[https://judge.softuni.bg/Contests/#!/List/ByCategory/66/MySQL-Exercises](https://judge.softuni.bg/Contests/" \l "!/List/ByCategory/66/MySQL-Exercises)

* Създаване на бази данни

**CREATE** **DATABASE** one\_to\_many;

**USE** one\_to\_many;

**CREATE** **TABLE** mountains(

mountain\_id **INT** **PRIMARY** **KEY**,

mountain\_name **VARCHAR**(50)

);

**CREATE** **TABLE** peaks(

peak\_id **INT** **PRIMARY** **KEY**,

peak\_name **VARCHAR**(50),

mountain\_id **INT**,

**CONSTRAINT** fk\_peaks\_mountains **FOREIGN** **KEY**(mountain\_id)

- **FOREIGN KEY** – външен ключ

**REFERENCES** mountains(mountain\_id)

);

* Промяна на база данни
* Select

**SELECT** department\_id, `name`, manager\_id **FROM** departments;

**SELECT** `name` **FROM** departments;

**SELECT** `first\_name` , `last\_name`, salary **FROM** employees;

**SELECT** `first\_name`, `middle\_name`, `last\_name` **FROM** employees;

**SELECT** **CONCAT** (`first\_name`, '.', `last\_name`, '@' , 'softuni.bg')

**AS** 'full\_name\_employee' **FROM** employees;

**SELECT** \* **FROM** employees

**WHERE** `job\_title` = 'Sales Representative' ;

**SELECT** `first\_name` , `last\_name`, `job\_title` **FROM** employees

**WHERE** `salary` >=20000 **AND** `salary` <= 30000

**SELECT** **CONCAT**(`first\_name` , ' ' , `middle\_name` ,' ', `last\_name`)

**AS** 'full\_name' **FROM** employees

**WHERE** `salary` = 25000 **OR** `salary` = 12500 **OR** `salary` = 14000 ;

**SELECT** `first\_name` , `last\_name` **FROM** employees

**WHERE** `job\_title` <> 'Maneger' ;

* Форматиране на заявки
  + Select
  + Order by
  + IF
  + CASE WHEN

**SELECT** `last\_name` , `hire\_date` **FROM** employees

**ORDER** **BY** `hire\_date` **LIMIT** 2, 1;

**SELECT** `peak\_name` **FROM** peaks

**ORDER** **BY** `peak\_name` **ASC**;

**SELECT** `country\_name`,`population` **FROM** countries

**ORDER** **BY** population **DESC**;

**SELECT** \* **FROM** peaks

**ORDER** **BY** elevation **DESC**

**LIMIT** 1;

**SELECT** country\_name, country\_code ,

**IF** (currency\_code = 'EUR' , 'Euro' , 'Not Euro') **AS** currency

**FROM** countries

**ORDER** **BY** country\_name;

**SELECT** country\_name, country\_code ,

**CASE** **WHEN** currency\_code = 'EUR'

**THEN** 'Euro'

**ELSE** 'Not Euro'

**END** **AS** currency

**FROM** countries

**ORDER** **BY** country\_name;

* Подзаявки
  + Скаларна

**SELECT** employee\_id, salary

**FROM** employees

**WHERE** department\_id = //вместо равно можеше да е IN

(**SELECT** department\_id **FROM** departments **WHERE** `name` = 'Finance');

**SELECT** `first\_name` , `last\_name`, salary **FROM** employees

**WHERE** salary =

( **SELECT** salary **FROM** employees **ORDER** **BY** salary **DESC** **LIMIT** 1);

* + Таблични / Колонни

**SELECT** `first\_name` , `last\_name`,`department\_id` ,salary **FROM** employees

**WHERE**( department\_id , manager\_id) **IN**

(**SELECT** department\_id, manager\_id **FROM** departments **WHERE** `name` = 'Sales');

**SELECT** `first\_name` , `last\_name`,`department\_id` ,salary **FROM** employees

**WHERE** department\_id **IN**

(**SELECT** department\_id **FROM** departments **WHERE** `name` = 'Sales' **OR** `name` = 'Finance');

**SELECT** peak\_name, elevation **FROM** peaks

**WHERE** mountain\_id **IN**

(**SELECT** mountain\_id **FROM** mountains\_countries **WHERE** country\_code = 'BG')

**ORDER** **BY** elevation **DESC** ;

**SELECT** `first\_name` , `last\_name`,`department\_id` ,salary **FROM** employees

**WHERE**( department\_id , manager\_id) = SOME // SOME == ANY

(**SELECT** department\_id, manager\_id **FROM** departments **WHERE** `name` = 'Sales');

**SELECT** `first\_name` , `last\_name`,`department\_id` ,salary **FROM** employees

**WHERE**( department\_id , manager\_id) <> **ALL // NOT IN == <> ALL**

(**SELECT** department\_id, manager\_id **FROM** departments **WHERE** `name` = 'Sales');

* Взаимосвързани заявки

**SELECT** `first\_name` , `last\_name`,`department\_id` ,salary **FROM** employees **AS** e

**WHERE** salary =

(

**SELECT** salary **FROM** employees

**WHERE** department\_id = e.department\_id

**ORDER** **BY** salary **DESC** **LIMIT** 1

)

**SELECT** `first\_name` , `last\_name`,`department\_id` ,salary **FROM** employees **AS** e

**WHERE** **EXISTS**

(

**SELECT** department\_id **FROM** departments

**WHERE** department\_id = e.department\_id **AND** `name` = 'Finance'

)

**ORDER** **BY** department\_id;

**SELECT** job\_title , salary **FROM** employees **AS** e

**WHERE** salary =

(

**SELECT** salary **FROM** employees

**WHERE** e.job\_title =job\_title

**ORDER** **BY** salary **DESC** **LIMIT** 1

)

**ORDER** **BY** salary **DESC**, job\_title **ASC**;

**SELECT** first\_name, last\_name , salary ,

(

**SELECT** `name` **FROM** departments

**WHERE** department\_id = e.department\_id

)

**AS** 'department'

**FROM** employees **AS** e

**WHERE** salary =

(

**SELECT** salary **FROM** employees

**WHERE** e.department\_id = department\_id

**ORDER** **BY** salary **ASC** **LIMIT** 1

)

**ORDER** **BY** salary **ASC** , first\_name **ASC**, last\_name **ASC** ;

* Обединяване на заявки - UNION

**SELECT** mountain\_range **FROM** mountains

**WHERE** id **IN**

(**SELECT** mountain\_id **FROM** mountains\_countries **WHERE** country\_code = 'BG')

**UNION**

**SELECT** river\_name **FROM** rivers

**WHERE** id **IN**

(**SELECT** river\_id **FROM** countries\_rivers **WHERE** country\_code = 'BG')

**SELECT** mountain\_range **FROM** mountains

**WHERE** id **IN**

(**SELECT** mountain\_id **FROM** mountains\_countries **WHERE** country\_code = 'BG')

**UNION**

**SELECT** river\_name **FROM** rivers

**WHERE** id **IN**

(**SELECT** river\_id **FROM** countries\_rivers **WHERE** country\_code = 'BG')

**ORDER** **BY** mountain\_range **ASC** **LIMIT** 5

(**SELECT** river\_name **AS** **name** **FROM** rivers **ORDER** **BY** **length** **DESC** **LIMIT** 3)

**UNION**

(**SELECT** peak\_name **FROM** peaks **ORDER** **BY** elevation **DESC** **LIMIT** 3)

**ORDER** **BY** **name** **ASC**

**SELECT** first\_name, last\_name,

(

**if**(e.manager\_id **IS** **NULL** ,

'(no manager)',

(**SELECT** **CONCAT** (m.first\_name, ' ' ,m.last\_name) **FROM** employees **AS** m

**WHERE** m.employee\_id = e.manager\_id)

)

) **AS** mananger\_name

**FROM** employees **AS** e

**SELECT** first\_name, last\_name,'(no manager)' **AS** `manager\_name`

**FROM** employees

**WHERE** manager\_id **IS** **NULL**

**UNION**

**SELECT** first\_name, last\_name,

( **SELECT** **CONCAT** (m.first\_name,' ' , m.last\_name) **FROM** employees **AS** m

**WHERE** m.employee\_id = e.manager\_id) **AS** `manager\_name`

**FROM** employees **AS** e

**WHERE** manager\_id **IS** **NOT** **NULL**

* **Присъединяване с Join**

**SELECT** last\_name, **NAME** **AS** department\_name

**FROM** employees

**JOIN** departments

**ON** employees.department\_id = departments.department\_id;

**SELECT** mountain\_range, peak\_name, elevation

**FROM** mountains **AS** m

**JOIN** peaks **AS** p

**ON** p.mountain\_id = m.id

**WHERE** mountain\_range = 'Rila';

**SELECT** employee\_id, job\_title, a.address\_id, address\_text

**FROM** employees **AS** e

**JOIN** addresses **AS** a

**ON** e.address\_id = a.address\_id

**LIMIT** 5;

**SELECT** employee\_id, first\_name, last\_name, d.**name** **AS** department\_name

**FROM** employees **AS** e

**JOIN** departments **AS** d

**ON** e.department\_id = d.department\_id

**WHERE** d.**name** = 'Sales'

**ORDER** **BY** employee\_id **DESC**;

**SELECT** first\_name, last\_name, hire\_date, d.**name** **AS** **name**

**FROM** employees **AS** e

**JOIN** departments **AS** d

**ON** e.department\_id = d.department\_id

**WHERE** hire\_date > '1999-1-1' **AND** d.**name** = 'Finance' **OR** d.**name** = 'Sales'

**ORDER** **BY** hire\_date **ASC**

**SELECT** e.employee\_id, first\_name, projects.**name** **AS** project\_name

**FROM** employees **AS** e

**JOIN** employees\_projects **AS** p

**ON** e.employee\_id = p.employee\_id

**JOIN** projects

**ON** p.project\_id = projects.project\_id

**WHERE** projects.start\_date > '2002-08-13' **AND** projects.end\_date **IS** **NULL**

**LIMIT** 5

* Inner Join , Left outer join, Right outer join

**SELECT** \* **FROM** employees **AS** e

**LEFT** **OUTER** **JOIN** departments **AS** d

**ON** e.department\_id = d.department\_id;

**SELECT** \* **FROM** employees **AS** e

**LEFT** **OUTER** **JOIN** departments **AS** d

**ON** e.department\_id = d.department\_id

**UNION**

**SELECT** \* **FROM** employees **AS** e

**RIGHT** **OUTER** **JOIN** departments **AS** d

**ON** e.department\_id = d.department\_id;