Universitatea din Craiova

Facultatea de Automatica, Calculatoare si Electronica

PROIECT PBD

"Firma Curierat"

Anul universitar 2015-2016

Anul III, Semestrul II
Calculatoare Romana - Grupa 10303s

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Cuprins

Enunt:

Să se creeze o bază de date care să ţină evidenţa unei firme de curierat. Fiecare Sediu are mai multe vehicule si mai multi angajati . Pentru plasarea unei comenzi ,clientul trebuie sa vina la unul dintre sediile firmei , sa completeze un fromular si sa predea coletele.Un client poate avea calitatea fie de persoana fizica, fie de persoana juridica.Un client poate plasa mai multe comenzi, o comanda poate avea mai multe pachete, fiecare pachet apartine unui anumit destinatar.Pentru fiecare comanda se creaza o singura facture.Ofactura poate fi create de un anumit receptioner.Comenzile sunt expediate de mai multi curieri.

Cerinte:

1.Să se realizeze modelul entitate-legătură
2. Să se facă trecerea la modelul relaţional (să se detalieze operaţiile effectuate pentru fiecare entitate în parte)
3. Să se creeze o bază de date care să conţină:
    a. Legături între tabele;
    b. Integritatea referenţială pentru a efectua corect operaţiile de actualizare (adăugare, ştergere, modificare);
    c. Chei primare şi chei externe;
    d. Reguli de ştergere în cascadă pentru entităţile cu chei externe.
4. Să se verifice calitatea proiectării bazei de date cu ajutorul formelor normale (se va normaliza baza de date până la FNBC - inclusiv).
5. Să se indexeze baza de date creată (crearea minim a unui index).
6. Să se facă testarea bazei de date prin efectuarea de diferite operaţii asupra ei. Trebuie să existe cel puţin o interogare din fiecare tip (în total minim 15 interogări), 2 funcţii diferite (care să nu facă un simplu select), 2 proceduri stocate, şi 1 trigger.
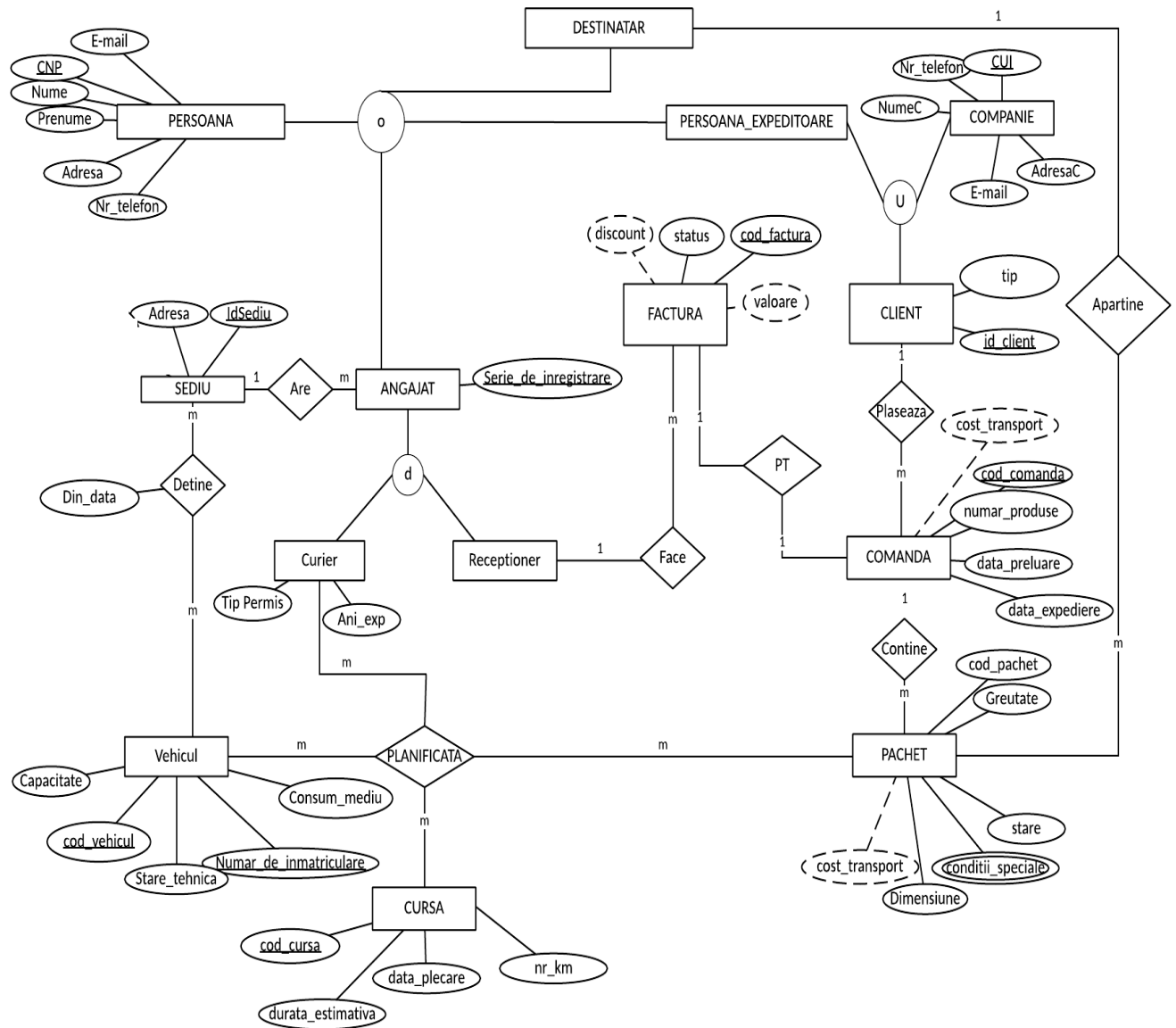
* Baza de date trebuie să conţină minim 10 tabele
** Se va adăuga în tabele un volum mare de informaţii reale – minim 20 înregistrări în fiecare tabel
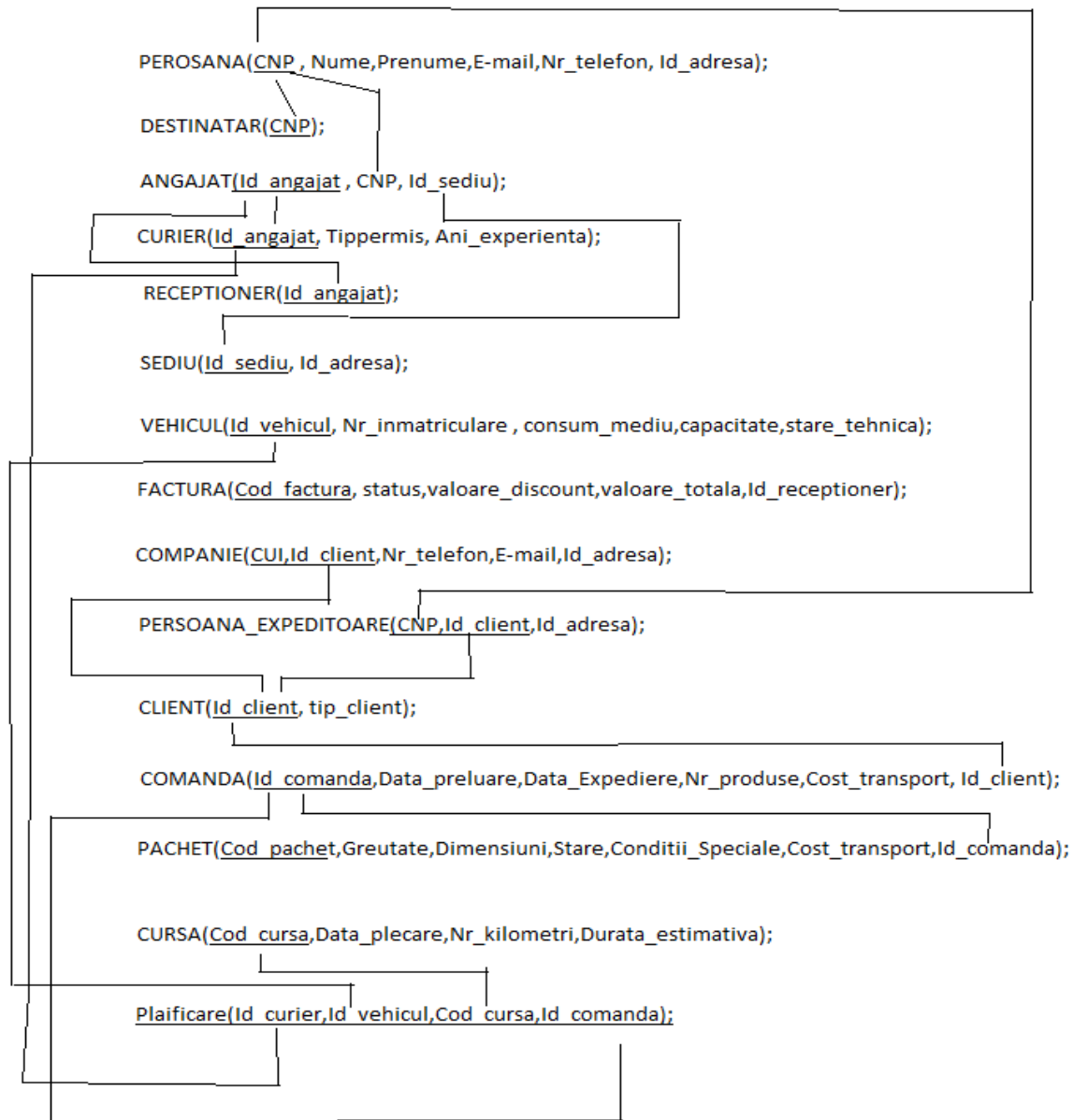*** Baza de date trebuie să fie realizată în Oracle
**** Se vor folosi programele Visio sau Embarcadero pentru crearea modelului entitate-legătură (listarea pentru dosar a modelului Entitate Legătură)
***** Fiecare cerinţă are punctaj separat

Modelul Entitate-Legatura

Modelul Relational

PEROSANA(<u>CNP</u> , Nume,Prenume,E-mail,Nr_telefon, Id_adresa);

DESTINATAR(<u>CNP</u>);

ANGAJAT(<u>Id_angajat</u> , CNP, Id_sediu);

CURIER(<u>Id_angajat</u>, Tippermis, Ani_experienta);

RECEPTIONER(<u>Id_angajat</u>);

SEDIU(<u>Id_sediu</u>, Id_adresa);

VEHICUL(<u>Id_vehicul</u>, Nr_inmatriculare , consum_mediu,capacitate,stare_tehnica);

FACTURA(<u>Cod_factura</u>, status,valoare_discount,valoare_totala,Id_receptioner);

COMPANIE(<u>CUI</u>,Id_client,Nr_telefon,E-mail,Id_adresa);

PERSOANA_EXPEDITOARE(<u>CNP</u>,Id_client,Id_adresa);

CLIENT(<u>Id_client</u>, tip_client);

COMANDA(<u>Id_comanda</u>,Data_preluare,Data_Expediere,Nr_produse,Cost_transport, Id_client);

PACHET(<u>Cod_pachet</u>,Greutate,Dimensiuni,Stare,Conditii_Speciale,Cost_transport,Id_comanda);

CURSA(<u>Cod_cursa</u>,Data_plecare,Nr_kilometri,Durata_estimativa);

Plaificare(<u>Id_curier,Id_vehicul,Cod_cursa,Id_comanda</u>);

Crearea bazei de date

```sql
CREATE TABLE Adresa_sediu(
    Id_adresa int,
    Judet VARCHAR(20) NOT NULL,
    Oras VARCHAR(20) NOT NULL,
    Strada VARCHAR(60) NOT NULL,
    Numar int NOT NULL,
    Bloc VARCHAR(10) DEFAULT '-',
    Apartament VARCHAR(3) DEFAULT '-',
    Scara VARCHAR(3) DEFAULT '-',
    PRIMARY KEY(Id_adresa)
);
```

```sql
CREATE TABLE Sediu(
    Id_sediu int,
    Id_adresa int REFERENCES
Adresa_sediu(Id_adresa) ON DELETE CASC
ADE ON UPDATE CASCADE ,
    PRIMARY KEY(Id_sediu)
);
```

```sql
CREATE TABLE Persoana(
    CNP VARCHAR(13) PRIMARY KEY,
    Nume  VARCHAR(20) NOT NULL,
    Prenume  VARCHAR(20) NOT NULL,
    Email VARCHAR(50) NOT NULL UNIQUE,
    Nr_telefon VARCHAR(15) NOT NULL
);
```

```sql
ALTER TABLE Persoana
ADD CHECK (LENGTH(CNP) >= 13 AND LENGTH(CNP) < 14 AND LENGTH(Nume) >= 3 AND LENGTH(Pre
nume) >= 3 );
ALTER TABLE Persoana
ADD CHECK (Email LIKE '%@%.%' AND Email NOT LIKE '@%' AND Email NOT LIKE '%@%@%');
```

```sql
CREATE TABLE Adresa_angajat(
    Id_adresa int,
    Judet VARCHAR(20) NOT NULL,
    Oras VARCHAR(20) NOT NULL,
    Strada VARCHAR(60) NOT NULL,
    Numar int NOT NULL,
    Bloc VARCHAR(10) DEFAULT '-',
    Apartament VARCHAR(3) DEFAULT '-',
    Scara VARCHAR(3) DEFAULT '-',
    PRIMARY KEY(Id_adresa)
);
```

```sql
CREATE TABLE Angajat(
    Id_angajat int ,
    CNP_Angajat VARCHAR(13) NOT NULL
,
    Id_sediu int ,
    Id_adresa int REFERENCES
Adresa_angajat(Id_adresa) ON DELETE `
CASCADE ON UPDATE CASCADE ,
    PRIMARY KEY (Id_angajat)
);
```

```sql
ALTER TABLE Angajat ADD CONSTRAINT fk_AngCnp FOREIGN KEY (CNP_Angajat) REFERENCES
Persoana(CNP)  ON DELETE CASCADE ON UPDATE CASCADE;
ALTER TABLE Angajat ADD CONSTRAINT fk_Angidsediu FOREIGN KEY (Id_sediu) REFERENCES
Sediu(Id_sediu)  ON DELETE CASCADE ON UPDATE CASCADE;
```

```sql
CREATE TABLE Curier(
    Id_angajat int REFERENCES Angajat(Id_angajat) ON DELETE CASCADE ,
    Tip_permis VARCHAR(20) NOT NULL CHECK (Tip_permis= 'A' OR Tip_permis= 'B' OR Tip_permis= 'C'
 OR Tip_permis= 'D' OR Tip_permis= 'E'),
    Ani_experienta int NOT NULL
);

ALTER TABLE Curier ADD PRIMARY KEY (Id_angajat);

CREATE TABLE Receptioner(
    Id_angajat int PRIMARY KEY REFERENCES Angajat(Id_angajat) ON DELETE CASCADE
);

CREATE TABLE Vehicul(
    Id_vehicul int ,
    Nr_inmatriculate  VARCHAR(50) NOT NULL UNIQUE,
    Consum_mediu FLOAT,
    Capacitate FLOAT,
    CategorieNecesara VARCHAR(20) NOT NULL
                CHECK( CategorieNecesara= 'A' OR CategorieNecesara= 'B' OR CategorieNecesara= 'C'
                OR CategorieNecesara= 'D' OR CategorieNecesara= 'E'),
    Stare_tehnica VARCHAR(50) CHECK( Stare_tehnica = 'uzata' OR  Stare_tehnica = 'noua'
                OR  Stare_tehnica = 'ok'),
    PRIMARY KEY(Id_vehicul)
);

 CREATE TABLE Detine(
    Id_vehicul int REFERENCES Vehicul(Id_vehicul) ON DELETE CASCADE ,
    Id_sediu   int REFERENCES Sediu(Id_sediu) ON DELETE CASCADE ,
    Data_detinere DATE NOT NULL
);

CREATE TABLE Client(
    Id_client int ,
    Tip_client VARCHAR(20) NOT NULL CHECK(Tip_client = 'nou' OR Tip_client = 'fidel'),
    NumarComenzi int,
    PRIMARY KEY(Id_client)
);

CREATE TABLE Persoana_expeditoare(
    CNP VARCHAR(13) REFERENCES Persoana(CNP) ON DELETE CASCADE ON UPDATE CASCADE,
    ID_client int REFERENCES Client(Id_client) ON DELETE CASCADE ON UPDATE CASCADE
);
```

```sql
CREATE TABLE Companie(
    CUI VARCHAR(50),
    Nume VARCHAR(20) NOT NULL UNIQUE,
    Email VARCHAR(20) NOT NULL UNIQUE,
    Numar_telefon VARCHAR(20) NOT NULL
        UNIQUE,
    ID_client int REFERENCES
Client(Id_client) ON DELETE CASCADE ON
        UPDATE CASCADE,
    PRIMARY KEY(CUI)
);


CREATE TABLE Adresa_destinatar(
    Id_adresa int ,
    Judet VARCHAR(20),
    Oras VARCHAR(20),
    Strada VARCHAR(60),
    Numar int,
    Bloc VARCHAR(10) DEFAULT '-',
    Apartament VARCHAR(3) DEFAULT '-',
    Scara VARCHAR(3) DEFAULT '-',
    PRIMARY KEY(Id_adresa)
);


CREATE TABLE Destinatar(
    CNP_Destinatar VARCHAR(13) REFERENCES
    Persoana(CNP) ON DELETE CASCADE ON UP
    DATE CASCADE
    Id_adresa int REFERENCES
    Adresa_destinatar(Id_adresa) ON DELETE C
    ASCADE ON UPDATE CASCADE
);

ALTER TABLE Destinatar ADD PRIMARY
KEY (CNP_Destinatar);


CREATE TABLE Comanda(
    Id_comanda int,
    Data_preluare DATE NOT NULL,
    Data_expediere DATE NOT NULL,
    Numar_produse int,
    Valoare_totala FLOAT NOT NULL,
    Id_client int NOT NULL REFERENCES
Client(Id_client) ON DELETE CASCADE ON UPD
ATE CASCADE,
    PRIMARY KEY (Id_comanda)
);


ALTER TABLE Pachet ADD CONSTRAINT CHECK( Numar_produse => 1 AND Valoare_totala >0);
ALTER session SET nls_date_format = 'DD-MM-YY';


CREATE TABLE Pachet(
    Id_pachet int,
    Greutate FLOAT NOT NULL,
    Lungime FLOAT NOT NULL,
    Latime FLOAT NOT NULL,
    Inaltime FLOAT NOT NULL,
    Stare VARCHAR(10) NOT NULL,
    Cost_transport FLOAT NOT NULL,
    Id_comanda int NOT NULL REFERENCES Comanda(Id_comanda) ON DELETE CASCADE ,
    Id_destinatar VARCHAR(13) NOT NULL REFERENCES,
Destinatar(CNP_Destinatar) ON DELETE CASCADE ,
    PRIMARY KEY (Id_pachet)
);
```

```sql
ALTER TABLE Pachet ADD CONSTRAINT CHECK( Greutate > 0 AND Lungime > 0 AND Inaltime > 0AND
Cost_transport > 0);

CREATE TABLE Factura(
    Cod_factura int,
    Valoare_efectiva FLOAT NOT NULL,
    Valoare_discount FLOAT NOT NULL,
    Valoare_totala FLOAT NOT NULL,
    Id_comanda int NOT NULL REFERENCES  ,
Comanda(Id_comanda) ON DELETE CASCADE ,
    Id_receptioner int NOT NULL REFERENCES
Receptioner(Id_angajat) ON DELETE CASCADE,
    PRIMARY KEY(Cod_factura)


CREATE TABLE Planificare(
    Id_curier int NOT NULL REFERENCES Curier(Id_angajat) ON DELETE CASCADE,
    Id_vehicul int NOT NULL REFERENCES Vehicul(Id_vehicul) ON DELETE CASCADE,
    Id_cursa int NOT NULL REFERENCES Cursa(Id_cursa) ON DELETE CASCADE,
    Id_pachet int NOT NULL REFERENCES Pachet(Id_pachet) ON DELETE CASCADE
);

);

CREATE TABLE Cursa(
    Id_cursa int ,
    Data_plecare DATE NOT NULL,
    Durata_estimativa int , /*in ore*/
    Numar_kilometri int,
    Primary KEY(Id_cursa)
);
```

Inserarea datelor

```
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES (1,'Dolj' , 'Craiova' ,
'Bulevardul Gheorghe ChiTu',14);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES (2,'Dolj' , 'Craiova' ,
'D10or Victor Papilian',5);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES (4,'Alba' , 'Runc' ,
'Bulevardul Gheorghe ChiTu',54);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES (5,'Alba' , 'Noslac' ,
'Bulevardul Gheorghe ChiTu',21);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES (6,'Mures','Targu
Mures','Piata Republici',39);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES (8,'Buzau','Buzau',
'Bulevardul Unirii',50);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES (9,'Buzau','Craiova',
'1 Septembrie',31);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES (11,'Bihor','Paulesti',
'Mihai Eminescu',25);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES (12,'Botosani','Slobozia'
,'Ioan Slavici',98);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES (13,'Cluj','Cheia',
'Drumul Sarii',46);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar) VALUES  (15,'Gorj','Damboja',
'Mihai Viteazu',1);
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara)VALUES
  (14,'Covasna','Bradet','Dezrobirii',30 , 'M8' , '5' , '3');
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara)VALUES
  (10,'Buzau','Craiova','Drumul Apelor',47 , 'F4' , '7' , '2');
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara)VALUES
  (7,'Mures','Targu Mures','Sinaia',74 ,'D31' , '112' , '3');
INSERT INTO Adresa_sediu(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara)VALUES
  (3,'Dolj' , 'Craiova' , 'Fratii Golesti' , 69 , 'C54' , '14' , '1');
```

```
INSERT INTO SEDIU VALUES (1,1);
INSERT INTO SEDIU VALUES (2,2);
INSERT INTO SEDIU VALUES (3,3);
INSERT INTO SEDIU VALUES (4,4);
INSERT INTO SEDIU VALUES (5,5);
INSERT INTO SEDIU VALUES (6,6);
INSERT INTO SEDIU VALUES (7,7);
INSERT INTO SEDIU VALUES (8,8);
INSERT INTO SEDIU VALUES (9,9);
INSERT INTO SEDIU VALUES (10,10);
INSERT INTO SEDIU VALUES (11,11);
INSERT INTO SEDIU VALUES (12,12);
INSERT INTO SEDIU VALUES (13,3);
INSERT INTO SEDIU VALUES (14,14);
INSERT INTO SEDIU VALUES (15,15);
```

/*Angajati*/

INSERT INTO Persoana VALUES('1781205345345','Anton','Mihai', 'andtonmihai@yahoo.com', '0789654345') ;
INSERT INTO Persoana VALUES('2861103350654','Dobre','Maria', 'dobremaria@yahoo.com', '0765432896') ;
INSERT INTO Persoana VALUES('1850404123456','Dobre','Marius','dobremarius@yahoo.com','0754658832') ;
INSERT INTO Persoana VALUES('1891121043923','Georgescu','Calin','georgescucatalin@yahoo.com','072130
0400') ;
INSERT INTO Persoana VALUES('1910927278427','Georgescu','Laurentiu', 'georgesculaurentiu@yahoo.com',
'0786886800') ;
INSERT INTO Persoana VALUES('2910504162295', 'Tomescu','Florentina','tomescufloarentina@yahoo.com',
'0756432234') ;
INSERT INTO Persoana VALUES('1850327359570', 'Toma','Florin', 'tomaflorin@yahoo.com','0766800702') ;
INSERT INTO Persoana VALUES('1890103393337','Mihnea','Aurel','mihneaaurel@yahoo.com','0766402204') ;
INSERT INTO Persoana VALUES('1850617344940', 'Diaconescu','Gheorghe',
'diaconugheorghe@yahoo.com', '0723300405') ;
INSERT INTO Persoana VALUES('251220255016','Ivanuta','Elena','ivanutaelena@yahoo.com','0746004005');
INSERT INTO Persoana VALUES('1710902118117','Daniel','Feiea','danielfeiera@yahoo.com','0735607706');
INSERT INTO Persoana VALUES('2880826042630','Marinescu','Laura','marilaura@yaoo.com', '0760356708');
INSERT INTO Persoana VALUES('1920307314175', 'Popescu','Georgel',
'popescugherghet@yahoo.com', '0743567890') ;
INSERT INTO Persoana VALUES('1891121044334', 'Georgescu','Calin-
Florin','gflorin@yahoo.com', '0768456076') ;
INSERT INTO Persoana VALUES('1840412735570', 'Tomescu','Florin','tomflorin@yahoo.com', '0760123456';

/*Persoana expeditoare*/

INSERT INTO Persoana VALUES('1820617344940', 'Diaconu','Gheorghe','dighe@yahoo.com', '0721006050') ;
INSERT INTO Persoana VALUES('2870305678987', 'Toma','Mariana', 'bunaciuneamica@yahoo.com','076895462
5') ;
INSERT INTO Persoana VALUES('1900304567345', 'Gheorghe','Adrian','gdrian@yahoo.com', '0765452134') ;
INSERT INTO Persoana VALUES('2851204456654', 'Bordea','Lavinia','bordeal@yahoo.com', '0723456789') ;
INSERT INTO Persoana VALUES('1841207314175', 'Popescu','Mirel','popmih@yahoo.com', '0743321069') ;
INSERT INTO Persoana VALUES('1781205432545', 'Miurici','
Stefan','miustef@yahoo.com', '0789654345') ;
INSERT INTO Persoana VALUES('2631101350654', 'Mili','Ilonela', 'miliionela@yahoo.com','0765432896');
INSERT INTO Persoana VALUES('1891204123456', 'Mihai','Morar','mormih@yahoo.com', '0754658832') ;
INSERT INTO Persoana VALUES('1810421043923', 'Dan','Condurache', 'conduru@yahoo.com','0721300400') ;
INSERT INTO Persoana VALUES('1920927278427', 'Lataretu','Dragos','dragliza@yahoo.com','0786886800');
INSERT INTO Persoana VALUES('2830504162295', 'Ioanana','Irina','irisms@yahoo.com', '0756432234') ;
INSERT INTO Persoana VALUES('1890327359570', 'Toma','Caragiu', 'tomyaragiu@yahoo.com','0766800702');
INSERT INTO Persoana VALUES('1960927278427', 'Dan','Bordeianu', 'dbordei@yahoo.com','0786886880') ;
INSERT INTO Persoana VALUES('2890504162295', 'Petre','Anastasia','fcdsx@yahoo.com', '0756431234') ;
INSERT INTO Persoana VALUES('1910327359570', 'Miu','Ion', 'ionmi@yahoo.com','0766800707') ;

/*Destinatari*/
INSERT INTO Persoana VALUES('1830213662519','Stancioiu','Viorel','stanvio@yahoo.com', '0752321521');
INSERT INTO Persoana VALUES('2963205678987','Boldeanu','Denisa','boldeniaa@yahoo.com','0764523124');
INSERT INTO Persoana VALUES('1632541567345', 'Fucusima','Adrian','fucuadr@yahoo.com', '0764563212');
INSERT INTO Persoana VALUES('2741204456654', 'Gaita','Loredana','gailore@yahoo.com', '0723456521') ;
INSERT INTO Persoana VALUES('1710907314175', 'Paun','Ion','paunion@yahoo.com', '0796523142') ;
INSERT INTO Persoana VALUES('1411205432545', 'Murgea','Dorin','murgeadori@yahoo.com', '0785423125');
INSERT INTO Persoana VALUES('2990101350654', 'Dan','Viorel', 'danviorel@yahoo.com','0765632412') ;
INSERT INTO Persoana VALUES('1810204123456', 'Jana','Mucu','jmucuh@yahoo.com', '0757854231') ;
INSERT INTO Persoana VALUES('1820621043923', 'Udristoiu','Catalina', 'cataudristoiu@yahoo.com',
'0795840400') ;
INSERT INTO Persoana VALUES('1990927278427', 'Blegu','Viorel', 'bleguvioa@yahoo.com','0783210800');
INSERT INTO Persoana VALUES('2871204162295','Blejan','Larisa','blejanlarisa@yaho.com','0756322234');
INSERT INTO Persoana VALUES('1901127359570', 'Nicola','Vlad', 'nicolavlad@yahoo.com','0769652702');
INSERT INTO Persoana VALUES('1950727278427', 'Bala','Dragos', 'balaDragos@yahoo.com','0786021880');
INSERT INTO Persoana VALUES('2601004162295', 'Mustatea','Mihaela','mustateamihaela@yahoo.com',
'0750231034') ;
INSERT INTO Persoana VALUES('1921027359570', 'Corbeanu','bogdan', 'tunetub@yahoo.com','0766963207');

```sql
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (1,'Dolj' , 'Craiova' ,
 'Bulevardul Gheorghe ChiTu',41);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (2,'Dolj' , 'Craiova' ,
 'D10or Victor Papilian',25);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (4,'Mures','Targu
Mures','Sinaia',34);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (5,'Alba' , 'Noslac' ,
'Bulevardul Gheorghe ChiTu',21);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (6,'Mures','Targu
Mures','Piata Republici',15);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (8,'Buzau','Buzau','Bul
evardul Unirii',59);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (9,'Buzau','Craiova','1
Septembrie',21);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (11,'Covasna','Bradet',
'Dezrobirii',34);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (12,'Botosani','Slobozi
a','Ioan Slavici',89);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (13,'Cluj','Cheia','Dru
mul Sarii',26);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar) VALUES (15,'Gorj','Damboja','M
ihai Viteazu',8);
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara) VAL
UES (14,'Bihor','Paulesti','Mihai Eminescu',52 , 'T9' , '7' , '8');
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara) VAL
UES (10,'Buzau','Craiova','Drumul Apelor',87 , 'F4' , '1' , '3');
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara) VAL
UES (7,'Alba' , 'Runc' , 'Bulevardul Gheorghe ChiTu',9 , 'D31' , '12' , '3');
INSERT INTO Adresa_angajat(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara) VAL
UES (3,'Dolj' , 'Craiova' , 'Fratii Golesti' , 21 , 'N74' , '94' , '1');


/*Curieri*/
INSERT INTO Angajat VALUES(13651,'1781205345345' , 1);
INSERT INTO Angajat VALUES(26253,'2861103350654',15);
INSERT INTO Angajat VALUES(38541,'1850404123456',2) ;
INSERT INTO Angajat VALUES(49654,'1891121043923',3) ;
INSERT INTO Angajat VALUES(53215,'1910927278427',4) ;
INSERT INTO Angajat VALUES(63954,'2910504162295',5) ;
INSERT INTO Angajat VALUES(72325,'1850327359570',6) ;
INSERT INTO Angajat VALUES(87854,'1890103393337',7) ;
INSERT INTO Angajat VALUES(99653,'1850617344940',8) ;

/*Receptioneri*/
INSERT INTO Angajat VALUES(12587,'2851220255016',9) ;
INSERT INTO Angajat VALUES(28564,'1710902118117',10) ;
INSERT INTO Angajat VALUES(32365,'2880826042630',11) ;
INSERT INTO Angajat VALUES(42395,'1920307314175',12) ;
INSERT INTO Angajat VALUES(57588,'1891121044334',13) ;
INSERT INTO Angajat VALUES(61233,'1840412735570',14) ;
```

```sql
INSERT INTO Curier VALUES(13651,'B',3);
INSERT INTO Curier VALUES(26253,'C',2);
INSERT INTO Curier VALUES(38541,'B',6) ;
INSERT INTO Curier VALUES(49654,'D',7) ;
INSERT INTO Curier VALUES(53215,'E',5) ;
INSERT INTO Curier VALUES(63954,'B',2) ;
INSERT INTO Curier VALUES(72325,'D',7) ;
INSERT INTO Curier VALUES(87854,'E',9) ;
INSERT INTO Curier VALUES(99653,'B',5) ;




INSERT INTO Receptioner VALUES(12587) ;
INSERT INTO Receptioner VALUES(28564) ;
INSERT INTO Receptioner VALUES(32365) ;
INSERT INTO Receptioner VALUES(42395) ;
INSERT INTO Receptioner VALUES(57588) ;
INSERT INTO Receptioner VALUES(61233) ;




INSERT INTO Vehicul VALUES(1,'DJ01UCR',2.4,2.3,'B','noua');
INSERT INTO Vehicul VALUES(2,'DJ02UCR',2.4,2.3,'B','uzata');
INSERT INTO Vehicul VALUES(3,'B03UCR',5.4,9.4,'D','noua');
INSERT INTO Vehicul VALUES(4,'B04UCR',2.4,2.3,'B','ok');
INSERT INTO Vehicul VALUES(5,'MU05UCR',2.4,2.3,'B','noua');
INSERT INTO Vehicul VALUES(6,'MU06UCR',15.4,20.3,'E','noua');
INSERT INTO Vehicul VALUES(7,'DJ07UCR',2.4,2.3,'B','noua');
INSERT INTO Vehicul VALUES(8,'DB08UCR',2.4,2.3,'C','uzata');
INSERT INTO Vehicul VALUES(9,'DJ00UCR',2.4,2.3,'B','noua');
INSERT INTO Vehicul VALUES(10,'GJ10UCR',3.4,5.3,'C','ok');
INSERT INTO Vehicul VALUES(11,'GJ11UCR',2.4,2.3,'B','uzata');
INSERT INTO Vehicul VALUES(12,'AL12UCR',2.4,2.3,'B','noua');
INSERT INTO Vehicul VALUES(13,'AL13UCR',8.4,6.3,'D','ok');
INSERT INTO Vehicul VALUES(14,'BU14UCR',2.4,2.3,'B','noua');
INSERT INTO Vehicul VALUES(15,'BU15UCR',7.4,10.3,'D','ok');

  INSERT INTO Detine VALUES(1,1,'04-05-16');
INSERT INTO Detine VALUES(2,2,'04-06-16');
INSERT INTO Detine VALUES(3,3,'04-07-15');
INSERT INTO Detine VALUES(4,4,'04-03-15');
INSERT INTO Detine VALUES(5,5,'04-01-15');
INSERT INTO Detine VALUES(6,6,'04-02-15');
INSERT INTO Detine VALUES(7,7,'04-05-15');
INSERT INTO Detine VALUES(8,8,'04-05-15');
INSERT INTO Detine VALUES(9,9,'04-09-15');
INSERT INTO Detine VALUES(10,10,'04-05-16');
INSERT INTO Detine VALUES(11,11,'04-05-16');
INSERT INTO Detine VALUES(12,12,'04-10-15');
INSERT INTO Detine VALUES(13,13,'04-12-15');
INSERT INTO Detine VALUES(14,14,'04-05-15');
INSERT INTO Detine VALUES(15,1,'04-05-15');
INSERT INTO Detine VALUES(8,7,'04-05-15');
INSERT INTO Detine VALUES(9,7,'04-09-15');
INSERT INTO Detine VALUES(10,7,'04-05-16');
INSERT INTO Detine VALUES(11,7,'04-05-16');
INSERT INTO Detine VALUES(12,9,'04-10-15');
INSERT INTO Detine VALUES(13,9,'04-12-15');
INSERT INTO Detine VALUES(14,9,'04-05-15');
INSERT INTO Detine VALUES(15,15,'04-05-15');
```

```
/*Persoane Juridice*/

INSERT INTO Client VALUES(1541,'fidel',3);
INSERT INTO Client VALUES(3256,'nou',1);
INSERT INTO Client VALUES(8754,'nou',1);
INSERT INTO Client VALUES(4535,'nou',1);
INSERT INTO Client VALUES(7877,'nou',1);
INSERT INTO Client VALUES(2121,'nou',1);
INSERT INTO Client VALUES(3423,'nou',1);
INSERT INTO Client VALUES(5464,'nou',1);
INSERT INTO Client VALUES(6754,'nou',1);
INSERT INTO Client VALUES(3443,'nou',1);
INSERT INTO Client VALUES(6432,'nou',1);
INSERT INTO Client VALUES(7453,'nou',1);
INSERT INTO Client VALUES(2342,'nou',1);
INSERT INTO Client VALUES(1234,'nou',1);
INSERT INTO Client VALUES(7432,'nou',1);


/*Persoane Fizice*/
INSERT INTO Client VALUES(5643,'fidel',3);
INSERT INTO Client VALUES(3212,'nou',1);
INSERT INTO Client VALUES(6543,'nou',1);
INSERT INTO Client VALUES(2312,'nou',1);
INSERT INTO Client VALUES(5342,'nou',1);
INSERT INTO Client VALUES(5322,'nou',1);
INSERT INTO Client VALUES(6322,'nou',1);
INSERT INTO Client VALUES(2397,'nou',1);
INSERT INTO Client VALUES(5432,'nou',1);
INSERT INTO Client VALUES(2357,'nou',1);
INSERT INTO Client VALUES(5462,'nou',1);
INSERT INTO Client VALUES(3425,'nou',1);
INSERT INTO Client VALUES(8976,'nou',1);
INSERT INTO Client VALUES(7896,'nou',1);
INSERT INTO Client VALUES(8643,'nou',1);




INSERT INTO Persoana_expeditoare VALUES('1820617344940',5643);
INSERT INTO Persoana_expeditoare VALUES('2870305678987',3212) ;
INSERT INTO Persoana_expeditoare VALUES('1900304567345',6543) ;
INSERT INTO Persoana_expeditoare VALUES('2851204456654',2312) ;
INSERT INTO Persoana_expeditoare VALUES('1841207314175',5342) ;
INSERT INTO Persoana_expeditoare VALUES('1781205432545',5322) ;
INSERT INTO Persoana_expeditoare VALUES('2631101350654',6322) ;
INSERT INTO Persoana_expeditoare VALUES('1891204123456',2397) ;
INSERT INTO Persoana_expeditoare VALUES('1810421043923',5432) ;
INSERT INTO Persoana_expeditoare VALUES('1920927278427',2357) ;
INSERT INTO Persoana_expeditoare VALUES('2830504162295',5462) ;
INSERT INTO Persoana_expeditoare VALUES('1890327359570',3425) ;
INSERT INTO Persoana_expeditoare VALUES('1960927278427',8976) ;
INSERT INTO Persoana_expeditoare VALUES('2890504162295',7896) ;
INSERT INTO Persoana_expeditoare VALUES('1910327359570',8643) ;
```

```sql
INSERT INTO Companie VALUES('18787993', 'D & D MEDIA SRL', 'office@dandd.com','0251336952',1541);
INSERT INTO Companie VALUES('16443187', 'CAD WORKS INTERNATIONAL
SRL', 'office@cadw.com','0271336957',3256);
INSERT INTO Companie VALUES('56508705', 'RECON SA ','office@recsa.com','0256336912',8754);
INSERT INTO Companie VALUES('73378454', 'WHITE IMPEX SRL', 'office@wis.com','0251336914',4535);
INSERT INTO Companie VALUES('43345343', 'STEEL CONSTRUCT
SRL', 'office@steelcon.com','0289336915',7877);
INSERT INTO Companie VALUES('67792616', 'BUZMARCOM SRL', 'office@buzmarcom.com','0241336916',2121);
INSERT INTO Companie VALUES('70994333', 'COLROMA PROD SRL', 'office@colrom.com','0251336917',3423);
INSERT INTO Companie VALUES('82793516', 'VALMIROM PRESTCOM
SRL', 'office@valmirom.com','0273336918',5464);
INSERT INTO Companie VALUES('16294999', 'PRETTY HOUSE
SRL', 'office@pretyhouse.com','0273336919',6754);
INSERT INTO Companie VALUES('16513339', 'SANTANTONIO
SRL', 'office@santantonio.com','0251336920',3443);
INSERT INTO Companie VALUES('54697777', 'PINTEXIM SRL', 'office@pintex.com','0221336921',6432);
INSERT INTO Companie VALUES('74573453', 'PLUS SRL', 'office@plusex.com','0230336922',7453);
INSERT INTO Companie VALUES('85817581', 'NICO STIL SRL', 'office@nicostl.com','0272336923',2342);
INSERT INTO Companie VALUES('15259808', 'ROMANITA SA', 'office@tomex.com','0351336924',1234);
INSERT INTO Companie VALUES('15163452', 'FOTO VENUS SRL', 'office@fotoven.com','0954336925',7432);


INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (1,'Dolj' , 'Bechet'
 , 'Drumul Sarii',10);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (2,'Dolj' , 'Ostrove
ni' , 'Ion Tuculescu',8);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (4,'Mures','Voinea',
'Turlelor',87);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (5,'Alba' , 'Alba-
Iulia' , 'Bulevardul Gh. Turda',27);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (6,'Mures','Targu
Mures','Bulevardul Unirii',25);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (8,'Buzau','Breaza',
'Iernii',5);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (9,'Buzau','Nina','1
Septembrie',21);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (11,'Covasna','Vulca
n','Nanterre',34);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (12,'Botosani','Munt
eni','Stefna cel mare',89);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (13,'Cluj','Nunceni'
,'Vinerii',26);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar) VALUES (15,'Gorj','Miruncea
','Alexandri',8);
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara)
VALUES  (14,'Bihor','Boldesti','Mihai Eminescu',21 , 'P9' , '7' , '8');
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara)
VALUES (10,'Buzau','Mireni','Drumul Apelor',31 , 'N4' , '1' , '3');
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara)
VALUES (7,'Alba' , 'Bran' , 'Bulevardul Gheorghe ChiTu',9 , 'D11' , '12' , '3');
INSERT INTO Adresa_destinatar(Id_adresa , Judet , Oras , Strada , Numar , Bloc , Apartament, Scara)
VALUES (3,'Dolj' , 'Craiova' , 'Fratii Golesti' , 21 , 'c34' , '94' , '1');


INSERT INTO Destinatar VALUES('1830213662519',1);
INSERT INTO Destinatar VALUES('2963205678987', 2) ;
INSERT INTO Destinatar VALUES('1632541567345', 3) ;
INSERT INTO Destinatar VALUES('2741204456654', 4) ;
INSERT INTO Destinatar VALUES('1710907314175', 5) ;
INSERT INTO Destinatar VALUES('1411205432545', 6) ;
```

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INSERT INTO Destinatar VALUES('2990101350654', 7) ;
INSERT INTO Destinatar VALUES('1810204123456', 8) ;
INSERT INTO Destinatar VALUES('1820621043923', 9) ;
INSERT INTO Destinatar VALUES('1990927278427', 10) ;
INSERT INTO Destinatar VALUES('2871204162295', 11) ;
INSERT INTO Destinatar VALUES('1901127359570', 12) ;
INSERT INTO Destinatar VALUES('1950727278427', 13) ;
INSERT INTO Destinatar VALUES('2601004162295', 14) ;
INSERT INTO Destinatar VALUES('1921027359570', 15) ;


INSERT INTO Comanda VALUES(1, '03-05-16','04-05-16',2,30.0,1541);
INSERT INTO Comanda VALUES(2, '03-05-16', '04-05-16',1,20.0,3256);
INSERT INTO Comanda VALUES(3, '03-05-16', '04-05-16',1,20.0,8754);
INSERT INTO Comanda VALUES(4, '03-05-16', '04-05-16',1,15.0,1541);
INSERT INTO Comanda VALUES(5, '05-05-16', '07-05-16',1,20.0,4535);
INSERT INTO Comanda VALUES(6, '05-05-16', '07-05-16',1,20.0,7877);
INSERT INTO Comanda VALUES(7, '05-05-16', '07-05-16',1,20.0,2121);
INSERT INTO Comanda VALUES(9, '28-11-15', '30-11-15',1,20.0,5464);
INSERT INTO Comanda VALUES(10, '28-11-15', '30-11-15',1,20.0,6754);
INSERT INTO Comanda VALUES(11, '28-11-15', '30-11-15',1,20.0,3423);
INSERT INTO Comanda VALUES(12, '02-12-15', '05-12-15',1,20.0,3443);
INSERT INTO Comanda VALUES(13, '02-12-15', '05-12-15',1,20.0,6432);
INSERT INTO Comanda VALUES(14, '13-10-15', '14-10-15',1,20.0,7453);
INSERT INTO Comanda VALUES(15, '13-10-15', '14-10-15',1,20.0,2342);
INSERT INTO Comanda VALUES(16, '14-10-15', '14-10-15',1,20.0,1234);
INSERT INTO Comanda VALUES(17, '15-10-15', '16-10-15',1,20.0,7432);
INSERT INTO Comanda VALUES(18, '16-10-15', '17-10-15',1,15.0,1541);


INSERT INTO Comanda VALUES(19, '16-10-15', '19-10-15',2,30.0,5643);
INSERT INTO Comanda VALUES(20, '17-10-15', '19-10-15',1,20.0,3212);
INSERT INTO Comanda VALUES(21, '02-11-15', '04-11-15',1,20.0,6543);
INSERT INTO Comanda VALUES(22, '03-11-15', '04-11-15',1,20.0,2312);
INSERT INTO Comanda VALUES(23, '03-11-15', '04-11-15',2,20.0,5342);
INSERT INTO Comanda VALUES(24, '10-11-15', '15-11-15',1,15.0,5643);
INSERT INTO Comanda VALUES(25, '03-06-16', '04-06-16',1,20.0,5322);
INSERT INTO Comanda VALUES(26, '05-06-16', '07-06-16',1,20.0,6322);
INSERT INTO Comanda VALUES(27, '06-06-16', '07-06-16',1,20.0,2397);
INSERT INTO Comanda VALUES(28, '06-06-16', '07-06-16',1,20.0,5432);
INSERT INTO Comanda VALUES(29, '09-06-16', '12-06-16',1,20.0,2357);
INSERT INTO Comanda VALUES(30, '11-06-16', '11-06-16',1,15.0,5643);
INSERT INTO Comanda VALUES(31, '03-08-16', '04-08-16',1,20.0,5462);
INSERT INTO Comanda VALUES(32, '05-08-16', '07-08-16',1,20.0,3425);
INSERT INTO Comanda VALUES(33, '06-08-16', '07-08-16',1,20.0,8976);
INSERT INTO Comanda VALUES(34, '06-08-16', '07-08-16',1,20.0,7896);
INSERT INTO Comanda VALUES(35, '09-08-16', '12-08-16',1,20.0,8643);


INSERT INTO Pachet VALUES(1,2.3,1.1,2.1,0.3,'in curs',15.0,1,'1830213662519');
INSERT INTO Pachet VALUES(2,2.3,1.1,2.1,0.3,'expediat',15.0,1,'2963205678987');
INSERT INTO Pachet VALUES(3,2.3,1.1,2.1,0.3,'expediat',15.0,18,'1830213662519');
INSERT INTO Pachet VALUES(4,2.3,1.1,2.1,0.3,'expediat',15.0,4,'1632541567345');
INSERT INTO Pachet VALUES(5,2.3,1.1,2.1,0.3,'expediat',20.0,2,'2741204456654');
INSERT INTO Pachet VALUES(6,2.3,1.1,2.1,0.3,'expediat',20.0,3,'1710907314175');
INSERT INTO Pachet VALUES(7,2.3,1.1,2.1,0.3,'expediat',20.0,5,'1411205432545');
INSERT INTO Pachet VALUES(8,2.3,1.1,2.1,0.3,'expediat',20.0,6,'2990101350654');
INSERT INTO Pachet VALUES(9,2.3,1.1,2.1,0.3,'expediat',20.0,7,'1810204123456');
INSERT INTO Pachet VALUES(10,2.3,1.1,2.1,0.3,'expediat',20.0,17,'1820621043923');
INSERT INTO Pachet VALUES(11,2.3,1.1,2.1,0.3,'expediat',20.0,9,'1990927278427');
INSERT INTO Pachet VALUES(12,2.3,1.1,2.1,0.3,'expediat',20.0,10,'2871204162295');
INSERT INTO Pachet VALUES(13,2.3,1.1,2.1,0.3,'expediat',20.0,11,'1901127359570');
```

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INSERT INTO Pachet VALUES(14,2.3,1.1,2.1,0.3,'expediat',20.0,12,'1820621043923');
INSERT INTO Pachet VALUES(15,2.3,1.1,2.1,0.3,'expediat',20.0,13,'1950727278427');
INSERT INTO Pachet VALUES(16,2.3,1.1,2.1,0.3,'expediat',20.0,14,'2601004162295');
INSERT INTO Pachet VALUES(17,2.3,1.1,2.1,0.3,'expediat',20.0,15,'1921027359570');
INSERT INTO Pachet VALUES(18,2.3,1.1,2.1,0.3,'expediat',20.0,16,'1710907314175');
INSERT INTO Pachet VALUES(19,2.3,1.1,2.1,0.3,'expediat',20.0,18,'2741204456654');


INSERT INTO Pachet VALUES(20,2.3,1.1,2.1,0.3,'in curs',15.0,19,'2963205678987');
INSERT INTO Pachet VALUES(21,2.3,1.1,2.1,0.3,'in curs',15.0,19,'1632541567345');
INSERT INTO Pachet VALUES(22,2.3,1.1,2.1,0.3,'expediat',15.0,24,'1411205432545');
INSERT INTO Pachet VALUES(23,2.3,1.1,2.1,0.3,'expediat',15.0,30,'2990101350654');
INSERT INTO Pachet VALUES(24,2.3,1.1,2.1,0.3,'expediat',20.0,20,'1950727278427');
INSERT INTO Pachet VALUES(25,2.3,1.1,2.1,0.3,'expediat',20.0,21,'1901127359570');
INSERT INTO Pachet VALUES(26,2.3,1.1,2.1,0.3,'expediat',20.0,22,'1990927278427');
INSERT INTO Pachet VALUES(27,2.3,1.1,2.1,0.3,'expediat',20.0,23,'2871204162295');
INSERT INTO Pachet VALUES(28,2.3,1.1,2.1,0.3,'expediat',20.0,25,'1632541567345');
INSERT INTO Pachet VALUES(29,2.3,1.1,2.1,0.3,'expediat',20.0,27,'2990101350654');
INSERT INTO Pachet VALUES(30,2.3,1.1,2.1,0.3,'expediat',20.0,28,'1820621043923');
INSERT INTO Pachet VALUES(31,2.3,1.1,2.1,0.3,'expediat',20.0,29,'1411205432545');
INSERT INTO Pachet VALUES(32,2.3,1.1,2.1,0.3,'expediat',20.0,26,'1820621043923');
INSERT INTO Pachet VALUES(33,2.3,1.1,2.1,0.3,'expediat',20.0,31,'2741204456654');
INSERT INTO Pachet VALUES(34,2.3,1.1,2.1,0.3,'expediat',20.0,32,'1710907314175');
INSERT INTO Pachet VALUES(35,2.3,1.1,2.1,0.3,'expediat',20.0,33,'1411205432545');
INSERT INTO Pachet VALUES(36,2.3,1.1,2.1,0.3,'expediat',20.0,34,'2990101350654');
INSERT INTO Pachet VALUES(37,2.3,1.1,2.1,0.3,'expediat',20.0,35,'1810204123456');


INSERT INTO Factura VALUES(1,40.0,13.0,30.0,1,42395);
INSERT INTO Factura VALUES(2,20.0,0.0,20.0,2,32365);
INSERT INTO Factura VALUES(3,20.0,0.0,20.0,3,12587);
INSERT INTO Factura VALUES(4,20.0,0.0,20.0,4,61233);
INSERT INTO Factura VALUES(5,20.0,0.0,20.0,5,32365);
INSERT INTO Factura VALUES(6,20.0,0.0,20.0,6,28564);
INSERT INTO Factura VALUES(7,20.0,0.0,20.0,7,32365);
INSERT INTO Factura VALUES(8,20.0,0.0,20.0,9,61233);
INSERT INTO Factura VALUES(9,20.0,0.0,20.0,10,28564);
INSERT INTO Factura VALUES(10,20.0,0.0,20.0,11,28564);
INSERT INTO Factura VALUES(11,20.0,0.0,20.0,12,32365);
INSERT INTO Factura VALUES(12,20.0,0.0,20.0,13,12587);
INSERT INTO Factura VALUES(13,20.0,0.0,20.0,14,32365);
INSERT INTO Factura VALUES(14,20.0,0.0,20.0,15,42395);
INSERT INTO Factura VALUES(15,20.0,0.0,20.0,16,32365);
INSERT INTO Factura VALUES(16,20.0,0.0,20.0,17,12587);
INSERT INTO Factura VALUES(17,20.0,0.0,20.0,18,28564);
INSERT INTO Factura VALUES(18,20.0,0.0,20.0,19,28564);
INSERT INTO Factura VALUES(19,40.0,13.0,30.0,20,32365);
INSERT INTO Factura VALUES(20,20.0,0.0,20.0,21,42395);
INSERT INTO Factura VALUES(21,20.0,0.0,20.0,22,32365);
INSERT INTO Factura VALUES(22,20.0,0.0,20.0,23,12587);
INSERT INTO Factura VALUES(23,20.0,0.0,20.0,24,32365);
INSERT INTO Factura VALUES(24,20.0,0.0,20.0,25,28564);
INSERT INTO Factura VALUES(25,20.0,0.0,20.0,26,28564);
INSERT INTO Factura VALUES(26,20.0,0.0,20.0,27,32365);
INSERT INTO Factura VALUES(27,20.0,0.0,20.0,28,61233);
INSERT INTO Factura VALUES(28,20.0,0.0,20.0,29,28564);
INSERT INTO Factura VALUES(29,20.0,0.0,20.0,30,28564);
INSERT INTO Factura VALUES(30,20.0,0.0,20.0,31,28564);
INSERT INTO Factura VALUES(31,20.0,0.0,20.0,32,12587);
INSERT INTO Factura VALUES(32,20.0,0.0,20.0,33,42395);
INSERT INTO Factura VALUES(33,20.0,0.0,20.0,34,32365);
INSERT INTO Factura VALUES(34,20.0,0.0,20.0,35,12587);
```

```sql
INSERT INTO Cursa VALUES(1,'04-05-16' , 10,58);
INSERT INTO Cursa VALUES(2,'04-05-16' ,9,55);
INSERT INTO Cursa VALUES(3,'04-05-16' , 7,50);
INSERT INTO Cursa VALUES(4,'04-05-16' , 10,60);
INSERT INTO Cursa VALUES(5,'07-05-16' , 9,79);
INSERT INTO Cursa VALUES(6,'07-05-16' , 7,53);
INSERT INTO Cursa VALUES(7,'07-05-16' , 10,57);
INSERT INTO Cursa VALUES(8,'30-11-15' , 10,58);
INSERT INTO Cursa VALUES(9,'30-11-15' , 8,48);
INSERT INTO Cursa VALUES(10,'30-11-15' , 10,59);
INSERT INTO Cursa VALUES(11,'05-12-15' , 10,61);
INSERT INTO Cursa VALUES(12,'05-12-15' , 5,40);
INSERT INTO Cursa VALUES(13,'14-10-15' , 10,58);
INSERT INTO Cursa VALUES(14,'14-10-15' , 9,56);
INSERT INTO Cursa VALUES(15,'14-10-15' , 3,20);

INSERT INTO Cursa VALUES(16,'04-05-16' , 10,59);
INSERT INTO Cursa VALUES(17,'04-05-16' ,9,56);
INSERT INTO Cursa VALUES(18,'04-05-16' , 7,28);
INSERT INTO Cursa VALUES(19,'04-05-16' , 10,65);
INSERT INTO Cursa VALUES(20,'07-05-16' , 9,62);
INSERT INTO Cursa VALUES(22,'07-05-16' , 7,52);
INSERT INTO Cursa VALUES(23,'07-05-16' , 10,61);
INSERT INTO Cursa VALUES(24,'30-11-15' , 10,61);
INSERT INTO Cursa VALUES(25,'30-11-15' , 8,32);
INSERT INTO Cursa VALUES(26,'30-11-15' , 10,69);
INSERT INTO Cursa VALUES(27,'05-12-15' , 10,69);
INSERT INTO Cursa VALUES(28,'05-12-15' , 5,23);
INSERT INTO Cursa VALUES(29,'14-10-15' , 10,70);
INSERT INTO Cursa VALUES(30,'14-10-15' , 9,59);
INSERT INTO Cursa VALUES(31,'14-10-15' , 3,23);




INSERT INTO Planificare VALUES (99653,1,1,1);
INSERT INTO Planificare VALUES (13651,2,2,2);
INSERT INTO Planificare VALUES (26253,3,3,3);
INSERT INTO Planificare VALUES (53215,4,4,4);
INSERT INTO Planificare VALUES (38541,4,5,5);
INSERT INTO Planificare VALUES (99653,5,6,6);
INSERT INTO Planificare VALUES (49654,6,7,7);
INSERT INTO Planificare VALUES (87854,7,8,8);
INSERT INTO Planificare VALUES (38541,8,9,9);
INSERT INTO Planificare VALUES (13651,9,10,10);
INSERT INTO Planificare VALUES (26253,10,11,11);
INSERT INTO Planificare VALUES (53215,11,12,12);
INSERT INTO Planificare VALUES (26253,12,13,13);
INSERT INTO Planificare VALUES (63954,13,14,14);
INSERT INTO Planificare VALUES (13651,14,15,15);
INSERT INTO Planificare VALUES (38541,15,16,16);
INSERT INTO Planificare VALUES (13651,1,17,17);
INSERT INTO Planificare VALUES (38541,2,18,18);
INSERT INTO Planificare VALUES (26253,3,19,19);
INSERT INTO Planificare VALUES (63954,4,20,20);
INSERT INTO Planificare VALUES (87854,5,20,21);
INSERT INTO Planificare VALUES (38541,1,22,22);
INSERT INTO Planificare VALUES (13651,6,23,23);
INSERT INTO Planificare VALUES (49654,6,24,24);
INSERT INTO Planificare VALUES (72325,7,25,25);
INSERT INTO Planificare VALUES (26253,8,26,26);
INSERT INTO Planificare VALUES (99653,9,27,27);
INSERT INTO Planificare VALUES (38541,10,28,28);
INSERT INTO Planificare VALUES (72325,12,29,29);
```

```
INSERT INTO Planificare VALUES (26253,15,30,30);
INSERT INTO Planificare VALUES (13651,14,1,31);
INSERT INTO Planificare VALUES (49654,13,12,32);
INSERT INTO Planificare VALUES (72325,2,14,33);
INSERT INTO Planificare VALUES (26253,1,17,34);
INSERT INTO Planificare VALUES (49654,9,12,35);
INSERT INTO Planificare VALUES (72325,4,15,36);
```

Indexarea bazei de date

1) Sa se indexeze tabelul Vehicul dupa numarul de inmatriculare

CREATE INDEX index_veh_nr_inmatriculare

ON Vehicul(Nr_inmatriculate)

2) Sa se indexeze tabelul Angajat dupa CNP-UL fiecaruia

CREATE INDEX index_ang_cnp

ON Angajat(CNP_Angajat)

3) Sa se indexeze tabelul Companie dupa numarul de telefon

CREATE INDEX index_companie_nr_tel

ON Companie(Numar_telefon)

4) Sa se indexeze tabelul Companie dupa nume si email

CREATE INDEX index_companie_ne

ON Companie(Nume, Email)

Interogari

1) Numarul clientilor care au primit un discount mai mare de 20 de lei in luna ' mai ' a acestui an.

```
SELECT COUNT(*) FROM Client INNER JOIN ((SELECT * FROM Comanda INNER JOIN Factura
ON(Comanda.Id_comanda = Factura.Id_comanda AND Factura.Valoare_discount>10))TmpComenzi)
    ON(Client.Id_client=TmpComenzi.Id_client AND
    (EXTRACT(MONTH FROM TmpComenzi.Data_preluare) = 5 OR
(EXTRACT(MONTH FROM TmpComenzi.Data_preluare) = 10)));
```

Results	Explain	Describe	Saved SQL	History

COUNT(*)
2

1 rows returned in 0,02 seconds   CSV Export

2) Valoarea medie a incasarilor inregistrate la sediul cu filiala in "Craiova".

```
SELECT AVG(Factura.Valoare_efectiva) FROM Factura NATURAL JOIN (
    SELECT * FROM Receptioner NATURAL JOIN (
        (SELECT * FROM Angajat INNER JOIN (
            (SELECT * FROM Sediu INNER JOIN Adresa_Sediu
    ON(Sediu.Id_adresa = Adresa_Sediu.Id_adresa AND Adresa_Sediu.Oras = 'Craiova')) TmpSediu)
ON(Angajat.Id_sediu = TmpSediu.Id_sediu))TmpAngajat));
```

Results	Explain	Describe	Saved SQL	History

AVG(FACTURA.VALOARE_EFECTIVA)
21,1764705882352941176470588235294117647

1 rows returned in 0,02 seconds   CSV Export

3) Vehiculele uzate care au parcurs un numar mai mare de curse decat media.

```
SELECT * FROM (SELECT Vehicul.Id_vehicul, Vehicul.Nr_inmatriculate,
COUNT(*) AS Nr_curse FROM Vehicul, Planificare
    WHERE Vehicul.Id_vehicul=Planificare.Id_vehicul AND Vehicul.Stare_tehnica = 'noua'
GROUP BY Vehicul.Id_vehicul,Vehicul.Nr_inmatriculate
    ORDER BY COUNT(*)  DESC)tempVeh WHERE tempVeh.Nr_curse >
(SELECT AVG(Average.num)   FROM (SELECT COUNT(*) AS num FROM  Planificare
    GROUP BY Planificare.Id_vehicul) Average)
```

Results	Explain	Describe	Saved SQL	History

ID_VEHICUL	NR_INMATRICULATE	NR_CURSE
1	DJ01UCR	5
9	DJ00UCR	3
6	MU06UCR	3

3 rows returned in 0,01 seconds   CSV Export

4) Lista clientilor noi , cre reprezinta o anumita companie cu sediul in "Craiova" , judecan dupa numarul de telefon al acesteia.

```
SELECT Client.Id_client , Companie.Nume , Companie.CUI FROM Client ,
Companie WHERE Client.Id_client = Companie.Id_client ANDClient.Tip_client = 'nou'
    AND Companie.Numar_telefon LIKE '0251%'
```

ID_CLIENT	NUME	CUI
3423	COLROMA PROD SRL	70994333
3443	SANTANTONIO SRL	16513339
4535	WHITE IMPEX SRL	73378454

3 rows returned in 0,00 seconds   CSV Export

5) Numarul minim de clienti , pe fiecare luna a anului trecut.

```
SELECT MIN(cli.num) FROM (
    SELECT COUNT(*)  AS num,EXTRACT(MONTH FROM tmp.Data_preluare) AS Luna FROM
((SELECT DISTINCT * FROM Client, Comanda
    WHERE Client.Id_client = Comanda.Id_client
    AND (EXTRACT(YEAR FROM Comanda.Data_preluare) = 2015))tmp)
GROUP BY EXTRACT(MONTH FROM tmp.Data_preluare))cli;
```

MINI_CLIENTI
2

1 rows returned in 0,00 seconds   CSV Export

6) Media de varsta a persoanelor de gen feminine nascute in luna martie.

```
SELECT AVG(16+100-tmp.YEAR) AS Average FROM
        (SELECT TO_NUMBER(SUBSTR(Persoana_expeditoare.CNP, 4, 2) , '99') AS monthf,
 TO_NUMBER(SUBSTR(Persoana_expeditoare.CNP, 2, 2) , '99') AS YEAR,
 TO_NUMBER(SUBSTR(Persoana_expeditoare.CNP, 1, 1) , '99') AS gen
FROM Persoana_expeditoare , Client
        WHERE Persoana_expeditoare.Id_client = Client.Id_client)tmp
WHERE tmp.monthf = 3 AND tmp.gen = 1;
```

AVERAGE
26

1 rows returned in 0,00 seconds   CSV Export

7) Lista persoanelor care au primit mai mult de un pachet.

```
SELECT Persoana.Nume , Persoana.Prenume ,
Destinatar.CNP_Destinatar, COUNT(*) AS Nr_pachete FROM Persoana , Destinatar , Pachet
    WHERE Persoana.CNP = Destinatar.CNP_Destinatar AND Destinatar.CNP_Destinatar = Pachet.Id_d
estinatar
    GROUP BY Destinatar.CNP_Destinatar ,Persoana.Nume , Persoana.Prenume ;
```

8) Greutatea medie a pachetelor trimise in luna "mai" a anului trecut.

```
SELECT AVG(Pachet.Greutate) AS Greutatea_medie FROM Pachet ,
Comanda WHERE EXTRACT(YEAR FROM Comanda.Data_preluare) = (SELECTTO_CHAR(sysdate, 'YYYY') FROM dual)
        AND EXTRACT(MONTH FROM Comanda.Data_preluare) = 5;
```

9) Lista curierilor care au o experienta mai mare de 2 ani.

```
SELECT Persoana.Nume , Persoana.Prenume , Curier.Id_angajat , Curier.Ani_experienta FROM Persoana ,
Curier , Angajat
        WHERE Persoana.CNP = Angajat.CNP_Angajat AND Angajat.Id_angajat = Curier.Id_angajat
AND Curier.Ani_experienta > 3;
```

10) Lista vehiculelor care nu au fost folosite in ultimele 4 luni.

```
SELECT Vehicul.Nr_inmatriculate , Vehicul.Id_vehicul FROM Vehicul
    WHERE Vehicul.Id_vehicul NOT IN
    (SELECT Planificare.Id_vehicul FROM Planificare INNER JOIN Cursa
ON(Cursa.Id_cursa = Planificare.Id_cursa AND EXTRACT(YEAR FROMCursa.Data_plecare) = (SELECT TO
_CHAR(sysdate, 'YYYY') FROM dual)
    AND  EXTRACT(MONTH FROM Cursa.Data_plecare) > (SELECT MOD(TO_NUMBER(12+(TO_CHAR(sysdate, '
MM')-6) , 99),12)+1 FROM DUAL) )) GROUP BYVehicul.Nr_inmatriculate , Vehicul.Id_vehicul;
```

Results	Explain	Describe	Saved SQL	History

NR_INMATRICULATE	ID_VEHICUL
DJ00UCR	9
GJ10UCR	10
DJ07UCR	7
AL12UCR	12
GJ11UCR	11
DB08UCR	8
AL13UCR	13

7 rows returned in 0,00 seconds   CSV Export

11) Diferenta dintre numarul pachetelor trimise de personae fizice si nuarul pacheletor trimise de personae juridice.

```
SELECT jur.PC - fiz.PP FROM
    ((SELECT COUNT(*) AS PP FROM Persoana_expeditoare , Client , Comanda , Pachet
        WHERE Persoana_expeditoare.Id_client = Client.Id_client AND Comanda.Id_client= Client.
Id_client  AND Comanda.Id_comanda =Pachet.Id_comanda )fiz) ,

    ((SELECT  COUNT(*) AS PC FROM Companie , Client , Comanda , Pachet
        WHERE Companie.Id_client = Client.Id_client AND Comanda.Id_client= Client.Id_client  A
ND Comanda.Id_comanda = Pachet.Id_comanda)jur);
```

Results	Explain	Describe	Saved SQL	History

JUR.PC-FIZ.PP
1

1 rows returned in 0,00 seconds   CSV Export

12) Angajatul care a preluat cele mai multe coenzi.

```
SELECT Persoana.Nume , Persoana.Prenume , Receptioner.Id_angajat  FROM Persoana , Angajat ,
Receptioner , Factura
    WHERE Receptioner.Id_angajat = Angajat.Id_angajat AND Persoana.CNP = Angajat.CNP_Angajat AND
    ((SELECT * FROM (SELECT Factura.Id_receptioner FROM  Factura GROUP BY Factura.Id_receptioner
    ORDER BY COUNT(*)  DESC) WHERE rownum <= 1)=Receptioner.Id_angajat AND rownum <= 1);
```

13) Cele mai costisitoare 3 vehicule din punct de vedere al consumului mediu.

```
SELECT * FROM (SELECT Vehicul.Nr_inmatriculate , Vehicul.Id_vehicul ,
Vehicul.Consum_mediu FROM Vehicul ORDER BY Vehicul.Consum_mediu DESC )WHERE rownum <= 3
```

NR_INMATRICULATE	ID_VEHICUL	CONSUM_MEDIU
MU06UCR	6	15,4
AL13UCR	13	8,4
BU15UCR	15	7,4

3 rows returned in 0,01 seconds · CSV Export

14) 5 cele mai voluminoase pachete transportate.

```
SELECT * FROM (
SELECT Pachet.Id_pachet , (2*Pachet.Lungime*Pachet.Inaltime + Pachet.Latime*Pachet.Inaltime +
Pachet.Latime*Pachet.Lungime) AS Arie FROMPachet  ORDER BY Arie DESC )
WHERE rownum <= 5
```

ID_PACHET	ARIE
1	3,6
2	3,6
3	3,6
4	3,6
5	3,6

5 rows returned in 0,00 seconds · CSV Export

15) Lista sediilor care au mai mult de 3 masini in flota.

```
SELECT Sediu.Id_sediu , COUNT(Detine.Id_sediu) AS Nr_masini_detinute FROM Sediu ,
Detine WHERE Sediu.Id_sediu = Detine.Id_sediu  GROUP BY Sediu.Id_sediu
HAVING COUNT(Detine.Id_sediu) > 3
```

ID_SEDIU	NR_MASINI_DETINUTE
7	5
9	4

2 rows returned in 0,00 seconds   CSV Export

16) Toate orasele inregistrate in baza de date.

```
SELECT Oras FROM Adresa_sediu
UNION
SELECT Oras FROM Adresa_angajat
UNION
SELECT Oras FROM Adresa_destinatar
Order by Oras
```


ORAS
Alba-Iulia
Bechet
Boldesti
Bradet
Bran
Brasov
Breaza
Buzau
Cheia
Craiova
More than 10 rows available. Increase rows selector to view more rows.

10 rows returned in 0,00 seconds   CSV Export

Proceduri

1) Sa se creeze o procedura care sterge toate datele unui client al carui id este dat ca parametru.

```
CREATE OR REPLACE PROCEDURE removeClient(p_nrLeg IN Client.Id_client%TYPE )
IS
    BEGIN
        DELETE FROM Comanda
        WHERE Id_client=p_nrLeg ;
        DELETE FROM Persoana_expeditoare
        WHERE Id_client=p_nrLeg ;
        DELETE FROM Companie
        WHERE nrLeg=p_nrLeg ;
        DELETE FROM client
        WHERE nrLeg=p_nrLeg ;
    END
    --apel
    BEGIN
    removeClient('3256') ;
    END
```

2) Sa se creeze o procedura care actualizeaza numele unei compani din baza de date

```
CREATE OR REPLACE PROCEDURE renameCompany(numeVechi IN Companie.Nume%TYPE , numeNou IN
                                                            Companie.Nume%TYPE)
IS
    BEGIN
        UPDATE Companie
            SET Nume=numeNou
        WHERE Nume=numeVechi;

    END
    --apel
    BEGIN
    renameCompany('D & D MEDIA SRL', ' D & D MEDIA REBRANDED');
    END
```

3) Sa se creeze actualizeaza salatriul cu un anumit procent , unui angajat , cu un anumit id

```
CREATE OR REPLACE PROCEDURE updateSalary(id_ang IN Angajat.Id_angajat%TYPE , procent IN NUMBER)
IS
old_salary NUMBER;
BEGIN
  SELECT TO_NUMBER(Angajat.Salariu) INTO old_salary FROM Angajat WHERE Angajat.Id_angajat = id_ang ;
  UPDATE Angajat
        SET Angajat.Salariu=old_salary+(old_salary*procent/100)
  WHERE Angajat.Id_angajat=id_ang;
  END
--apel
BEGIN
            updateSalary(26253 , 20);
END
```

Functii

1) Sa se scrie o functie care calculeaza cat a cheltuit un client pentru comenzile efectuate.

```
CREATE or REPLACE FUNCTION getAvgIncasari(f_nume IN VARCHAR2)
RETURN NUMBER
IS
        CURSOR f_suma
        IS
                SELECT suma FROM
                (
                        Select AVG(Factura.Valoare_efectiva) AS suma From Factura NATURAL JOIN (
        SELECT * FROM Receptioner NATURAL JOIN (
                (SELECT * FROM Angajat INNER JOIN (
                        (Select * From Sediu INNER JOIN Adresa_Sediu
                        ON(Sediu.Id_adresa = Adresa_Sediu.Id_adresa AND Adresa_Sediu.Oras =
        f_nume)) TmpSediu)
        ON(Angajat.Id_sediu = TmpSediu.Id_sediu))TmpAngajat))


                );
                f_value NUMBER;
        BEGIN

                OPEN f_suma;
                FETCH f_suma INTO f_value;
                CLOSE f_suma;
                RETURN f_value;

END getAvgIncasari;

---
DECLARE
f_nume1 Adresa_sediu.Oras%TYPE:='Craiova' ;
f_nume2 Adresa_sediu.Oras%TYPE:='Slobozia' ;

BEGIN
        DBMS_OUTPUT.PUT_LINE('Valoarea medie a incasarilor de la sediul din '|| f_nume1 ||' este:
'||getAvgIncasari(f_nume1));
        DBMS_OUTPUT.PUT_LINE('Valoarea medie a incasarilor de la sediul din '|| f_nume2 ||' este:
'||getAvgIncasari(f_nume2));
END;
```

Results   Explain   Describe   Saved SQL   History

```
Valoarea medie a incasarilor de la sediul din Craiova este: 21,2121212121212
Valoarea medie a incasarilor de la sediul din Slobozia este: 21,2121212121211

Statement processed.
```

2) Sa se creeze o functie care sa returneze comenzi plasate intr-o anumita luna data ca parametru

```
CREATE OR REPLACE FUNCTION getCount(f_luna IN NUMBER  , f_an IN NUMBER )
RETURN NUMBER
IS
        CURSOR f_count
        IS
                SELECT Numar FROM
                (
                        SELECT  COUNT(d.Id_comanda) AS Numar
                        FROM comanda d
                        WHERE EXTRACT(month FROM d.Data_preluare) = f_luna AND
                        EXTRACT(year FROM d.Data_preluare) = f_an
                );
                f_value NUMBER ;
        BEGIN
                OPEN f_count ;
                FETCH f_count INTO f_value ;
                CLOSE f_count ;
                RETURN f_value ;
END getCount;

DECLARE
f_an1 NUMBER :=2015;
f_an2 NUMBER :=2016;
f_luna1 NUMBER :=5;
f_luna2 NUMBER :=6;
f_luna3 NUMBER :=11;
f_luna4 NUMBER :=10;

BEGIN
        DBMS_OUTPUT.PUT_LINE('In luna '|| f_luna1 ||' a anului  '||f_an2||' au fost plasate
'||getCount(f_luna1,f_an2)||' comenzi.');
        DBMS_OUTPUT.PUT_LINE('In luna '|| f_luna2 ||' a anului  '||f_an2||' au fost plasate
'||getCount(f_luna2,f_an2)||' comenzi.');
        DBMS_OUTPUT.PUT_LINE('In luna '|| f_luna3 ||' a anului  '||f_an1||' au fost plasate
'||getCount(f_luna3,f_an1)||' comenzi.');
        DBMS_OUTPUT.PUT_LINE('In luna '|| f_luna4 ||' a anului  '||f_an1||' au fost plasate
'||getCount(f_luna4,f_an1)||' comenzi.');
        DBMS_OUTPUT.PUT_LINE('In luna '|| f_luna1 ||' a anului  '||f_an1||' au fost plasate
'||getCount(f_luna1,f_an1)||' comenzi.');

END;
```

```
In luna 5 a anului  2016 au fost plasate 6 comenzi.
In luna 6 a anului  2016 au fost plasate 6 comenzi.
In luna 11 a anului  2015 au fost plasate 7 comenzi.
In luna 10 a anului  2015 au fost plasate 7 comenzi.
In luna 5 a anului  2015 au fost plasate 0 comenzi.
```

Trigger

```
CREATE OR REPLACE TRIGGER Print_salary_changes
AFTER DELETE OR INSERT OR UPDATE ON Angajat
FOR EACH ROW
Declare
        sal_dif number;

BEGIN
        sal_dif := :NEW.Salariu - :OLD.Salariu;
        DBMS_OUTPUT.PUT_LINE('Salariu Vechi : ' || :OLD.Salariu || ' lei');
        DBMS_OUTPUT.PUT_LINE('Salariu Nou : ' || :NEW.Salariu || ' lei');
        DBMS_OUTPUT.PUT_LINE('Diferenta : ' || sal_dif || ' lei');
END;

BEGIN
        updateSalary(26253 , -20);
END
```

```
Salariu Vechi : 600 lei
Salariu Nou : 480 lei
Diferenta : -120 lei

Statement processed.
```

Bibliografie

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