдущей ставкой для каждого сотрудника.

	BusinessEntityID	Job Title	Rate	PrevRate	Increased
1	1	Chief Executive Officer	125.50	0.00	125.50
2	2	Vice President of Engineering	63.4615	0.00	63.4615
3	3	Engineering Manager	43.2692	0.00	43.2692
4	4	Senior Tool Designer	8.62	0.00	8.62
5	4	Senior Tool Designer	23.72	8.62	15.10
6	4	Senior Tool Designer	29.8462	23.72	6.1262
7	5	Design Engineer	32.6923	0.00	32.6923
8	6	Design Engineer	32.6923	0.00	32.6923
9	7	Research and Development Manager	50.4808	0.00	50.4808
10	8	Research and Development Engineer	40.8654	0.00	40.8654

316 rows

Вариант 5

Вывести на экран время работы каждого сотрудника.

	BusinessEntityID	JobTitle	Name	StartTime	EndTime
1	1	Chief Executive Officer	Day	07:00:00.0000000	15:00:00.0000000
2	2	Vice President of Engineering	Day	07:00:00.0000000	15:00:00.0000000
3	3	Engineering Manager	Day	07:00:00.0000000	15:00:00.0000000
4	4	Senior Tool Designer	Day	07:00:00.0000000	15:00:00.0000000
5	5	Design Engineer	Day	07:00:00.0000000	15:00:00.0000000
6	6	Design Engineer	Day	07:00:00.0000000	15:00:00.0000000
7	7	Research and Development Manager	Day	07:00:00.0000000	15:00:00.0000000
8	8	Research and Development Engineer	Day	07:00:00.0000000	15:00:00.0000000

290 rows

Вывести на экран количество сотрудников в каждой группе отделов.

	GroupName	EmpCount
1	Executive General and Administration	35
2	Inventory Management	18
3	Manufacturing	185
4	Quality Assurance	11
5	Research and Development	14
6	Sales and Marketing	27

Вывести на экран почасовые ставки сотрудников, с указанием максимальной ставки для каждого отдела в столбце [MaxInDepartment]. В рамках каждого отдела разбейте все ставки на группы, таким образом, чтобы ставки с одинаковыми значениями входили в состав одной группы.

	Name	BusinessEntityID	Rate	MaxInDepartment	RateGroup
1	Document Control	219	10.25	17.7885	1
2	Document Control	220	10.25	17.7885	1
3	Document Control	221	16.8269	17.7885	2
4	Document Control	218	16.8269	17.7885	2
5	Document Control	217	17.7885	17.7885	3
6	Engineering	5	32.6923	63.4615	1
7	Engineering	6	32.6923	63.4615	1
8	Engineering	15	32.6923	63.4615	1
9	Engineering	14	36.0577	63.4615	2
10	Engineering	3	43.2692	63.4615	3
11	Engineering	2	63.4615	63.4615	4
12	Executive	234	39.06	125.50	1
13	Executive	234	49.5577	125.50	2

316 rows

Вариант 6

Вывести на экран самую раннюю дату начала работы сотрудника в каждом отделе. Дату вывести для каждого отдела.

	Name	StartDate
1	Engineering	2001-12-12
2	Tool Design	2002-01-11
3	Sales	2005-02-04
4	Marketing	2001-02-26
5	Purchasing	2002-01-20
6	Research and Development	2003-01-30
7	Production	2000-07-31
8	Production Control	2003-01-02
9	Human Resources	2003-01-07
10	Finance	2002-01-19

16 rows

Вывести на экран название смены сотрудников, работающих на позиции ‘Stocker’. Замените названия смен цифрами (Day — 1; Evening — 2; Night — 3).

	BusinessEntityID	Job Title	ShiftName
1	122	Stocker	2
2	124	Stocker	3
3	126	Stocker	1

Вывести на экран информацию обо всех сотрудниках, с указанием отдела, в котором они работают в настоящий момент. В названии позиции каждого сотрудника заменить слово ‘and’ знаком & (амперсанд).

	BusinessEntityID	Job Title	DepName
1	1	Chief Executive Officer	Executive
2	2	Vice President of Engineering	Engineering
3	3	Engineering Manager	Engineering
4	4	Senior Tool Designer	Tool Design
5	5	Design Engineer	Engineering
6	6	Design Engineer	Engineering
7	7	Research & Development Manager	Research and Development
8	8	Research & Development Engineer	Research and Development
9	9	Research & Development Engineer	Research and Development
10	10	Research & Development Manager	Research and Development

290 rows

Вариант 7

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

	BusinessEntityID	Job Title	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

290 rows

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.

	BusinessEntityID	JobTitle	DepName	StartDate	EndDate	Years
1	1	Chief Executive Officer	Executive	2003-02-15	NULL	11
2	2	Vice President of Engineering	Engineering	2002-03-03	NULL	12
3	3	Engineering Manager	Engineering	2001-12-12	NULL	13
4	4	Senior Tool Designer	Engineering	2002-01-05	2004-06-30	2
5	4	Senior Tool Designer	Tool Design	2004-07-01	NULL	10
6	5	Design Engineer	Engineering	2002-02-06	NULL	12
7	6	Design Engineer	Engineering	2002-02-24	NULL	12
8	7	Research and Development Manager	Research and Development	2003-03-12	NULL	11
9	9	Research and Development Engineer	Research and Development	2002-01-20	NULL	11

296 rows

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.

	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

290 rows

Вариант 8

Вывести на экран список сотрудников которые подавали резюме при трудоустройстве.

	BusinessEntityID	OrganizationLevel	JobTitle	JobCandidateID	Resume
1	274	2	North American Sales Manager	4	<ns:Resume xmlns:ns="http://schemas.microsoft.co...
2	212	3	Quality Assurance Supervisor	8	<ns:Resume xmlns:ns="http://schemas.microsoft.co...

Вывести на экран названия отделов, в которых работает более 10-ти сотрудников

	DepartmentID	Name	EmpCount
1	3	Sales	18
2	5	Purchasing	12
3	7	Production	179

Вывести на экран накопительную сумму часов отпуска по причине болезни (SickLeaveHours) в рамках каждого отдела. Сумма должна накапливаться по мере трудоустройства сотрудников (HireDate).

	Name	HireDate	SickLeaveHours	AccumulativeSum
1	Document Control	2003-01-17	58	58
2	Document Control	2003-02-05	58	116
3	Document Control	2003-02-23	59	175
4	Document Control	2003-03-13	59	234
5	Document Control	2003-04-07	57	291
6	Engineering	2001-12-12	21	21
7	Engineering	2002-02-06	22	43
8	Engineering	2002-02-24	23	66
9	Engineering	2002-03-03	20	86
10	Engineering	2005-01-30	21	107
11	Engineering	2005-02-18	22	129
12	Executive	2002-02-15	60	60

290 rows

Вариант 9

Вывести на экран среднее значение почасовой ставки для каждого сотрудника

	BusinessEntityID	JobTitle	AvarageRate
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

290 rows

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'.

	BusinessEntityID	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

316 rows

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.

	Name	MaxRate
1	Engineering	63.4615
2	Sales	72.1154
3	Production	84.1346
4	Executive	125.50

Вариант 10

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

	BusinessEntityID	Job Title	RoundRate	Rate
1	1	Chief Executive Officer	126.00	125.50
2	2	Vice President of Engineering	63.00	63.4615
3	3	Engineering Manager	43.00	43.2692
4	4	Senior Tool Designer	9.00	8.62
5	4	Senior Tool Designer	24.00	23.72
6	4	Senior Tool Designer	30.00	29.8462
7	5	Design Engineer	33.00	32.6923
8	6	Design Engineer	33.00	32.6923
9	7	Research and Development Manager	50.00	50.4808
10	8	Research and Development Engineer	41.00	40.8654

316 rows

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

	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

316 rows

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).

	Name	Job Title	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	
12	Information Services	Application Specialist	2003-03-20	1972-06-19	
13	Finance	Assistant to the Chief Financial Officer	2003-02-13	1958-07-23	

296 rows