Отчёт по Программированию

баз данных

Лабораторная работа №7

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Задача 1. Для каждого преподавателя определить название кафедры, на

которой он работает.

SELECT TeacherName, TeacherGroupName FROM Teachers

JOIN TeacherGroups ON Teachers.TeacherGroupID = TeacherGroups.TeacherGroupID

Задача 2. Для каждого факультета определить декана.

SELECT Teachers.TeacherName, Faculties.FacultyName FROM TeacherGroups

JOIN Teachers ON Teachers.TeacherGroupID = TeacherGroups.TeacherGroupID

JOIN Faculties ON Faculties.FacultyID = TeacherGroups.FacultyID

where Faculties.DeanID = Teachers.TeacherID

Задача 3. Для каждой кафедры определить заведующего и декана

факультета, которому принадлежит кафедра.

select T1.TeacherGroupName, T1.TeacherName AS 'Декан', T2.TeacherName as 'Заведующий'

from

(

SELECT TeacherGroups.TeacherGroupName , Teachers.TeacherName FROM TeacherGroups, Faculties,Teachers

where TeacherGroups.FacultyID = Faculties.FacultyID and Faculties.DeanID = Teachers.TeacherID

) T1,

(

SELECT TeacherGroups.TeacherGroupName, Teachers.TeacherName FROM TeacherGroups,Teachers

where TeacherGroups.TeacherGroupHeadID = Teachers.TeacherID

) T2

where T2.TeacherGroupName = T1.TeacherGroupName

Задача 4. Для каждой кафедры вычислить количество сотрудников этой

кафедры.

SELECT TeacherGroups.TeacherGroupName ,count(TeacherGroups.TeacherGroupName) as 'Количество сотрудников' FROM TeacherGroups,Teachers

where TeacherGroups.TeacherGroupID = Teachers.TeacherGroupID

group by TeacherGroups.TeacherGroupName

Задача 5. Для каждого декана вычислить количество сотрудников на его

факультете.

select T1.Колличество , T2.TeacherName

from

(

SELECT count(Faculties.DeanID) as 'Колличество', Faculties.FacultyName FROM TeacherGroups

JOIN Teachers ON Teachers.TeacherGroupID = TeacherGroups.TeacherGroupID

JOIN Faculties ON Faculties.FacultyID = TeacherGroups.FacultyID

group by Faculties.FacultyName

)T1,

(

SELECT Teachers.TeacherName ,Faculties.FacultyName FROM Teachers, Faculties

where Teachers.TeacherID = Faculties.DeanID

)T2

where t1.FacultyName = T2.FacultyName

Задача 6. Вывести список кафедр, на которых работает наибольшее

количество человек.

SELECT T1.TeacherGroupName, T1.Колличество\_человек

from

(

SELECT TeacherGroupName, count(TeacherGroups.TeacherGroupID) as 'Колличество\_человек' FROM TeacherGroups

JOIN Teachers ON Teachers.TeacherGroupID = TeacherGroups.TeacherGroupID

JOIN Faculties ON Faculties.FacultyID = TeacherGroups.FacultyID

group by TeacherGroupName

) T1

where T1.Колличество\_человек =

(

SELECT max(T1.Колличество\_человек)

from

(

SELECT TeacherGroupName, count(TeacherGroups.TeacherGroupID) as 'Колличество\_человек' FROM TeacherGroups

JOIN Teachers ON Teachers.TeacherGroupID = TeacherGroups.TeacherGroupID

JOIN Faculties ON Faculties.FacultyID = TeacherGroups.FacultyID

group by TeacherGroupName

) T1

)

Задача 7. Вывести список кафедр, которыми заведуют женщины (фамилии

заканчиваются на «а»).

select Teachers.TeacherName, TeacherGroups.TeacherGroupName from Teachers, TeacherGroups

where Teachers.TeacherID = TeacherGroups.TeacherGroupHeadID and Teachers.TeacherName like '%ва%'

Задача 8. Вывести название факультета, на котором работает Петухова А.Н.

SELECT Teachers.TeacherName, Faculties.FacultyName FROM TeacherGroups

JOIN Teachers ON Teachers.TeacherGroupID = TeacherGroups.TeacherGroupID

JOIN Faculties ON Faculties.FacultyID = TeacherGroups.FacultyID

where Teachers.TeacherName like 'Петухова А.Н.%'

Задача 9. Вывести названия факультетов, доля сотрудников-женщин

(фамилии заканчиваются на «а») на которых более 40%.

select T2.FacultyName, T1.Колличество as 'Число женщин', T3.Колличество as 'Общее\_число\_человек'

from

(

SELECT count(Faculties.DeanID) as 'Колличество', Faculties.FacultyName FROM TeacherGroups

JOIN Teachers ON Teachers.TeacherGroupID = TeacherGroups.TeacherGroupID

JOIN Faculties ON Faculties.FacultyID = TeacherGroups.FacultyID

where Teachers.TeacherName like '%ва%'

group by Faculties.FacultyName

)T1,

(

SELECT Teachers.TeacherName ,Faculties.FacultyName FROM Teachers, Faculties

where Teachers.TeacherID = Faculties.DeanID

)T2,

(

SELECT count(Faculties.DeanID) as 'Колличество', Faculties.FacultyName FROM TeacherGroups

JOIN Teachers ON Teachers.TeacherGroupID = TeacherGroups.TeacherGroupID

JOIN Faculties ON Faculties.FacultyID = TeacherGroups.FacultyID

group by Faculties.FacultyName

)T3,

(

SELECT Teachers.TeacherName ,Faculties.FacultyName FROM Teachers, Faculties

where Teachers.TeacherID = Faculties.DeanID

)T4

where t1.FacultyName = T2.FacultyName

and t1.FacultyName = T2.FacultyName

and t1.FacultyName = T3.FacultyName

and t1.FacultyName = T4.FacultyName

and t2.FacultyName = T3.FacultyName

and t2.FacultyName = T4.FacultyName

and T1.Колличество > (T3.Колличество / 2.5)

Задача 10. Придумайте еще один запрос с использованием не менее двух

таблиц и хотя бы одной агрегирующей функции.

Определение количество людей на факультетах

select T2.FacultyName, T1.Колличество as 'Колличсетво\_человек'

from

(

SELECT count(Faculties.DeanID) as 'Колличество', Faculties.FacultyName FROM TeacherGroups

JOIN Teachers ON Teachers.TeacherGroupID = TeacherGroups.TeacherGroupID

JOIN Faculties ON Faculties.FacultyID = TeacherGroups.FacultyID

group by Faculties.FacultyName

)T1,

(

SELECT Teachers.TeacherName ,Faculties.FacultyName FROM Teachers, Faculties

where Teachers.TeacherID = Faculties.DeanID

)T2

where T1.FacultyName = T2.FacultyName