

Exercises: Built-in Functions (1)

You can check your solutions here: <https://judge.softuni.org/Contests/3134/Built-in-Functions-Part-1>.

Part I – Queries for SoftUni Database

Problem 1. Find Names of All Employees by First Name

Write a SQL query to find **first** and **last names** of all employees whose **first name starts with "SA"**.

Example

FirstName	LastName
Sariya	Harnpadoungsataya
Sandra	Reategui Alayo
...	...

Problem 2. Find Names of All Employees by Last Name

Write a SQL query to find **first** and **last names** of all employees whose **last name contains "ei"**.

Example

FirstName	LastName
Kendall	Keil
Christian	Kleinerman
...	...

Problem 3. Find First Names of All Employees

Write a SQL query to find the **first names** of all employees in the **departments** with **ID 3 or 10** and whose **hire year is between 1995 and 2005 inclusive**.

Example

FirstName
Deborah
Wendy
Candy
...

Problem 4. Find All Employees Except Engineers

Write a SQL query to find the **first** and **last names** of all employees whose **job titles does not contain "engineer"**.

Example

FirstName	LastName
Guy	Gilbert

Kevin	Brown
Rob	Walters
...	...

Problem 5. Find Towns with Name Length

Write a SQL query to find town names that are **5 or 6 symbols long** and **order them alphabetically by town name**.

Example

Name
Berlin
Duluth
Duvall
...

Problem 6. Find Towns Starting With

Write a SQL query to find all towns that **start with** letters **M, K, B or E**. Order them **alphabetically** by town name.

Example

TownID	Name
5	Bellevue
31	Berlin
30	Bordeaux
...	...

Problem 7. Find Towns Not Starting With

Write a SQL query to find all towns that **does not start with** letters **R, B or D**. Order them **alphabetically** by name.

Example

TownID	Name
2	Calgary
23	Cambridge
15	Carnation
...	...

Problem 8. Create View Employees Hired After 2000 Year

Write a SQL query to create view **V_EmployeesHiredAfter2000** with **first and last name** to all employees **hired after 2000 year**.

Example

FirstName	LastName
Steven	Selikoff
Peter	Krebs

Stuart	Munson
...	...

Problem 9. Length of Last Name

Write a SQL query to find the **names of all employees** whose **last name** is **exactly 5 characters long**.

Example

FirstName	LastName
Kevin	Brown
Terri	Duffy
Jo	Brown
Diane	Glimp
...	...

Problem 10. Rank Employees by Salary

Write a query that **ranks** all employees using **DENSE_RANK**. In the **DENSE_RANK** function, employees need to be **partitioned** by **Salary** and **ordered** by **EmployeeID**. You need to find **only** the employees whose **Salary** is between 10000 and 50000 and **order** them by **Salary** in **descending order**.

Example

EmployeeID	FirstName	LastName	Salary	Rank
268	Stephen	Jiang	48100.00	1
284	Amy	Alberts	48100.00	2
288	Syed	Abbas	48100.00	3
...

Problem 11. Find All Employees with Rank 2 *

Use the query from the **previous** problem and **upgrade** it, so that it finds **only** the employees whose **Rank** is 2 and again, **order** them by **Salary (descending)**.

Example

EmployeeID	FirstName	LastName	Salary	Rank
284	Amy	Alberts	48100.00	2
292	Martin	Kulov	48000.00	2
71	Wendy	Kahn	43300.00	2
...

Part II – Queries for Geography Database

Problem 12. Countries Holding 'A' 3 or More Times

Find all countries that holds the letter 'A' in their name at least 3 times (case insensitively), sorted by ISO code. Display the country name and ISO code.

Example

Country Name	ISO Code
Afghanistan	AFG
Albania	ALB
...	...

Problem 13. Mix of Peak and River Names

Combine all peak names with all river names, so that the **last letter** of each **peak name** is the **same as** the **first letter** of its corresponding **river name**. Display the peak names, river names, and the obtained mix (mix should be in lowercase). **Sort** the results **by** the **obtained mix**.

Example

PeakName	RiverName	Mix
Aconcagua	Amazon	aconcaguamazon
Aconcagua	Amur	aconcaguamur
Banski Suhodol	Lena	banski suhodolena
...