Exercises: Subqueries and JOINs

This document defines the exercise assignments for the MySQL course @ Software University. Please submit your solutions (source code) to all the below-described problems in Judge.

For problems from 1 to 11 (inclusively) use "soft_uni" database and for the others – "geography".

1. Employee Address

Write a query that selects:

- employee_id
- job_title
- address id
- address_text

Return the first 5 rows sorted by address_id in ascending order.

Example:

employee_id	job_title	address_id	address_text
142	Production Technician	1	108 Lakeside Court
30	Human Resources Manager	2	1341 Prospect St

2. Addresses with Towns

Write a query that selects:

- first_name
- last_name
- town
- address_text

Sort the result by **first_name** in ascending order then by **last_name**. Select first 5 employees.

Example:

first_name	last_name	town	address_text
A.Scott	Wright	Newport Hills	1400 Gate Drive
Alan	Brewer	Kenmore	8192 Seagull Court

3. Sales Employee

Write a query that selects:









- employee_id
- first_name
- last_name
- department name

Sort the result by **employee_id** in **descending order**. Select only **employees** from the "**Sales**" department.

Example:

employee_id	first_name	last_name	department_name
290	Lynn	Tsoflias	Sales
289	Rachel	Valdez	Sales

4. Employee Departments

Write a query that selects:

- employee_id
- first name
- salary
- department_name

Filter only employees with salary higher than 15000. Return the first 5 rows sorted by department_id in descending order.

Example:

employee_id	first_name	salary	department_name
109	Ken	125500.00	Executive
140	Laura	60100.00	Executive
		•••	

5. Employees Without Project

Write a query that selects:

- employee_id
- first_name

Filter only **employees** without a project. Return the first 3 rows sorted by **employee_id in descending order.**

Example:

employee_id	first_name
293	George
292	Martin















291	Svetlin
231	SVCCIIII

6. Employees Hired After

Write a query that selects:

- first_name
- last name
- hire date
- dept_name

Filter only employees hired after 1/1/1999 and from either the "Sales" or the "Finance" departments. Sort the result by hire_date (ascending).

Example:

first_name	last_name	hire_date	dept_name
Debora	Poe	2001-01-19 00:00:00	Finance
Wendy	Kahn	2001-01-26 00:00:00	Finance

7. Employees with Project

Write a query that selects:

- employee_id
- first_name
- project_name

Filter only employees with a project, which has started after 13.08.2002 and it is still ongoing (no end date). Return the first 5 rows sorted by first_name then by project_name both in ascending order.

Example

employee_id	first_name	project_name
44	A. Scott	Hitch Rack - 4-Bike
170	Alan	LL Touring Handlebars

8. Employee 24

Write a query that selects:

- employee_id
- first_name
- project_name

















Filter all the projects of employees with id 24. If the project has started after 2005 inclusively the return value should be **NULL**. Sort the result by **project_name alphabetically**.

Example

employee_id	first_name	project_name
24	David	NULL
24	David	NULL
24	David	Road-650

9. Employee Manager

Write a query that selects:

- employee id
- first name
- manager_id
- manager name

Filter all employees with a manager who has id equal to 3 or 7. Return all rows sorted by employee first_name in ascending order.

Example

employee_id	first_name	manager_id	manager_name
122	Bryan	7	JoLynn
158	Dylan	3	Roberto
	•••		

Employee Summary 10.

Write a query that selects:

- employee_id
- employee_name
- manager name
- department_name

Show the first 5 employees (only for employees who have a manager) with their managers and the departments they are in (show the departments of the employees). Order by employee_id.

Example

employee_id	employee_name	manager_name	department_name
1	Guy Gilbert	Jo Brown	Production
2	Kevin Brown	David Bradley	Marketing









Min Average Salary 11.

Write a query that returns the value of the **lowest average salary** of all **departments**.

Example:

min_average_salary
10866.6666

Highest Peaks in Bulgaria

Write a query that selects:

- country_code
- mountain_range
- peak name
- elevation

Filter all peaks in Bulgaria with elevation over 2835. Return all rows sorted by elevation in descending order.

Example

country_code	mountain_range	peak_name	elevation
BG	Rila	Musala	2925
BG	Pirin	Vihren	2914

Count Mountain Ranges

Write a query that selects:

- country_code
- mountain_range

Filter the count of the mountain ranges in the United States, Russia and Bulgaria. Sort result by mountain_range count in decreasing order.

Example

country_code	mountain_range
BG	6
RU	1
US	1

Countries with Rivers

Write a query that selects:

country_name















river_name

Find the first 5 countries with or without rivers in Africa. Sort them by country_name in ascending order.

Example

country_name	river_name
Algeria	Niger
Angola	Congo
Benin	Niger
Botswana	NULL
Burkina Faso	Niger

*Continents and Currencies

Write a query that selects:

- continent_code
- currency_code
- currency_usage

Find all continents and their most used currency. Filter any currency that is used in only one country. Sort the result by continent code and currency code.

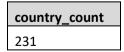
Example

continent_code	currency_code	currency_usage
AF	XOF	8
AS	AUD	2
AS	ILS	2
EU	EUR	26
NA	XCD	8
ОС	USD	8

16. Countries Without Any Mountains

Find the count of all countries which don't have a mountain.

Example



17. Highest Peak and Longest River by Country

For each country, find the elevation of the highest peak and the length of the longest river, sorted by the highest peak_elevation (from highest to lowest), then by the longest river_length (from longest to smallest), then by country_name (alphabetically). Display NULL when no data is available in some of the columns. Limit only the first 5 rows.











Example

country_name	highest_peak_elevation	longest_river_length
China	8848	6300
India	8848	3180
Nepal	8848	2948
Pakistan	8611	3180
Argentina	6962	4880















