**Academia de Studii Economice**

**Facultatea de Cibernetică, Statistică și Informatică Economică**

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**PROIECT BAZE DE DATE**

**MAGAZIN DE ECHIPAMENTE MEDICALE**

**Lungu Costin-Cristian**

**Anul: II**

**Grupa: 1146**

**Informatică Economică - ID**

**București 2020**

Cuprins

[Introducere 3](#_Toc30013742)

[Crearea tabelelor 4](#_Toc30013743)

[Modificarea tabelelor create 6](#_Toc30013744)

[Modificarea datelor 11](#_Toc30013745)

[Interogarea tabelelor 12](#_Toc30013746)

[Jonctiuni intre relatii 17](#_Toc30013747)

[Interogari subordonate 18](#_Toc30013748)

[Functii predefinite 19](#_Toc30013749)

[Functii de grup 23](#_Toc30013750)

[Operatorii algebrei relationale 24](#_Toc30013751)

[Tabele virtuale 25](#_Toc30013752)

[Indecsi 26](#_Toc30013753)

[Sinonime 27](#_Toc30013754)

[Secvente 28](#_Toc30013755)

[Clustere 29](#_Toc30013756)

[Scripturi folosite 30](#_Toc30013757)

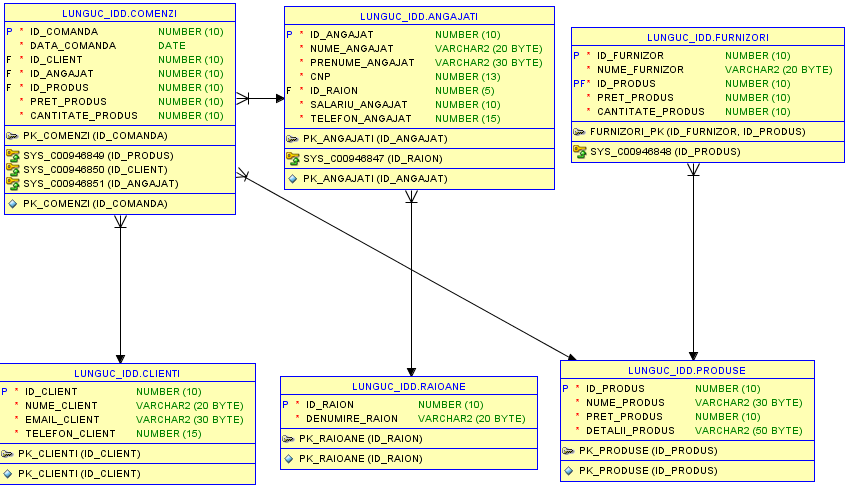
# Introducere

Am ales crearea unei baze de date pentru o firma de echipamente medicale, în vederea căruia am stocat date în 6 tabele, conectate între ele prin tipurile de legături dobândite în urma parcurgerii seminariilor.

Firma de echipamente medicale oferă clienților produse multiple ce sunt obținute în urma cumpărării de la mai mulți furnizori. În cadrul magazinului există angajați organizați pe mai multe raioane, în funcție de produsele specifice vândute, respectiv pe fizioterapie, cardiologie și estetică medicală.

Pentru ca magazinul de echipamente medicale să gestioneze fluxul de produse, a fost creată baza de date cu următoarele tabele și relații:

SCHIȚĂ TABELELOR BAZEI DE DATE

****

# Crearea tabelelor

CREATE TABLE ANGAJATI

(ID\_ANGAJAT NUMBER(10) CONSTRAINT pk\_angajati PRIMARY KEY,

NUME\_ANGAJAT VARCHAR2(20) NOT NULL,

PRENUME\_ANGAJAT VARCHAR2(30) NOT NULL,

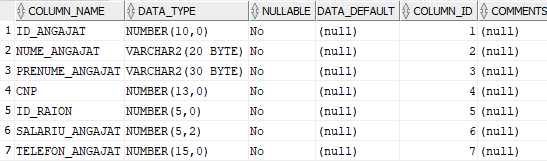
CNP NUMBER(13) NOT NULL,

ID\_RAION NUMBER(5) NOT NULL,

SALARIU\_ANGAJAT NUMBER (10) NOT NULL,

TELEFON\_ANGAJAT NUMBER(15) NOT NULL

);



CREATE TABLE RAIOANE

(

ID\_RAION NUMBER(10) CONSTRAINT pk\_raioane PRIMARY KEY,

DENUMIRE\_RAION VARCHAR2(20) NOT NULL

);



CREATE TABLE PRODUSE

(

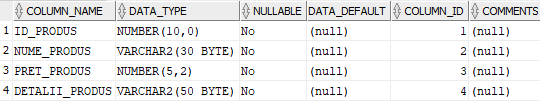
ID\_PRODUS NUMBER(10) CONSTRAINT pk\_produse PRIMARY KEY,

NUME\_PRODUS VARCHAR2(30) NOT NULL,

PRET\_PRODUS NUMBER(10) NOT NULL,

DETALII\_PRODUS VARCHAR2(50) NOT NULL

);



CREATE TABLE CLIENTI

(

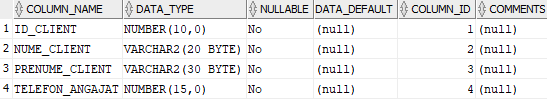
ID\_CLIENT NUMBER(10) CONSTRAINT pk\_clienti PRIMARY KEY,

NUME\_CLIENT VARCHAR2(20) NOT NULL,

EMAIL\_CLIENT VARCHAR2(30) NOT NULL,

TELEFON\_CLIENT NUMBER(15) NOT NULL

);



CREATE TABLE FURNIZORI

(

ID\_FURNIZOR NUMBER(10) NOT NULL,

NUME\_FURNIZOR VARCHAR2(20) NOT NULL,

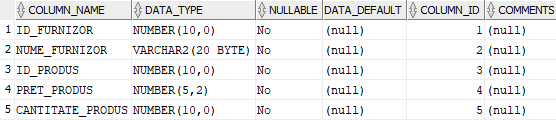
ID\_PRODUS NUMBER(10),

PRET\_PRODUS NUMBER(10) NOT NULL,

CANTITATE\_PRODUS NUMBER(10) NOT NULL,

PRIMARY KEY (ID\_FURNIZOR, ID\_PRODUS)

);



CREATE TABLE COMENZI  
(

ID\_COMANDA NUMBER(10) CONSTRAINT pk\_comenzi PRIMARY KEY,

DATA\_COMANDA DATE NOT NULL,

ID\_CLIENT NUMBER(10) NOT NULL,

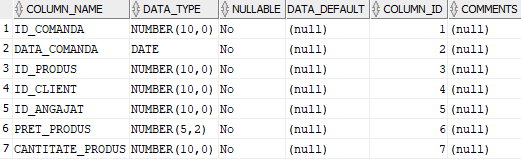
ID\_ANGAJAT NUMBER(10) NOT NULL,

ID\_PRODUS NUMBER(10) NOT NULL,

PRET\_PRODUS NUMBER(10) NOT NULL,

CANTITATE\_PRODUS NUMBER(10) NOT NULL

);



# Modificarea tabelelor create

**Adăugare FOREIGN KEY tabelelor create:**

ALTER TABLE ANGAJATI

ADD FOREIGN KEY (ID\_RAION) REFERENCES RAIOANE (ID\_RAION);


ALTER TABLE FURNIZORI

ADD FOREIGN KEY (ID\_PRODUS) REFERENCES PRODUSE (ID\_PRODUS);

ALTER TABLE COMENZI

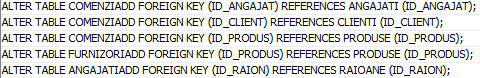
ADD FOREIGN KEY (ID\_PRODUS) REFERENCES PRODUSE (ID\_PRODUS);

ALTER TABLE COMENZI

ADD FOREIGN KEY (ID\_CLIENT) REFERENCES CLIENTI (ID\_CLIENT);

ALTER TABLE COMENZI

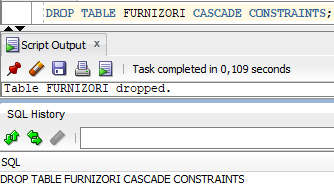
ADD FOREIGN KEY (ID\_ANGAJAT) REFERENCES ANGAJATI (ID\_ANGAJAT);



**Modificarea tabelelor:**

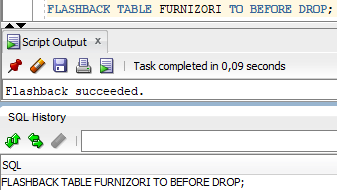
**Ștergerea unei tabele, inclusiv cu restricțiile acesteia:**

DROP TABLE FURNIZORI CASCADE CONSTRAINTS;



Recuperarea tabelei FURNIZORI:

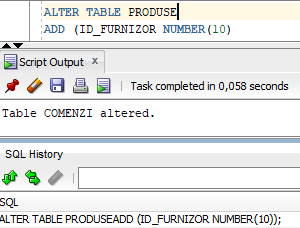
FLASHBACK TABLE FURNIZORI TO BEFORE DROP;



**Adăugarea coloanei ID\_FURNIZOR in tabela PRODUSE**

ALTER TABLE PRODUSE

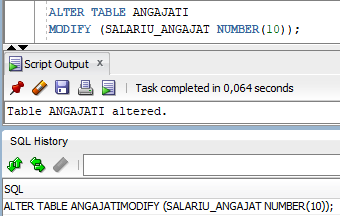
ADD(ID\_FURNIZOR NUMBER (10));



**Modificare unei coloane:**

ALTER TABLE ANGAJATI

MODIFY (SALARIU\_ANGAJAT NUMBER(10));

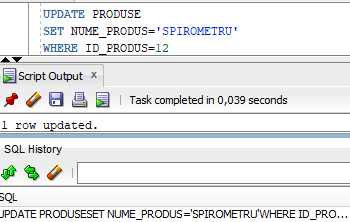


**Modificare numelui unui produs:**

UPDATE PRODUSE

SET NUME\_PRODUS=’SPIROMETRU’

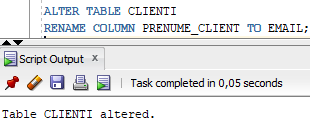
WHERE ID\_PRODUS=12



**Redenumire coloana:**

ALTER TABLE CLIENTI

RENAME COLUMN PRENUME\_CLIENT TO EMAIL;



**Adăugare date despre ANGAJAȚI:**

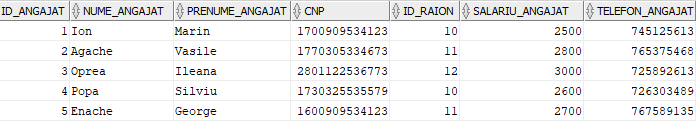
INSERT INTO ANGAJATI VALUES (1,'Ion','Marin',1700909534123,11,2500,0745125613);

INSERT INTO ANGAJATI VALUES (2,'Agache','Vasile',1770305334673,11,2800,0765375468);

INSERT INTO ANGAJATI VALUES (3,'Oprea','Ileana',2801122536773,22,3000,0725892613);

INSERT INTO ANGAJATI VALUES (4,'Popa','Silviu',1730325535579,22,2600,0726303489);

INSERT INTO ANGAJATI VALUES (5,'Enache','George',1600909534123,33,2700,0767589135);



**Adăugare date despre PRODUSE:**

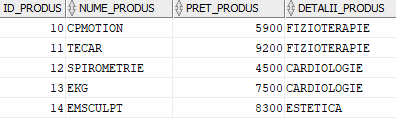
INSERT INTO PRODUSE VALUES (10,'CPMOTION',5900,'FIZIOTERAPIE');

INSERT INTO PRODUSE VALUES (11,'TECAR',9200,'FIZIOTERAPIE');

INSERT INTO PRODUSE VALUES (12,'SPIROMETRIE',4500,'CARDIOLOGIE');

INSERT INTO PRODUSE VALUES (13,'EKG',7500,'CARDIOLOGIE');

INSERT INTO PRODUSE VALUES (14,'EMSCULPT',8300,'ESTETICA');

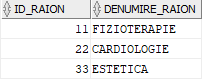


**Adăugare tipuri de raioane:**

INSERT INTO RAIOANE VALUES (11,'FIZIOTERAPIE');

INSERT INTO RAIOANE VALUES (22,'CARDIOLOGIE');

INSERT INTO RAIOANE VALUES (33,'ESTETICA');



**Adăugare informații despre furnizori:**

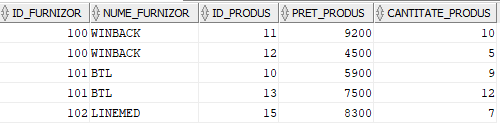
INSERT INTO FURNIZORI VALUES (100,'WINBACK',11,9200,10);

INSERT INTO FURNIZORI VALUES (100,'WINBACK',12,4500,5);

INSERT INTO FURNIZORI VALUES (101,'BTL',10,5900,9);

INSERT INTO FURNIZORI VALUES (101,'BTL',13,7500,12);

INSERT INTO FURNIZORI VALUES (102,'LINEMED',14,8300,7);



**Adăugare informații despre clienți:**

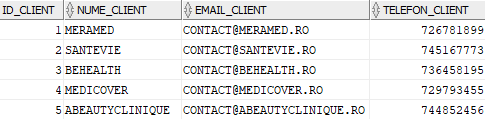
INSERT INTO CLIENTI VALUES (1,'MERAMED','CONTACT@MERAMED.RO',0726781899);

INSERT INTO CLIENTI VALUES (2,'SANTEVIE','CONTACT@SANTEVIE.RO',0745167773);

INSERT INTO CLIENTI VALUES (3,'BEHEALTH','CONTACT@BEHEALTH.RO',0736458195);

INSERT INTO CLIENTI VALUES (4,'MEDICOVER','CONTACT@MEDICOVER.RO',0729793455);

INSERT INTO CLIENTI VALUES (5,'ABEAUTYCLINIQUE','CONTACT@ABEAUTYCLINIQUE.RO',0744852456);



**Adăugarea COMENZILOR:**

INSERT INTO comenzi VALUES (1,1,2,11,9200,3,to\_date('13-01-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (2,2,3,12,4500,4,to\_date('23-03-2019','DD-MM-YYYY'));

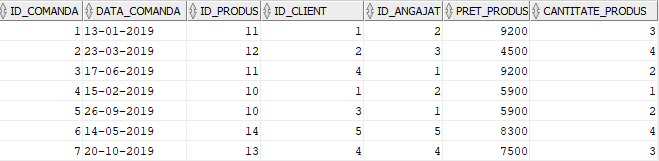
INSERT INTO comenzi VALUES (3,4,1,11,9200,2,to\_date('17-06-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (4,1,2,10,5900,1,to\_date('15-02-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (5,3,1,10,5900,2,to\_date('26-09-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (6,5,5,14,8300,4,to\_date('14-05-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (7,4,4,13,7500,3,to\_date('20-10-2019','DD-MM-YYYY'));

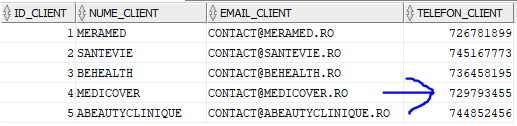
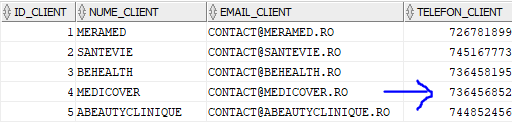


# Modificarea datelor

**Actualizarea numărului de telefon pentru clientul cu numărul 4**

UPDATE CLIENTI

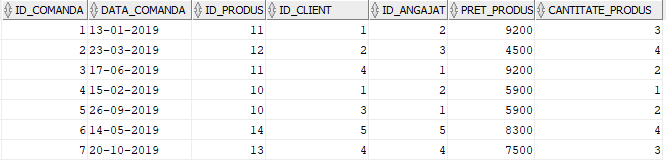
SET TELEFON\_CLIENT='0736456852'

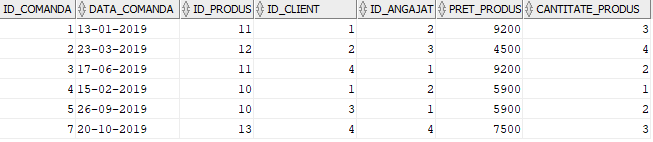
WHERE ID\_CLIENT=4;  

**Ștergerea comenzii cu id-ul nr 6**

DELETE FROM COMENZI

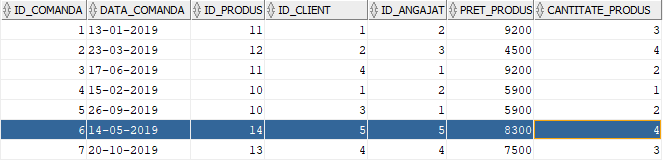
WHERE ID\_COMANDA='6';





**Anularea comenzii anterioare de stergere a comenzii cu id nr 6:**

ROLLBACK;

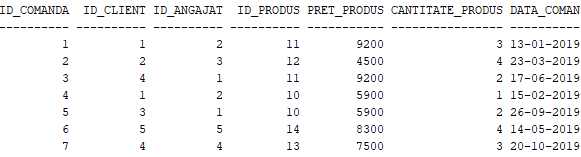


# Interogarea tabelelor

**Afisarea comenzilor:**

SELECT \*

FROM COMENZI;

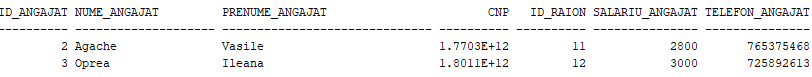


**Afisarea angajatilor al caror salarii sunt mai mari de 2750 lei:**

SELECT \*

FROM ANGAJATI

WHERE SALARIU\_ANGAJAT> 2750;

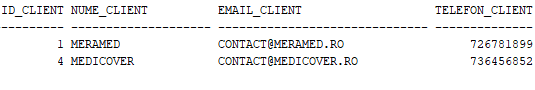


**Afisarea clientilor al caror nume incepe cu litera M:**

SELECT \*

FROM CLIENTI

WHERE (NUME\_CLIENT) LIKE 'M%';

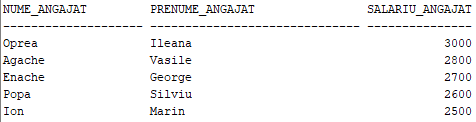


**Ordonarea DESCENDENTA a ANGAJATILOR dupa SALARIU:**

SELECT DISTINCT NUME\_ANGAJAT, PRENUME\_ANGAJAT, SALARIU\_ANGAJAT

FROM ANGAJATI

ORDER BY SALARIU\_ANGAJAT DESC;

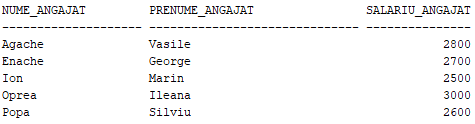
****

**Ordonarea ASCENDENTA a angajatilor dupa NUME:**

SELECT DISTINCT NUME\_ANGAJAT, PRENUME\_ANGAJAT, SALARIU\_ANGAJAT

FROM ANGAJATI

ORDER BY NUME\_ANGAJAT ASC;

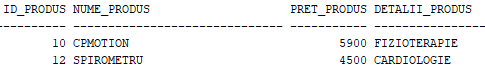
****

**Afisarea produselor mai ieftine de 7000 de lei:**

SELECT \*

FROM PRODUSE

WHERE PRET\_PRODUS < 7000;

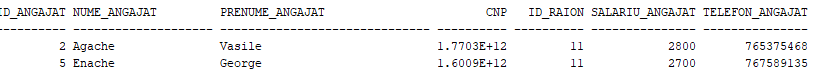


**Afisarea angajatilor de pe raionul FIZIOTERAPIE, al carui id este 11:**

SELECT \*

FROM ANGAJATI

WHERE ID\_RAION=11;

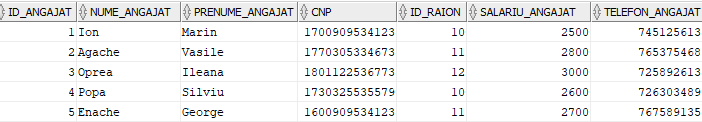


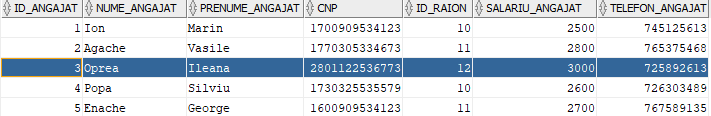
Corectarea unei greseli de inserare a datelor:

UPDATE ANGAJATI

SET CNP=2801122536773

WHERE ID\_ANGAJAT=3;





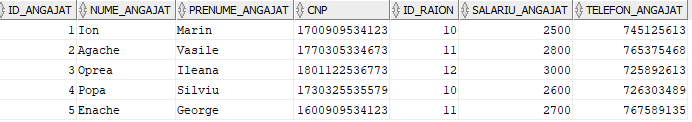
**Cresterea salariului angajatilor cu salariul mai mic de 3000 de lei:**

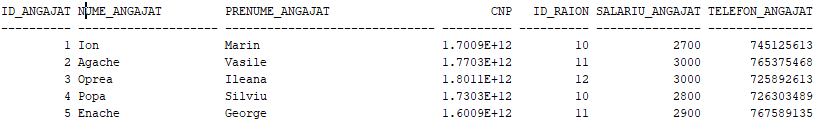
UPDATE ANGAJATI

SET SALARIU\_ANGAJAT=SALARIU\_ANGAJAT+200

WHERE SALARIU\_ANGAJAT<3000;

SELECT \* FROM ANGAJATI;





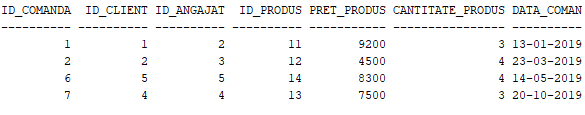
**Ordonarea comenzilor cu mai mult de 2 produse in functie de data achizitiei:**

SELECT \*

FROM COMENZI

WHERE CANTITATE\_PRODUS >2

ORDER BY DATA\_COMANDA;

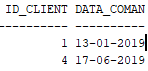


**Afisarea clientului si a datei comenzii in functie de produsul achizitionat:**

SELECT ID\_CLIENT, DATA\_COMANDA

FROM COMENZI

WHERE ID\_PRODUS=11;

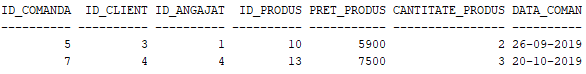


**Afisarea comenzilor din a doua parte a anului:**

SELECT \*

FROM COMENZI

WHERE DATA\_COMANDA >=TO\_DATE('01-06-2019','DD-MM-YYYY');

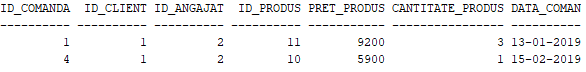


**Afisarea comenzilor gestionate de catre angajatul cu id-ul nr 2 in prima jumatate a anului:**

SELECT \*

FROM COMENZI WHERE ID\_ANGAJAT=2

AND DATA\_COMANDA<TO\_DATE('01-07-2019','DD-MM-YYYY');

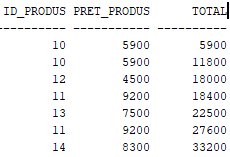


**Aranjarea ascendentă comenzilor în funcție de valoarea totală a comenzii**

SELECT ID\_PRODUS, PRET\_PRODUS, (C.PRET\_PRODUS \* C.CANTITATE\_PRODUS) AS TOTAL

FROM COMENZI C

ORDER BY TOTAL;



# Jonctiuni intre relatii

**Jonctiunea de egalitate**

**Afisarea tuturor clientilor cu id-ul curent, impreuna cu numele, cantitatea si pretul produselor, ordonate descendent, in functie de data ultimei comenzi.**

SELECT CL.NUME\_CLIENT, CL.ID\_CLIENT, PRO.NUME\_PRODUS, COM.CANTITATE\_PRODUS, COM.PRET\_PRODUS, COM.DATA\_COMANDA

FROM CLIENTI CL,

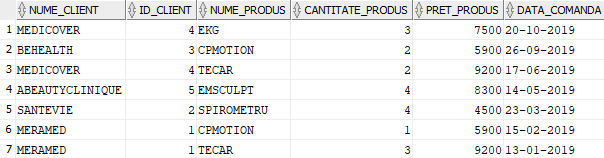
COMENZI COM,

PRODUSE PRO

WHERE CL.ID\_CLIENT=COM.ID\_CLIENT

AND PRO.ID\_PRODUS=COM.ID\_PRODUS

ORDER BY DATA\_COMANDA DESC;



**JONCTIUNE EXTERNA**

**Afisarea tuturor produselor de pe raioane în ordine crescătoare în funcție de pretul produsului**

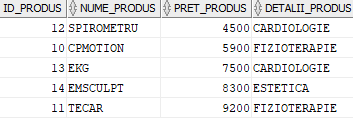
SELECT PRO.\*

FROM PRODUSE PRO,

RAIOANE RAI

WHERE PRO.DETALII\_PRODUS=RAI.DENUMIRE\_RAION(+)

ORDER BY PRET\_PRODUS ASC;



**Jonctiunea dintr-o tabela cu aceeasi tabela**

**Afisarea comenzilor din primele 5 luni ale anului cu id-ul clientului**

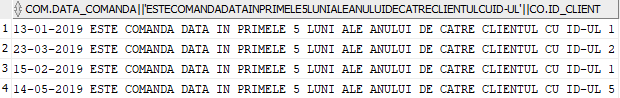
SELECT COM.DATA\_COMANDA ||' ESTE COMANDA DATA IN PRIMELE 5 LUNI ALE ANULUI DE CATRE CLIENTUL CU ID-UL '|| CO.ID\_CLIENT

FROM COMENZI COM,

COMENZI CO

WHERE COM.ID\_COMANDA=CO.ID\_COMANDA

AND COM.DATA\_COMANDA < TO\_DATE('01-06-2019','DD-MM-YYYY');



# Interogari subordonate

**Afisarea clientilor care au cumparat produse CPMOTION:**

SELECT CL.\*

FROM CLIENTI CL,

COMENZI COM,

PRODUSE PRO

WHERE CL.ID\_CLIENT=COM.ID\_CLIENT

AND COM.ID\_PRODUS=PRO.ID\_PRODUS

AND NUME\_PRODUS = (SELECT NUME\_PRODUS

FROM PRODUSE

WHERE NUME\_PRODUS ='CPMOTION');



# Functii predefinite

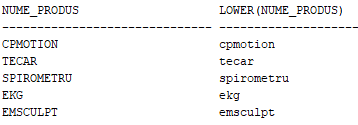
**LOWER()**

**Afisarea produselor scrise cu litere mici**

SELECT NUME\_PRODUS,

LOWER (NUME\_PRODUS)

FROM PRODUSE;



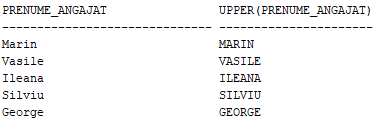
**UPPER()**

**Afisarea angajatilor scrisi cu majuscule:**

SELECT PRENUME\_ANGAJAT,

UPPER (PRENUME\_ANGAJAT)

FROM ANGAJATI;



**INITCAP()**

**Afisarea numelor raioanelor, avand doar prima litera mare:**

SELECT DENUMIRE\_RAION, INITCAP(DENUMIRE\_RAION)

FROM RAIOANE;



**OPERATORUL DE CONCATENARE**

**Afisarea comenzilor din primele 5 luni ale anului cu id-ul clientului**

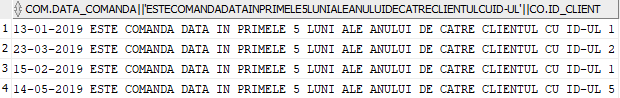
SELECT COM.DATA\_COMANDA ||' ESTE COMANDA DATA IN PRIMELE 5 LUNI ALE ANULUI DE CATRE CLIENTUL CU ID-UL '|| CO.ID\_CLIENT

FROM COMENZI COM,

COMENZI CO

WHERE COM.ID\_COMANDA=CO.ID\_COMANDA

AND COM.DATA\_COMANDA < TO\_DATE('01-06-2019','DD-MM-YYYY');

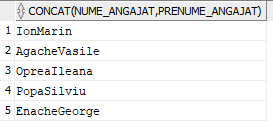


**CONCAT()**

**Afișarea numelui si prenumelui angajaților:**

SELECT CONCAT(NUME\_ANGAJAT, PRENUME\_ANGAJAT)

FROM ANGAJATI;

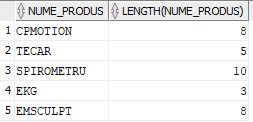


**LENGTH()**

**Afisarea numarului de caractere dat de numele produselor**

SELECT NUME\_PRODUS, LENGTH(NUME\_PRODUS)

FROM PRODUSE;



**SUBSTR()**

**Afisarea angajatilor nascuti in anii 1970**

SELECT NUME\_ANGAJAT, PRENUME\_ANGAJAT, CNP

FROM ANGAJATI

WHERE SUBSTR(CNP,2,1)=7;

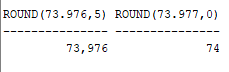


**ROUND()**

SELECT ROUND(73.976,5),

ROUND(73.977,0)

FROM DUAL;



SELECT ROUND(sysdate, 'MONTH')

FROM DUAL;



**TRUNC()**

SELECT TRUNC(73.976,5),

TRUNC(73.977,0)

FROM DUAL;



SELECT TRUNC(sysdate, 'YEAR')

FROM DUAL;

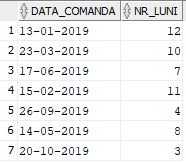


**MONTH\_BETWEEN()**

**Afisarea numarului de luni de la data comenzii:**

SELECT DATA\_COMANDA, ROUND(MONTHS\_BETWEEN(sysdate, DATA\_COMANDA)) NR\_LUNI

FROM COMENZI;

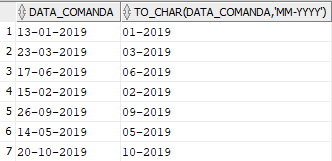


**TO\_CHAR**

**Afisarea datei la care s-a creat comanda in formatul LUNA-AN ('MM-YYYY'):**

SELECT DATA\_COMANDA, TO\_CHAR(DATA\_COMANDA,'MM-YYYY')

FROM COMENZI;



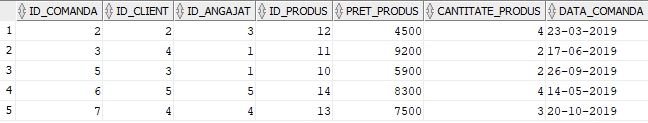
**TO\_DATE**

**Afisarea comenzilor din perioada 01.03.2019 - 31.10.2019**

SELECT \*

FROM COMENZI

WHERE DATA\_COMANDA BETWEEN TO\_DATE('01-03-2019','DD-MM-YYYY') AND TO\_DATE('31-10-2019','DD-MM-YYYY');



# Functii de grup

**AVG, MAX, MIN, SUM valoarea maxima, valoarea medie, valoarea minima si valoarea totala a produselor comandate:**

SELECT **AVG**(com.CANTITATE\_PRODUS \* com. PRET\_PRODUS)

FROM COMENZI com;



SELECT **MAX**(com. CANTITATE\_PRODUS \* com. PRET\_PRODUS)

FROM COMENZI com;



SELECT **MIN**(com. CANTITATE\_PRODUS \* com. PRET\_PRODUS)

FROM COMENZI com;



SELECT **SUM**(com. CANTITATE\_PRODUS \* com.PRET\_PRODUS)

FROM COMENZI com;



# Operatorii algebrei relationale

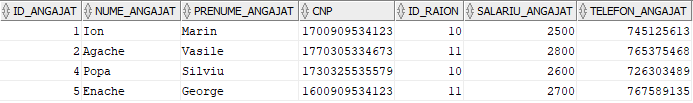
**Minus**

**Afisarea angajatilor care au salariul cuprins intre 2400 si 3500, fara cei care au 3000:**

SELECT \* FROM angajati WHERE salariu\_angajat BETWEEN 2400 AND 3500

MINUS

SELECT \* FROM angajati WHERE salariu\_angajat IN (3000);



**UNION**

**AFISAREA COMENZILOR CARE AU CUMPARAT PRODUSE DIN DEPARTAMENTUL FIZIOTERAPIE**

SELECT \*

FROM COMENZI

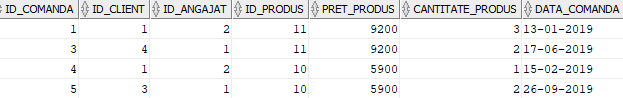
WHERE ID\_PRODUS=10

UNION

SELECT \*

FROM COMENZI

WHERE ID\_PRODUS=11;



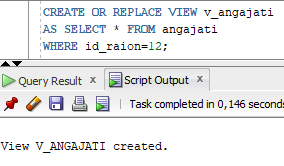
# Tabele virtuale

**Crearea unei tabele virtuale:**

CREATE OR REPLACE VIEW v\_angajati

AS SELECT \* FROM angajati

WHERE id\_raion=12;



**Afisarea informatiilor din tabela virtuala v\_angajati:**

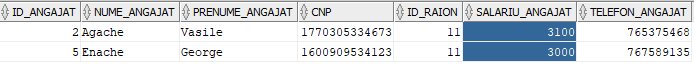
SELECT \* FROM v\_angajati;



**Actualizarea informatiilor din tabela virtuala prin cresterea salariului angajatilor cu 300 lei:**

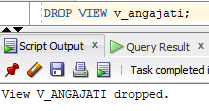
UPDATE v\_angajati

SET salariu\_angajat = salariu\_angajat + 300;



**Stergerea tabelei virtuale v\_angajati**

DROP VIEW v\_angajati;

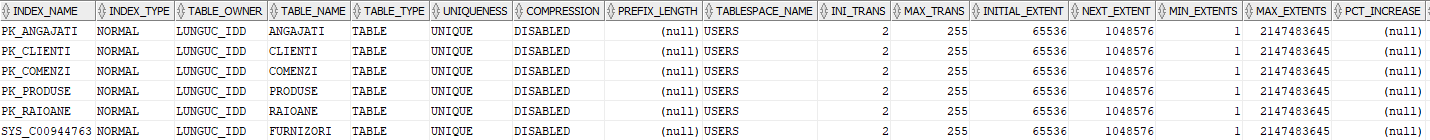


# Indecsi

**Vizualizarea indecsilor:**

SELECT \*

FROM USER\_INDEXES;



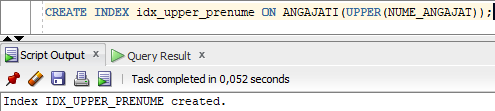
SELECT \* FROM ANGAJATI

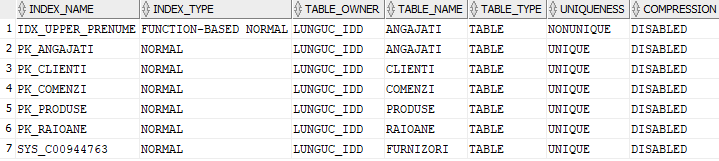
WHERE UPPER(NUME\_ANGAJAT) = 'OPREA';



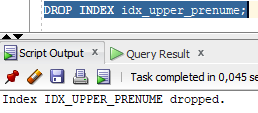
**Crearea unui index nou:**

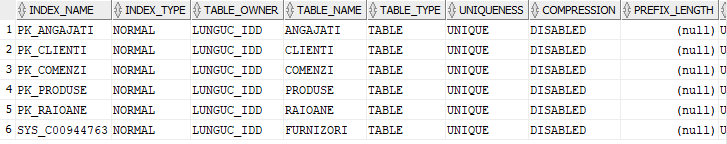
CREATE INDEX idx\_upper\_prenume ON ANGAJATI(UPPER(NUME\_ANGAJAT));





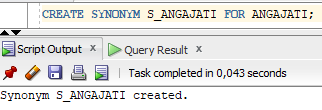
**Stergerea indexului:**





# Sinonime

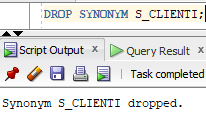
**Crearea sinonimelor pentru tabelele:**



**Listarea sinonimelor:**



**Stergerea sinonimelor:**



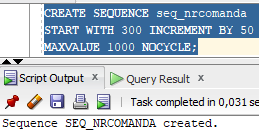
# Secvente

**Creare secvente:**

CREATE SEQUENCE seq\_nrcomanda

START WITH 300 INCREMENT BY 50

MAXVALUE 1000 NOCYCLE;



**Afisarea secventei:**

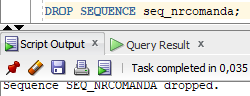
SELECT \*   
FROM USER\_SEQUENCES;



**Modificarea pasului de incrementare:**

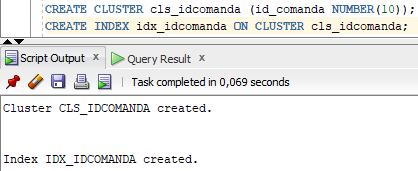


**Stergerea secventei create:**



# Clustere

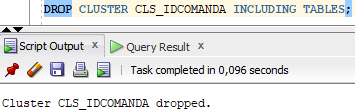
**Creare cluster cls\_idcomanda si a indexului idx\_idcomanda:**



**Afisarea informatiilor despre cluster:**



**Stergerea clusterului creat:**



# Scripturi folosite

CREATE TABLE ANGAJATI

(ID\_ANGAJAT NUMBER(10) CONSTRAINT pk\_angajati PRIMARY KEY,

NUME\_ANGAJAT VARCHAR2(20) NOT NULL,

PRENUME\_ANGAJAT VARCHAR2(30) NOT NULL,

CNP NUMBER(13) NOT NULL,

ID\_RAION NUMBER(5) NOT NULL,

SALARIU\_ANGAJAT NUMBER (10) NOT NULL,

TELEFON\_ANGAJAT NUMBER(15) NOT NULL

);

CREATE TABLE RAIOANE

(

ID\_RAION NUMBER(10) CONSTRAINT pk\_raioane PRIMARY KEY,,

DENUMIRE\_RAION VARCHAR2(20) NOT NULL

);

CREATE TABLE PRODUSE

(

ID\_PRODUS NUMBER(10) CONSTRAINT pk\_produse PRIMARY KEY,

NUME\_PRODUS VARCHAR2(30) NOT NULL,

PRET\_PRODUS NUMBER(10) NOT NULL,

DETALII\_PRODUS VARCHAR2(50) NOT NULL

);

CREATE TABLE CLIENTI

(

ID\_CLIENT NUMBER(10) CONSTRAINT pk\_clienti PRIMARY KEY,

NUME\_CLIENT VARCHAR2(20) NOT NULL,

EMAIL\_CLIENT VARCHAR2(30) NOT NULL,

TELEFON\_CLIENT NUMBER(15) NOT NULL

);

CREATE TABLE FURNIZORI

(

ID\_FURNIZOR NUMBER(10) NOT NULL,

NUME\_FURNIZOR VARCHAR2(20) NOT NULL,

ID\_PRODUS NUMBER(10),

PRET\_PRODUS NUMBER(10) NOT NULL,

CANTITATE\_PRODUS NUMBER(10) NOT NULL,

PRIMARY KEY (ID\_FURNIZOR, ID\_PRODUS)

);

CREATE TABLE COMENZI  
(

ID\_COMANDA NUMBER(10) CONSTRAINT pk\_comenzi PRIMARY KEY,

DATA\_COMANDA DATE NOT NULL,

ID\_CLIENT NUMBER(10) NOT NULL,

ID\_ANGAJAT NUMBER(10) NOT NULL,

ID\_PRODUS NUMBER(10) NOT NULL,

PRET\_PRODUS NUMBER(10) NOT NULL,

CANTITATE\_PRODUS NUMBER(10) NOT NULL

);

ALTER TABLE ANGAJATI

ADD FOREIGN KEY (ID\_RAION) REFERENCES RAIOANE (ID\_RAION);

ALTER TABLE FURNIZORI

ADD FOREIGN KEY (ID\_PRODUS) REFERENCES PRODUSE (ID\_PRODUS);

ALTER TABLE COMENZI

ADD FOREIGN KEY (ID\_PRODUS) REFERENCES PRODUSE (ID\_PRODUS);

ALTER TABLE COMENZI

ADD FOREIGN KEY (ID\_CLIENT) REFERENCES CLIENTI (ID\_CLIENT);

ALTER TABLE COMENZI

ADD FOREIGN KEY (ID\_ANGAJAT) REFERENCES ANGAJATI (ID\_ANGAJAT);

DROP TABLE FURNIZORI CASCADE CONSTRAINTS;

FLASHBACK TABLE FURNIZORI TO BEFORE DROP;

ALTER TABLE PRODUSE

ADD(ID\_FURNIZOR NUMBER (10));

ALTER TABLE ANGAJATI

MODIFY (SALARIU\_ANGAJAT NUMBER(10));

UPDATE PRODUSE

SET NUME\_PRODUS=’SPIROMETRU’

WHERE ID\_PRODUS=12

ALTER TABLE CLIENTI

RENAME COLUMN PRENUME\_CLIENT TO EMAIL;

INSERT INTO ANGAJATI VALUES (1,'Ion','Marin',1700909534123,11,2500,0745125613);

INSERT INTO ANGAJATI VALUES (2,'Agache','Vasile',1770305334673,11,2800,0765375468);

INSERT INTO ANGAJATI VALUES (3,'Oprea','Ileana',2801122536773,22,3000,0725892613);

INSERT INTO ANGAJATI VALUES (4,'Popa','Silviu',1730325535579,22,2600,0726303489);

INSERT INTO ANGAJATI VALUES (5,'Enache','George',1600909534123,33,2700,0767589135);

INSERT INTO PRODUSE VALUES (10,'CPMOTION',5900,'FIZIOTERAPIE');

INSERT INTO PRODUSE VALUES (11,'TECAR',9200,'FIZIOTERAPIE');

INSERT INTO PRODUSE VALUES (12,'SPIROMETRIE',4500,'CARDIOLOGIE');

INSERT INTO PRODUSE VALUES (13,'EKG',7500,'CARDIOLOGIE');

INSERT INTO PRODUSE VALUES (14,'EMSCULPT',8300,'ESTETICA');

INSERT INTO RAIOANE VALUES (11,'FIZIOTERAPIE');

INSERT INTO RAIOANE VALUES (22,'CARDIOLOGIE');

INSERT INTO RAIOANE VALUES (33,'ESTETICA');

INSERT INTO FURNIZORI VALUES (100,'WINBACK',11,9200,10);

INSERT INTO FURNIZORI VALUES (100,'WINBACK',12,4500,5);

INSERT INTO FURNIZORI VALUES (101,'BTL',10,5900,9);

INSERT INTO FURNIZORI VALUES (101,'BTL',13,7500,12);

INSERT INTO FURNIZORI VALUES (102,'LINEMED',14,8300,7);

INSERT INTO CLIENTI VALUES (1,'MERAMED','CONTACT@MERAMED.RO',0726781899);

INSERT INTO CLIENTI VALUES (2,'SANTEVIE','CONTACT@SANTEVIE.RO',0745167773);

INSERT INTO CLIENTI VALUES (3,'BEHEALTH','CONTACT@BEHEALTH.RO',0736458195);

INSERT INTO CLIENTI VALUES (4,'MEDICOVER','CONTACT@MEDICOVER.RO',0729793455);

INSERT INTO CLIENTI VALUES (5,'ABEAUTYCLINIQUE','CONTACT@ABEAUTYCLINIQUE.RO',0744852456);

INSERT INTO comenzi VALUES (1,1,2,11,9200,3,to\_date('13-01-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (2,2,3,12,4500,4,to\_date('23-03-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (3,4,1,11,9200,2,to\_date('17-06-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (4,1,2,10,5900,1,to\_date('15-02-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (5,3,1,10,5900,2,to\_date('26-09-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (6,5,5,14,8300,4,to\_date('14-05-2019','DD-MM-YYYY'));

INSERT INTO comenzi VALUES (7,4,4,13,7500,3,to\_date('20-10-2019','DD-MM-YYYY'));

UPDATE CLIENTI

SET TELEFON\_CLIENT=**'0736456852'**

WHERE **ID\_CLIENT=4**;

DELETE FROM COMENZI

WHERE ID\_COMANDA='6';

ROLLBACK;

SELECT \*

FROM COMENZI;

SELECT \*

FROM ANGAJATI

WHERE SALARIU\_ANGAJAT> 2750;

SELECT \*

FROM CLIENTI

WHERE (NUME\_CLIENT) LIKE 'M%';

SELECT DISTINCT NUME\_ANGAJAT, PRENUME\_ANGAJAT, SALARIU\_ANGAJAT

FROM ANGAJATI

ORDER BY SALARIU\_ANGAJAT DESC;

SELECT DISTINCT NUME\_ANGAJAT, PRENUME\_ANGAJAT, SALARIU\_ANGAJAT

FROM ANGAJATI

ORDER BY NUME\_ANGAJAT ASC;

SELECT \*

FROM PRODUSE

WHERE PRET\_PRODUS < 7000;

SELECT \*

FROM ANGAJATI

WHERE ID\_RAION=11;

UPDATE ANGAJATI

SET SALARIU\_ANGAJAT=SALARIU\_ANGAJAT+200

WHERE SALARIU\_ANGAJAT<3000;

SELECT \* FROM ANGAJATI;

SELECT \*

FROM COMENZI

WHERE CANTITATE\_PRODUS >2

ORDER BY DATA\_COMANDA;

SELECT ID\_CLIENT, DATA\_COMANDA

FROM COMENZI

WHERE ID\_PRODUS=11;

SELECT \*

FROM COMENZI

WHERE DATA\_COMANDA >=TO\_DATE('01-06-2019','DD-MM-YYYY');

SELECT \*

FROM COMENZI WHERE ID\_ANGAJAT=2

AND DATA\_COMANDA<TO\_DATE('01-07-2019','DD-MM-YYYY');

SELECT ID\_PRODUS, PRET\_PRODUS, (C.PRET\_PRODUS \* C.CANTITATE\_PRODUS) AS TOTAL

FROM COMENZI C

ORDER BY TOTAL;

SELECT CL.NUME\_CLIENT, CL.ID\_CLIENT, PRO.NUME\_PRODUS, COM.CANTITATE\_PRODUS, COM.PRET\_PRODUS, COM.DATA\_COMANDA

FROM CLIENTI CL,

COMENZI COM,

PRODUSE PRO

WHERE CL.ID\_CLIENT=COM.ID\_CLIENT

AND PRO.ID\_PRODUS=COM.ID\_PRODUS

ORDER BY DATA\_COMANDA DESC;

SELECT PRO.\*

FROM PRODUSE PRO,

RAIOANE RAI

WHERE PRO.DETALII\_PRODUS=RAI.DENUMIRE\_RAION(+)

ORDER BY PRET\_PRODUS ASC;

SELECT COM.DATA\_COMANDA ||' ESTE COMANDA DATA IN PRIMELE 5 LUNI ALE ANULUI DE CATRE CLIENTUL CU ID-UL '|| CO.ID\_CLIENT

FROM COMENZI COM,

COMENZI CO

WHERE COM.ID\_COMANDA=CO.ID\_COMANDA

AND COM.DATA\_COMANDA < TO\_DATE('01-06-2019','DD-MM-YYYY');

SELECT CL.\*

FROM CLIENTI CL,

COMENZI COM,

PRODUSE PRO

WHERE CL.ID\_CLIENT=COM.ID\_CLIENT

AND COM.ID\_PRODUS=PRO.ID\_PRODUS

AND NUME\_PRODUS = (SELECT NUME\_PRODUS

FROM PRODUSE

WHERE NUME\_PRODUS ='CPMOTION');

SELECT NUME\_PRODUS,

LOWER (NUME\_PRODUS)

FROM PRODUSE;

SELECT PRENUME\_ANGAJAT,

UPPER (PRENUME\_ANGAJAT)

FROM ANGAJATI;

SELECT DENUMIRE\_RAION, INITCAP(DENUMIRE\_RAION)

FROM RAIOANE;

SELECT COM.DATA\_COMANDA ||' ESTE COMANDA DATA IN PRIMELE 5 LUNI ALE ANULUI DE CATRE CLIENTUL CU ID-UL '|| CO.ID\_CLIENT

FROM COMENZI COM,

COMENZI CO

WHERE COM.ID\_COMANDA=CO.ID\_COMANDA

AND COM.DATA\_COMANDA < TO\_DATE('01-06-2019','DD-MM-YYYY');

SELECT CONCAT(NUME\_ANGAJAT, PRENUME\_ANGAJAT)

FROM ANGAJATI;

SELECT NUME\_PRODUS, LENGTH(NUME\_PRODUS)

FROM PRODUSE;

SELECT NUME\_ANGAJAT, PRENUME\_ANGAJAT, CNP

FROM ANGAJATI

WHERE SUBSTR(CNP,2,1)=7;

SELECT ROUND(73.976,5),

ROUND(73.977,0)

FROM DUAL;

SELECT ROUND(sysdate, 'MONTH')

FROM DUAL;

SELECT TRUNC(73.976,5),

TRUNC(73.977,0)

FROM DUAL;

SELECT TRUNC(sysdate, 'YEAR')

FROM DUAL;

SELECT DATA\_COMANDA, ROUND(MONTHS\_BETWEEN(sysdate, DATA\_COMANDA)) NR\_LUNI

FROM COMENZI;

SELECT DATA\_COMANDA, TO\_CHAR(DATA\_COMANDA,'MM-YYYY')

FROM COMENZI;

SELECT \*

FROM COMENZI

WHERE DATA\_COMANDA BETWEEN TO\_DATE('01-03-2019','DD-MM-YYYY') AND TO\_DATE('31-10-2019','DD-MM-YYYY');

SELECT **AVG**(com.CANTITATE\_PRODUS \* com. PRET\_PRODUS)

FROM COMENZI com;

SELECT **MAX**(com. CANTITATE\_PRODUS \* com. PRET\_PRODUS)

FROM COMENZI com;

SELECT **MIN**(com. CANTITATE\_PRODUS \* com. PRET\_PRODUS)

FROM COMENZI com;

SELECT **SUM**(com. CANTITATE\_PRODUS \* com.PRET\_PRODUS)

FROM COMENZI com;

SELECT \* FROM angajati WHERE salariu\_angajat BETWEEN 2400 AND 3500

MINUS

SELECT \* FROM angajati WHERE salariu\_angajat IN (3000);

SELECT \*

FROM COMENZI

WHERE ID\_PRODUS=10

UNION

SELECT \*

FROM COMENZI

WHERE ID\_PRODUS=11;

CREATE OR REPLACE VIEW v\_angajati

AS SELECT \* FROM angajati

WHERE id\_raion=12;

SELECT \* FROM v\_angajati;

UPDATE v\_angajati

SET salariu\_angajat = salariu\_angajat + 300;

DROP VIEW v\_angajati;

SELECT \*

FROM USER\_INDEXES;

SELECT \* FROM ANGAJATI

WHERE UPPER(NUME\_ANGAJAT) = 'OPREA';

CREATE INDEX idx\_upper\_prenume ON ANGAJATI(UPPER(NUME\_ANGAJAT));

CREATE SEQUENCE seq\_nrcomanda

START WITH 300 INCREMENT BY 50

MAXVALUE 1000 NOCYCLE;

SELECT \*   
FROM USER\_SEQUENCES;