

EXERCITIILE 11-16

--Numele Jobului, id-ul si numele departamentului, salariul de baza si datele angajatilor care au fost angajati inainte de 2018, dar in luna iulie. Se vor afisa de asemenea joburile care nu au angajati si cele care nu fac parte dintr-un departament.

--left outer join -> toate elementele din employees, inclusiv null

--right outer join [tabel]-> toate elementele din [tabel], inclusiv valoarea null.

--nvl(val1, val2) -> verifica daca val1 = null. Daca nu este, returneaza val1. Daca val1 = null, va returna val2.

select j.job_name, d.department_id, d.department_name, e.last_name,
e.first_name,e.hire_date,j.base_salary as MinSAL,

nvl(to_char(dd.max_salary), 'Salariul de baza') as Max_SAL, nvl(to_char(r.rank_name), 'Fara rank') as
RANK

from employees e

right outer join jobs j on e.job_id = j.job_id

left outer join departments d on e.department_id = d.DEPARTMENT_ID

left outer join divisions dd on e.job_id = j.job_id and j.rank_id = dd.rank_id

left outer join ranks r on e.job_id = j.job_id and j.rank_id = r.rank_id

where EXTRACT(year from e.hire_date) < 2018 and EXTRACT(month from e.hire_date) = 7

order by j.base_salary;

SQL Worksheet: Popel_Emil_Bogdan.sql, Popel_Emil_Bogdan, EMPLOYEES

```

837 INSERT INTO TRANSACTION_LINES(transaction_id, product_id, quantity_sold)
838 values (6, 8, 1);
839 INSERT INTO TRANSACTIONS(transaction_id, customer_id, sum_transferred, approval)
840 values (6, 7, 650, 1);
841
842
843 commit
844
845 select j.job_name, d.department_id, d.department_name, e.last_name, e.first_name, e.hire_date, j.base_salary as MinSAL,
846 nvl(to_char(dd.max_salary), 'Salariul de baza') as Max_SAL, nvl(to_char(r.rank_name), 'Fara rank') as RANK
847 from employees e
848 right outer join jobs j on e.job_id = j.job_id
849 left outer join departments d on e.department_id = d.DEPARTMENT_ID
850 left outer join divisions dd on e.job_id = j.job_id and j.rank_id = dd.rank_id
851 left outer join ranks r on e.job_id = j.job_id and j.rank_id = r.rank_id
852 where EXTRACT(year from e.hire_date) < 2018 and EXTRACT(month from e.hire_date) = 7
853 order by j.base_salary;
854
855 select length(trim(both from description)), TRANSLATE(description, ' ', ',')

```

Script Output x Query Result x

All Rows Fetched: 2 in 0.003 seconds

JOB_NAME	DEPARTMENT_ID	DEPARTMENT_NAME	LAST_NAME	FIRST_NAME	HIRE_DATE	MIN_SAL	MAX_SAL	RANK
1 Product Checker	5	Quality Assurance	Kephas	Gerard	04-JUL-14	1100	Salariul de baza	Fara rank
2 IT Manager	2	Managerial	Kilian	Farvald	13-JUL-01	8000	Salariul de baza	Fara rank

--urmatoarea cereri scot in evidenta functii sql pe siruri de caractere. Prima modifica descrierile produselor mai lungi de 50 de caractere. Spatiile se vor transforma in virgule. Se vor afisa lungimile si descrierile dupa modificare.

select length(trim(both from description)), TRANSLATE(description, ' ', ',')

from products

where length(trim(both from description)) > 50

```

select length(trim(both from description)), TRANSLATE(description, ' ', ',')
from products
where length(trim( both from description )) > 50
select *
from employees
where last_name like '% %' or first_name like '%-%' or INITCAP(trim(both from first_name)) = 'Wulfric';

select distinct j.job_name, c.customer_id
from customers c, jobs j
where c.annual_income < (select (avg(annual_income)-0.20*avg(annual_income)) from customers)
and j.base_salary * 12 > (select avg(annual_income) from customers)

```

Script Output x Query Result x

All Rows Fetched: 8 in 0.002 seconds

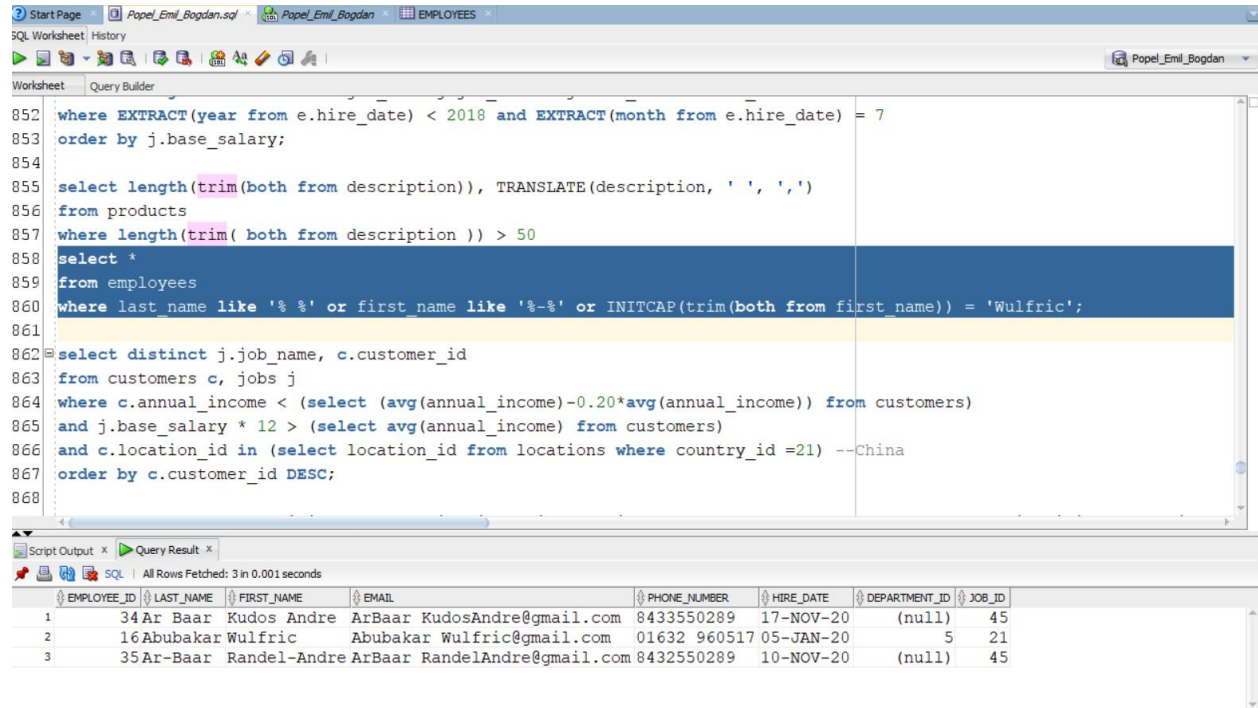
LENGTH...	TRANSLATE(DESCRIPTION, ',')
270	lightweight, (2.4, lbs), , and, easy, to, use., The, 106w, motor, will, terminate, any, dirt, or, debris; Car, Cleaning, Kit, Include
198	5, lbs, 200w, motor, Car, Cleaning, Kit, Includes:, 3, attachments, (flathead, extendable,, or, brush, nozzle), for, detailing,,
75	SUPER, DAMASCUS, STEEL, NON-STICK, BLADE, PREMIUM, G-10, HANDLE, LIFETIME, GUARANTEE
171	Handcrafted, all-purpose, knife, that, has, many, uses, around, the, kitchen., Features, layered, Damascus, steel, with, a, strik
172	14 5-8mp/1800-watt motor generates up to 2030 PSI (at initial discharge per CSA internal pressure testing) and 1

Line 857 Column 48 | Insert | Modified | Windows: CF

select *

from employees

where last_name like '% %' or first_name like '%-%' or INITCAP(trim(both from first_name)) = 'Wulfric';



The screenshot shows an SQL IDE window with a query editor and a results pane. The query editor contains the following SQL code:

```
852 where EXTRACT(year from e.hire_date) < 2018 and EXTRACT(month from e.hire_date) = 7
853 order by j.base_salary;
854
855 select length(trim(both from description)), TRANSLATE(description, ' ', ',')
856 from products
857 where length(trim( both from description )) > 50
858
859 select *
860 from employees
861 where last name like '% %' or first name like '%-%' or INITCAP(trim(both from first name)) = 'Wulfric';
862
863 select distinct j.job_name, c.customer_id
864 from customers c, jobs j
865 where c.annual_income < (select (avg(annual_income)-0.20*avg(annual_income)) from customers)
866 and j.base_salary * 12 > (select avg(annual_income) from customers)
867 and c.location_id in (select location_id from locations where country_id =21) --China
868 order by c.customer_id DESC;
```

The results pane shows the output of the query, displaying 3 rows of data. The columns are EMPLOYEE_ID, LAST_NAME, FIRST_NAME, EMAIL, PHONE_NUMBER, HIRE_DATE, DEPARTMENT_ID, and JOB_ID.

EMPLOYEE_ID	LAST_NAME	FIRST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	DEPARTMENT_ID	JOB_ID
1	34Ar Baar	Kudos Andre	ArBaar KudosAndre@gmail.com	8433550289	17-NOV-20	(null)	45
2	16Abubakar	Wulfric	Abubakar Wulfric@gmail.com	01632 960517	05-JAN-20	5	21
3	35Ar-Baar	Randel-Andre	ArBaar RandelAndre@gmail.com	8432550289	10-NOV-20	(null)	45

Cererea urmatoare afiseaza joburile care annual au un salariu mai mare decat un client considerat "Low-Income / Low-Medium Income" din China, dar si id-urile clientilor respectivi.

select distinct j.job_name

from customers c, jobs j

where c.annual_income < (select (avg(annual_income)-0.20*avg(annual_income)) from customers)

and j.base_salary * 12 > (select avg(annual_income) -0.20*avg(annual_income) from customers)

and c.location_id in (select location_id from locations where country_id =21)

```

861
862 select distinct j.job_name, c.customer_id
863 from customers c, jobs j
864 where c.annual_income < (select (avg(annual_income)-0.20*avg(annual_income)) from customers)
865 and j.base_salary * 12 > (select avg(annual_income) from customers)
866 and c.location_id in (select location_id from locations where country_id =21) --China
867 order by c.customer_id DESC;
868
869 select distinct salaryLimit.val as "Clienti de nivel 1 si 2", AverageYearlySalary.vall as "Salariu Minim Anual c/dh",
870 SalMaxAnnual.vall1 as "medie salariu maxim anual c/dh"
871 from (select avg(annual_income)-0.20*avg(annual_income) val from customers) salaryLimit,

```

Script Output x Query Result x

SQL | All Rows Fetched: 14 in 0.003 seconds

JOB_NAME	CUSTOMER_ID
1 Bureaucracy Manager	8
2 Callers Manager	8
3 Data-Providers Manager	8
4 IT Manager	8
5 Managerial Manager	8
6 Quality Assurance Manager	8
7 Training Manager	8
8 Bureaucracy Manager	7
9 Callers Manager	7
10 Data-Providers Manager	7

Line 867 Column 30 | Insert | Modified | Windows: C

--Urmatoarea cerere genereaza date statistice despre firma precum:

- Numarul de produse maxim din cadrul unei facturi
- Numarul de tranzactii maxim realizate de un client
- Numarul maxim de apeluri fara a face o vanzare din partea unui angajat.

select MaxProdPeFact.ProdMaxFact, vanzari.nr_vanzari as "ClientAchizitiiMax", ratari.ApelFaraVanzare as "Max_Angajat_Apeluri_Esuate"

from

(select max(SUM(quantity_sold)) ProdMaxFact from transaction_lines group by transaction_id)
MaxProdPeFact,

(select max(count(sale)) nr_vanzari from calls where sale = 1 group by customer_id) vanzari,

(select max(count(employee_id)) ApelFaraVanzare from calls where sale = 0 group by employee_id)
Ratari;

```
876 select MaxProdPeFact.ProdMaxFact, vanzari.nr_vanzari as "ClientAchizitiiMax", ratari.ApelFaraVanzare as "Max_Angajat_A
877 from
878 (select max(SUM(quantity_sold)) ProdMaxFact from transaction_lines group by transaction_id) MaxProdPeFact,
879 (select max(count(sale)) nr_vanzari from calls where sale = 1 group by customer_id) vanzari,
880 (select max(count(employee_id)) ApelFaraVanzare from calls where sale = 0 group by employee_id) Ratari;
881 --angajatii cu salarii peste media companiei
882
883 WITH temp(average) as
```

--angajatii cu salarii peste media companiei:

WITH temp(average) as

(SELECT avg(base_salary)

from jobs)

SELECT job_name, base_salary

FROM jobs, temp

WHERE jobs.base_salary > temp.average;

```

2
3 WITH temp(average) as
4     (SELECT avg(base_salary)
5      from jobs)
6     SELECT job_name, base_salary
7     FROM jobs, temp
8     WHERE jobs.base_salary > temp.average;
9
0 select e.last_name as Nume, j.job_name as Job, d.department_name, j.base
1 DECODE(e.department_id, 3, j.base_salary*1.15, 2,
2 j.base_salary*1.27, 5, j.base_salary*1.10, j.base_salary)as Salariu_Mar:

```

Script Output x Query Result x Query Result 1 x

SQL | All Rows Fetched: 7 in 0.002 seconds

JOB_NAME	BASE_SALARY
1 Managerial Manager	10000
2 IT Manager	8000
3 Training Manager	8000
4 Quality Assurance Manager	8000
5 Callers Manager	8000
6 Data-Providers Manager	8000
7 Bureaucracy Manager	8000

-- cresc salariile de baza ale angajatilor din departamentele 2, 3 si 5

--nu sunt afisati angajatii fara departament

```

select e.last_name as Nume, j.job_name as Job, d.department_name, j.base_salary as BAZA,
DECODE(e.department_id, 3, j.base_salary*1.15, 2,
j.base_salary*1.27, 5, j.base_salary*1.10, j.base_salary)as Salariu_Marit
from employees e, jobs j, departments d
where e.department_id = d.department_id and e.job_id = j.job_id
order by Salariu_Marit desc;

```

Start PagePopel_Emil_Bogdan.sqlPopel_Emil_BogdanEMPLOYEES

SQL WorksheetHistory

WorksheetQuery Builder

885FROM JOBS)

886SELECT job_name, base_salary

887FROM jobs, temp

888WHERE jobs.base_salary > temp.average;

889

890select e.last_name as Nume, j.job_name as Job, d.department_name, j.base_salary as BAZA

891DECODE(e.department_id, 3, j.base_salary*1.15, 2,

892j.base_salary*1.27, 5, j.base_salary*1.10, j.base_salary)as Salariu_Marit

893from employees e, jobs j,departments d

894where e.department_id = d.department_id and e.job_id = j.job_id

895order by Salariu_Marit desc;

896-- cresc salariile de baza ale angajatilor din departamentele 2, 3 si 5

897

898select p.Product_id, p.Product_name, p.Price,

Script OutputQuery ResultQuery Result 1

SQLAll Rows Fetched: 26 in 0.002 seconds

NUME	JOB	DEPARTMENT_NAME	BAZA	SALARIU_MARIT
1 Agapetos	Managerial Manager	Managerial	10000	12700
2 Kilian	IT Manager	Managerial	8000	10160
3 Rurik	Training Manager	Managerial	8000	10160
4 Harmon	Quality Assurance Manager	Managerial	8000	10160
5 Sal	Callers Manager	Managerial	8000	10160
6 Jarmo	Data-Providers Manager	Managerial	8000	10160
7 Gidie	Bureaucracy Manager	Managerial	8000	10160
8 Njord	ITSecurity	IT	3000	3450
9 Jude	Programmer	IT	2500	2875
10 Java	Caller Trainer	Training	2500	2500

-- cresc salariile de baza ale angajatilor din departamentele 2, 3 si 5

--modific preturile produselor in functie de preturile anterioare.

Case ia la rand cazurile de when, iar cand conditia este indeplinita, se returneaza valoarea din then. Daca un caz favorabil nu este intalnit, se preia valoarea din else. La final, coloana se va numi "Pret_modificat".

select p.Product_id, p.Product_name, p.Price,

case

when p.Price <120 then p.price*1.09

when (p.price >= 120 and p.price <= 200) then p.price*1.07

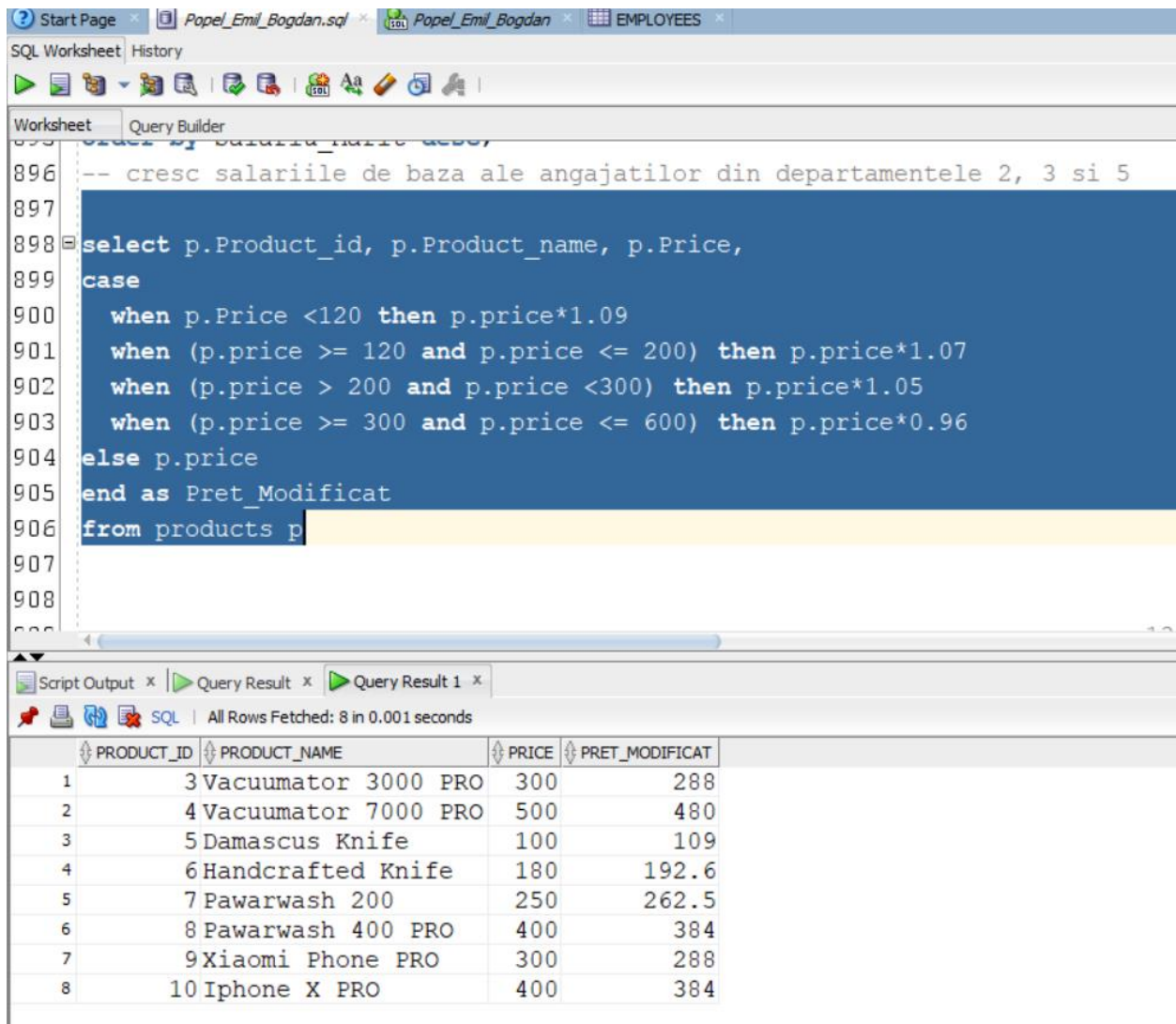
when (p.price > 200 and p.price <300) then p.price*1.05

when (p.price >= 300 and p.price <= 600) then p.price*0.96

else p.price

end as Pret_Modificat

from products p



The screenshot shows the SQL Developer interface. The top pane displays a SQL query in the 'Worksheet' tab. The query is as follows:

```
-- cresc salariile de baza ale angajatilor din departamentele 2, 3 si 5
select p.Product_id, p.Product_name, p.Price,
case
  when p.Price <120 then p.price*1.09
  when (p.price >= 120 and p.price <= 200) then p.price*1.07
  when (p.price > 200 and p.price <300) then p.price*1.05
  when (p.price >= 300 and p.price <= 600) then p.price*0.96
else p.price
end as Pret_Modificat
from products p
```

The bottom pane shows the 'Query Result' tab with the following data:

	PRODUCT_ID	PRODUCT_NAME	PRICE	PRET_MODIFICAT
1	3	Vacuumator 3000 PRO	300	288
2	4	Vacuumator 7000 PRO	500	480
3	5	Damascus Knife	100	109
4	6	Handcrafted Knife	180	192.6
5	7	Pawarwash 200	250	262.5
6	8	Pawarwash 400 PRO	400	384
7	9	Xiaomi Phone PRO	300	288
8	10	Iphone X PRO	400	384

-----13

--Modific numele produselor cu pretul mai mare de 300. Li se adauga cuvantul "PRO" in nume.

update products

set product_name = CONCAT(product_name, ' PRO')

where products.price in (select price from products where price >= 300);


```
909
910 update products
911 set product_name = CONCAT(product_name, ' PRO')
912 where products.price in (select price from products where price >= 300);
913
914 update employees
915 set email = replace(email, '@CallMeBack', '@gmail.com')
916 where employees.job_id in (select job_id from jobs where employees.job_id = jobs.job_id
917 and lower(trim(both from jobs.job_name)) != 'caller');
918
919 update employees
920 set phone_number = replace(phone_number, '+', '')
921 where employees.phone_number in (select phone_number from employees where trim(both from employees.phone_number) like
```

Script Output x Query Result x Query Result 1 x
Task completed in 0.001 seconds
5 rows updated.

--Toti angajatii care nu sunt "Calleri", vor avea adresa de email cu sufixul @gmail.com, in loc de "@CallMeBack.com".

update employees

set email = replace(email, '@CallMeBack', '@gmail.com')

where employees.job_id in (select job_id from jobs where employees.job_id = jobs.job_id

and lower(trim(both from jobs.job_name)) != 'caller');

```
914 update employees
915 set email = replace(email, '@CallMeBack', '@gmail.com')
916 where employees.job_id in (select job_id from jobs where employees.job_id = jobs.job_id
917 and lower(trim(both from jobs.job_name)) != 'caller');
918
919 update employees
920 set phone_number = replace(phone_number, '+', '')
921 where employees.phone_number in (select phone_number from employees where trim(both from emp
```

Script Output x Query Result x Query Result 1 x
Task completed in 0.001 seconds
29 rows updated.

--toate numerele de telefon care incep cu '+' vor fi modificate, pentru a nu mai avea + in fata, ci direct prefixul.

update employees

set phone_number = replace(phone_number, '+', '')

where employees.phone_number in (select phone_number from employees where trim(both from employees.phone_number) like '+%')

```

919 update employees
920 set phone_number = replace(phone_number, '+', '')
921 where employees.phone_number in (select phone_number from employees where trim(both from employees.phone_number)
922 like '++');
923
924 update employees
925 set phone_number = replace(phone_number, ' ', '')
926 --where employees.phone_number in (select phone_number from employees where trim(both from employees.phone_number) lik
927

```

Script Output x Query Result x Query Result 1 x

Task completed in 0.002 seconds

29 rows updated.

29 rows updated.

Line 922 Column 12 Insert Modified Windows: C

--toate locatiile, clientii, furnizorii si departamentele bazei noastre de date. Daca una din acestea nu se afla in locatia respectiva, valoarea ramane null. Se afiseaza de asemenea tara din care locatia face parte.

```
select l.location_id as LOCATII, c.location_id as Clienti, s.location_id as Furnizori, d.location_id as
Departament,
```

```
cc.country_name as TARA
```

```
from locations l
```

```
FULL outer join customers c on l.location_id = c.location_id
```

```
full outer join suppliers s on l.location_id = s.location_id
```

```
full outer join departments d on l.location_id = d.location_id
```

```
full outer join countries cc on l.country_id = cc.country_id
```

-----16

Cererile urmatoare furnizeaza codurile joburilor care au rank (level 5 sau level 6), conform modelului din laborator. Modelul de date nu imi permite sa fac ceva mai complex, nu am datele sau structura la dispozitie.

```
SELECT job_id
```

```
FROM divisions WHERE rank_id IN
```

```
(SELECT rank_id FROM ranks WHERE lower(trim(both from(rank_name))) = 'level 5') GROUP BY job_id
```

```
HAVING COUNT(rank_id)= (SELECT COUNT(*) FROM ranks WHERE lower(trim(both from(rank_name))) =
'level 5');
```

```
975 SELECT job_id
976 FROM divisions WHERE rank_id IN
977 (SELECT rank_id FROM ranks WHERE lower(trim(both from(rank_name))) = 'level 5') GROUP BY job_id
978 HAVING COUNT(rank_id)= (SELECT COUNT(*) FROM ranks WHERE lower(trim(both from(rank_name))) = 'level 5');
979
980
981 SELECT job_id
982 FROM divisions WHERE rank_id IN
983 (SELECT rank_id FROM ranks WHERE lower(trim(both from(rank_name))) = 'level 6') GROUP BY job_id
984 HAVING COUNT(rank_id)= (SELECT COUNT(*) FROM ranks WHERE lower(trim(both from(rank_name))) = 'level 6');
985
986
987
```

Script Output x Query Result x Query Result 1 x Query Result 2 x Query Result 3 x Query Result 4 x Query Result 5 x Query Result 6 x Query Result 7 x

All Rows Fetched: 2 in 0.001 seconds

JOB_ID
1 32
2 27

Line 979 Column 1 Insert Modified Windows: C

SELECT job_id

FROM divisions WHERE rank_id IN

(SELECT rank_id FROM ranks WHERE lower(trim(both from(rank_name))) = 'level 6') GROUP BY job_id

HAVING COUNT(rank_id)= (SELECT COUNT(*) FROM ranks WHERE lower(trim(both from(rank_name))) = 'level 6');

```
981 SELECT job_id
982 FROM divisions WHERE rank_id IN
983 (SELECT rank_id FROM ranks WHERE lower(trim(both from(rank_name))) = 'level 6') GROUP BY job_id
984 HAVING COUNT(rank_id)= (SELECT COUNT(*) FROM ranks WHERE lower(trim(both from(rank_name))) = 'level 6');
985
986
987
```

Script Output x Query Result x Query Result 1 x Query Result 2 x Query Result 3 x Query Result 4 x Query Result 5 x Query Result 6 x Query Result 7 x

All Rows Fetched: 1 in 0.002 seconds

JOB_ID
1 47