Exercises: Query Basics – Create and Read

You can check your solutions here: https://judge.softuni.org/Contests/3127/Query-Basics-Create-Read.

1. Examine the Databases

Download and get familiar with the **SoftUni**, **Diablo** and **Geography** database schemas and tables. You will use them in the current and following exercises to write queries.

Part I – Queries for SoftUni Database

2. Find All Information about Departments

Write a SQL query to find **all available information about the Departments.**

Example

DepartmentID	Name	ManagerID
1	Engineering	12
2	Tool Design	4
3	Sales	273
…	…	…

3. Find All Department Names

Write SQL query to find **all Department names**.

Example

Name
Engineering
Tool Design
Sales
…

4. Find Salary of Each Employee

Write SQL query to find the **first name**, **last name** and **salary** of each employee.

Example

FirstName	LastName	Salary
Guy	Gilbert	12500.00
Kevin	Brown	13500.00
Roberto	Tamburello	43300.00
…	…	…

5. Find Full Name of Each Employee

Write SQL query to find the **first**, **middle** and **last name** of each employee.

Example

FirstName	MiddleName	LastName
Guy	R	Gilbert
Kevin	F	Brown
Roberto	NULL	Tamburello
…	…	…

6. Find Email Address of Each Employee

Write a SQL query to find the **email address** of each employee. (By his **first and last name**). Consider that the email domain is **softuni.bg**. Emails should look like "John.Doe@softuni.bg". The **produced column** should be named **"Full Email Address"**.

Example

Full Email Address
Guy.Gilbert@softuni.bg
Kevin.Brown@softuni.bg
Roberto.Tamburello@softuni.bg
…

7. Find All Different Employee's Salaries

Write a SQL query to find **all different employee's salaries**. Show only the salaries.

Example

Salary
9000.00
9300.00
9500.00
…

8. Find All Information about Employees

Write a SQL query to find **all information** about the employees whose **job title** is **"Sales Representative".**

Example

ID	First Name	Last Name	Middle Name	Job Title	Dept ID	Mngr ID	Hire Date	Salary	AddressID
275	Michael	Blythe	G	Sales Representative	3	268	…	23100.00	60
276	Linda	Mitchell	C	Sales Representative	3	268	…	23100.00	170

| 277 | Jillian | Carson | NULL | Sales Representative | 3 | 268 | … | 23100.00 | 61 |
| … | … | … | … | … | … | … | … | … | … |

9. Find Names of All Employees by Salary in Range

Write a SQL query to find the **first name**, **last name** and **job title** of all employees whose **salary is in the range [20000, 30000].**

Example

FirstName	LastName	JobTitle
Rob	Walters	Senior Tool Designer
Thierry	D'Hers	Tool Designer
JoLynn	Dobney	Production Supervisor
…	…	…

10. Find Names of All Employees

Write a SQL query to find the **full name** of all employees whose **salary** is **25000, 14000, 12500 or 23600**. Full Name is combination of **first**, **middle** and **last** name (separated with **single space**) and they should be **in one column** called **"Full Name".**

Example

Full Name
Guy R Gilbert
Thierry B D'Hers
JoLynn M Dobney

11. Find All Employees Without Manager

Write a SQL query to find **first and last names** about those employees that **does not have a manager**.

Example

FirstName	LastName
Ken	Sanchez
Svetlin	Nakov
…	…

12. Find All Employees with Salary More Than 50000

Write a SQL query to find **first name**, **last name** and **salary** of those employees who has salary more than 50000. Order them in decreasing order by salary.

Example

FirstName	LastName	Salary
Ken	Sanchez	125500.00

Follow us:

James	Hamilton	84100.00
…	…	…

13. Find 5 Best Paid Employees.

Write SQL query to find **first and last names** about **5 best paid Employees** ordered **descending by their salary.**

Example

FirstName	LastName
Ken	Sanchez
James	Hamilton
…	…

14. Find All Employees Except Marketing

Write a SQL query to find the **first** and **last names** of all employees whose **department ID is different from 4.**

Example

FirstName	LastName
Guy	Gilbert
Roberto	Tamburello
Rob	Walters

15. Sort Employees Table

Write a SQL query to sort all records in the Employees table by the following criteria:

- First by **salary** in **decreasing** order
- Then by **first name alphabetically**
- Then by **last name descending**
- Then by **middle name alphabetically**

Example

ID	First Name	Last Name	Middle Name	Job Title	Dept ID	Mngr ID	Hire Date	Salary	AddressID
109	Ken	Sanchez	J	Chief Executive Officer	16	NULL	…	125500.00	177
148	James	Hamilton	R	Vice President of Production	7	109	…	84100.00	158
273	Brian	Welcker	S	Vice President of Sales	3	109	…	72100.00	134
…	…	…	…	…	…	…	…	…	…

16. Create View Employees with Salaries

Write a SQL query to create a view **V_EmployeesSalaries** with **first name**, **last name** and **salary** for each employee.

Example

FirstName	LastName	Salary
Guy	Gilbert	12500.00
Kevin	Brown	13500.00
…	…	…

17. Create View Employees with Job Titles

Write a SQL query to create view **V_EmployeeNameJobTitle** with **full employee name** and **job title**. When middle name is **NULL** replace it with **empty string ('')**.

Example

Full Name	Job Title
Guy R Gilbert	Production Technician
Kevin F Brown	Marketing Assistant
Roberto Tamburello	Engineering Manager
…	…

18. Distinct Job Titles

Write a SQL query to find **all distinct job titles**.

Example

JobTitle
Accountant
Accounts Manager
Accounts Payable Specialist
…

19. Find First 10 Started Projects

Write a SQL query to find **first 10 started projects**. Select **all information about them** and **sort** them **by start date**, **then by name**.

Example

ID	Name	Description	StartDate	EndDate
6	HL Road Frame	Research, design and development of HL Road …	1998-05-02 00:00:00	2003-06-01 00:00:00
2	Cycling Cap	Research, design and development of C…	2001-06-01 00:00:00	2003-06-01 00:00:00
5	HL Mountain Frame	Research, design and development of HL M…	2001-06-01 00:00:00	2003-06-01 00:00:00
…	…	…	…	…

20.   Last 7 Hired Employees

Write a SQL query to find **last 7 hired employees**. Select **their first, last name and their hire date**.

Example

FirstName	LastName	HireDate
Rachel	Valdez	2005-07-01 00:00:00
Lynn	Tsoflias	2005-07-01 00:00:00
Syed	Abbas	2005-04-15 00:00:00
…	…	…

Part II – Queries for Geography Database

21.   All Mountain Peaks

Display all **mountain peaks** in alphabetical order.

Example

PeakName
Aconcagua
Banski Suhodol
Batashki Snezhnik
…

22.   Biggest Countries by Population

Find the 30 biggest countries by population **from Europe**. Display the country name and population. Sort the results by population (from biggest to smallest), then by country alphabetically.

Example

CountryName	Population
Russia	140702000
Germany	81802257
France	64768389
…	…

23.   *Countries and Currency (Euro / Not Euro)

Find all countries along with information about their currency. Display the country name, country code and information about its currency: either "**Euro**" or "**Not Euro**". Sort the results by country name alphabetically.

*Hint: Use **CASE** … **WHEN**.

Example

CountryName	CountryCode	Currency
Afghanistan	AF	Not Euro
Åland	AX	Euro
Albania	AL	Not Euro
…	…	…

Part III – Queries for Diablo Database

24. All Diablo Characters

Display all **characters** in alphabetical order.

Example

Name
Amazon
Assassin
Barbarian
…