Baze de date

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Baze de date – Lab.06

1. Proiect:
    1. Propuneti un model conceptual al bazei de date pentru proiectul propriu

2.1. PostgreSQL – SQL – sa se creeze urmatoarele tabele:

- **Z_Restaurant(u_id, name, phone, fax, #address_id)**
- **Z_Person(p_id, surname, first_name, sex, #address_id)**
- **Z_Customer(#p_id)**
- **Z_Employee(#p_id)**
- **Z_Invoice(invoice_no, date, time, #p_id_emp, #p_id_cust, #u_id)**
- **Z_Articles(article_id, name, price, tva)**
- **Z_Invoice_articles(#invoice_no, #article_id, price, tva)**
- **Z_Address(address_id, street, #zip, house_number)**
- **Z_City(zip, city)**

```
CREATE TABLE Z_Address (
Address_id integer primary key,
Street VARCHAR(50),
zip integer,
house_number integer
);
CREATE TABLE Z_City (
Zip integer primary key,
City VARCHAR(50)
);
CREATE TABLE Z_Person (
p_id integer primary key,
first_name VARCHAR(50),
surname VARCHAR(50),
sex char,
address_id integer,
category VARCHAR(50)
);
CREATE TABLE Z_Customer (
p_id integer primary key
);
CREATE TABLE Z_Employee (
p_id integer primary key
);
```

```
CREATE TABLE Z_Restaurant (
U_id integer primary key,
name VARCHAR(50),
phone VARCHAR(30),
fax VARCHAR(30),
address_id integer
);
CREATE TABLE Z_Invoice (
invoice_no integer primary key,
date1 date,
time1 VARCHAR(50),
u_id integer,
p_id_emp integer,
p_id_cust integer
);
CREATE TABLE Z_Article (
article_id integer primary key,
name VARCHAR(50),
price integer,
vat integer
);
CREATE TABLE Z_Invoice_Articles (
invoice_no integer,
article_id integer,
price integer,
vat integer,
primary key (invoice_no, article_id)
);
```

2.2. PostgreSQL – SQL – sa se adauge cheile straine necesare in toate tabelele

```
Alter table address add foreign key (zip) references City(zip);
Alter table person add foreign key (address_id) references address (address_id);
Alter table restaurant add foreign key (address_id) references address (address_id);
Alter table invoice add foreign key (uid) references restaurant (uid);
Alter table invoice add foreign key (p_id_emp) references person (p_id);
Alter table invoice add foreign key (p_id_cust) references person (p_id);
Alter table invoice_articles add foreign key (invoice_no) references invoice (invoice_no);
Alter table invoice_articles add foreign key (article_id) references article (article_id);
Alter table customer add foreign key (p_id) references Person(p_id);
Alter table employee add foreign key (p_id) references Person(p_id);
```

2.3. PostgreSQL – SQL – sa se populeze tabelele create cu date

```
Insert into Z_City VALUES (8151,'Brasov');
Insert into Z_City VALUES (8040,'Bucuresti');
Insert into Z_City VALUES (1020,'Wien');
Insert into Z_Address VALUES (1,'Iuliu Maniu',8151,3);
Insert into Z_Address VALUES (2,'Rosiorilor',8040,10);
Insert into Z_Address VALUES (3,'Taubstummengasse',1020,11);
Insert into Z_Person VALUES (1,'Clark','Kent','M',3,'Employee');
Insert into Z_Person VALUES (2,'Lois','Lane','F',2,'Customer');
Insert into Z_Person VALUES (3,'Bugs','Bunny','M',2,'Employee');
Insert into Z_Person VALUES (4,'Indiana','Jones','M',2,'Customer');
Insert into Z_Person VALUES (5,'Marie','Antoinette','F',3,'Employee');
Insert into Z_Person VALUES (6,'Janet','Jackson','F',1,'Customer');
Insert into Z_Customer VALUES (2);
Insert into Z_Customer VALUES (4);
Insert into Z_Customer VALUES (6);
Insert into Z_Employee VALUES (1);
Insert into Z_Employee VALUES (3);
Insert into Z_Employee VALUES (5);
Insert into Z_Restaurant VALUES(123456,'Cafe 23','03458720','031541756',1);
Insert into Z_Restaurant VALUES (234567,'Wan Tan','0542610','03154756',2);
Insert into Z_Restaurant VALUES(345678,'Times','08745220','03451556',3);
Insert into Z_Invoice VALUES(1111,to_date('10.10.2010','dd.mm.yyyy'),'14:00:00',123456,1,2);
Insert into Z_Invoice VALUES(2222,to_date('15.12.2010','dd.mm.yyyy'),'14:00:00',234567,3,4);
Insert into Z_Invoice VALUES(3333,to_date('06.03.2011','dd.mm.yyyy'),'14:00:00',345678,5,6);
Insert into Z_Article VALUES (4321,'Cola',3,0.3);
Insert into Z_Article VALUES (4322,'Fanta',10,2);
Insert into Z_Article VALUES (4323,'Pepsi',2,0.6);
Insert into Z_Invoice_Articles VALUES (1111,4321,3,0.3);
Insert into Z_Invoice_Articles VALUES (2222,4322,10,2);
Insert into Z_Invoice_Articles VALUES (3333,4323,8,0.8);
```

2.4. Sa se scrie o instructiune SQL folosind “Alter table” care sa garanteze ca sexul introdus pentru o persoana poate sa ia doar valorile ‘F’ sau ‘M’.

Alter table z_person add constraint const_sex_enum check (sex in ('F','M'));

2.5. Folosind un instructiune “Update”, schimbati numele unei persoane cu un id dat din tabela Z_Person.

2.6. Scrieti o instructiune SQL de stergere a unei persoane cu un id dat din baza de date.

2.7. Definiti cate un index pentru atribute des utilizate

Exemple:
Create index person_index on Z_Person (surname, first_name);
Create index rest_index on Z_restaurant (name);
Create index art_index on Z_article (name);

2.8. Scrieti o instructiune care sa selecteze toate persoanele din baza de date.

2.9. Scrieti o instructiune care listeaza toate restaurantele prin nume si telefon, ordonate dupa nume.