****

**-PROIECT SGBD-**

**CUPRINS:**

[Cerința 1. 3](#_Toc155269337)

[Cerința 2. 3](#_Toc155269338)

[Cerința 3. 4](#_Toc155269339)

[Cerința 4. 5](#_Toc155269340)

[Cerința 5. 9](#_Toc155269341)

Cerința 1.

Prezentați pe scurt baza de date (utilitatea ei).

**TechFlow** este o afacere specializată în vânzarea de produse IT, cum ar fi componente hardware, accesorii și echipamente IT, prin intermediul magazinelor fizice și a site-ului lor de comerț electronic.

Prin intermediul bazei de date TechFlow, se realizează gestiunea detaliată a produselor, categoriilor de produse, comenzilor , plăților și recenziilor. Aceasta facilitează procesul de vânzare, stocare, gestionare a comenzilor și interacțiune cu clienții. De asemenea, baza de date permite generarea de rapoarte și analize pentru a obține o înțelegere mai profundă a activităților de vânzare și a preferințelor clienților, contribuind astfel la **luarea deciziilor strategice** și la **îmbunătățirea experienței clienților** .

Cerința 2.

****Realizați diagrama entitate-relație (ERD).

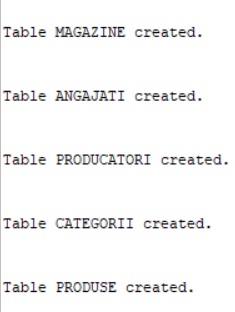
Cerința 3.

Realizați diagrama conceptuală a modelului propus.

****

Cerința 4.

Definiți toate tabelele, definind toate constrângerile de integritate necesare (chei primare, cheile externe etc).



-- Cerinta 4

-- Crearea secventei pentru cheile primare.

create sequence secventa\_techflow

start with 1

increment by 1

maxvalue 10000

minvalue 1

nocycle

nocache;

-- 1 tabel MAGAZINE

create table magazine (

id\_magazin number(4),

nume\_magazin varchar2(30) constraint nn\_nume\_magazin not null,

adresa\_magazin varchar2(40) constraint nn\_adresa\_magazin not null,

constraint pk\_id\_magazin primary key(id\_magazin)

);

-- 2 tabel ANGAJATI

create table angajati (

id\_angajat number(4),

nume\_angajat varchar2(50) constraint nn\_nume\_angajat not null,

prenume\_angajat varchar2(50) constraint nn\_prenume\_angajat not null,

email\_angajat varchar2(50),

salariu\_angajat number(10,2) constraint nn\_salariu\_angajat not null,

job\_angajat varchar2(50),

id\_magazin number(4),

constraint pk\_id\_angajat primary key(id\_angajat),

constraint fk\_id\_magazin foreign key(id\_magazin)

references magazine(id\_magazin)

);

-- 3 tabel PRODUCATORI

create table producatori (

id\_producator number(4),

nume\_producator varchar2(50) constraint nn\_nume\_producator not null,

tara\_producator varchar(50),

constraint pk\_id\_producator primary key(id\_producator)

);

-- 4 tabel CATEGORII

create table categorii (

id\_categorie number(4),

nume\_categorie varchar2(50) constraint nn\_nume\_categorie not null,

descriere\_categorie varchar2(200),

constraint pk\_id\_categorie primary key(id\_categorie)

);

-- 5 tabel PRODUSE

create table produse (

id\_produs number(4),

nume\_produs varchar2(50) constraint nn\_nume\_produs not null,

descriere\_produs varchar2(200),

pret\_produs number(10,2),

stoc\_produs number(3),

id\_producator number(4),

id\_categorie number(4),

constraint pk\_id\_produs primary key(id\_produs),

constraint fk\_id\_producator foreign key(id\_producator)

references producatori(id\_producator),

constraint fk\_id\_categorie foreign key(id\_categorie)

references categorii(id\_categorie)

);

-- 6 tabel PRODUSE\_MAGAZINE

create table produse\_magazine (

id\_produs number(4),

id\_magazin number(4),

constraint pk\_id\_produs\_id\_magazin primary key(id\_produs,id\_magazin),

constraint fk\_id\_produs\_pm foreign key(id\_produs)

references produse(id\_produs),

constraint fk\_id\_magazin\_pm foreign key(id\_magazin)

references magazine(id\_magazin)

);

-- 7 tabel PLATI

create table plati (

id\_plata number(4),

total\_plata number(10,2) constraint nn\_total\_plata not null,

tip\_plata varchar2(50) constraint nn\_tip\_plata not null,

constraint pk\_id\_plata primary key(id\_plata)

);

-- 8 tabel TRANSPORT

create table transport (

id\_transport number(4),

firma\_transport varchar2(50) constraint nn\_firma\_transport not null,

cost\_transport number(10,2) constraint nn\_cost\_transport not null,

constraint pk\_id\_transport primary key (id\_transport)

);

-- 9 tabel CLIENTI

create table clienti (

id\_client number(4),

nume\_client varchar2(50),

prenume\_client varchar2(50),

email\_client varchar2(35),

telefon\_client varchar2(20),

data\_inregistrare date,

constraint pk\_id\_client primary key (id\_client)

);

-- 10 tabel COMENZI

create table comenzi (

id\_comanda number(4),

data\_plasare date,

status\_comanda varchar2(50),

id\_client number(4),

id\_plata number(4),

id\_transport number(4),

constraint pk\_id\_comanda primary key (id\_comanda),

constraint fk\_id\_client foreign key (id\_client)

references clienti(id\_client),

constraint fk\_id\_plata foreign key (id\_plata)

references plati(id\_plata),

constraint fk\_id\_transport foreign key (id\_transport)

references transport(id\_transport)

);

-- 11 tabel PRODUSE\_COMENZI

create table produse\_comenzi (

id\_produs number(4),

id\_comanda number(4),

constraint pk\_id\_produs\_id\_comanda primary key(id\_produs,id\_comanda),

constraint fk\_id\_produs\_pc foreign key(id\_produs)

references produse(id\_produs),

constraint fk\_id\_comanda\_pc foreign key(id\_comanda)

references comenzi(id\_comanda)

);

-- 12 tabel WISHLIST

create table wishlist (

id\_wishlist number(4),

data\_adaugare date,

id\_client number(4),

constraint pk\_id\_wishlist primary key (id\_wishlist),

constraint fk\_id\_client\_wl foreign key (id\_client)

references clienti(id\_client)

);

-- 13 tabel PRODUSE\_WISHLIST

create table produse\_wishlist (

id\_produs number(4),

id\_wishlist number(4),

constraint pk\_id\_produs\_id\_wishlist primary key(id\_produs,id\_wishlist),

constraint fk\_id\_produs\_pw foreign key(id\_produs)

references produse(id\_produs),

constraint fk\_id\_wishlist\_pw foreign key(id\_wishlist)

references wishlist(id\_wishlist)

);

-- 14 tabel RECENZII

create table recenzii (

id\_recenzie number(4),

nota\_recenzie number(2,1),

id\_client number(4),

id\_produs number(4),

constraint pk\_id\_recenzie primary key (id\_recenzie),

constraint fk\_id\_client\_rz foreign key (id\_client)

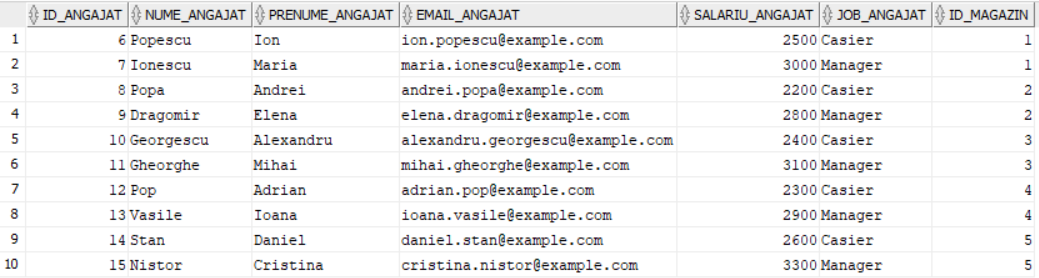
references clienti(id\_client),

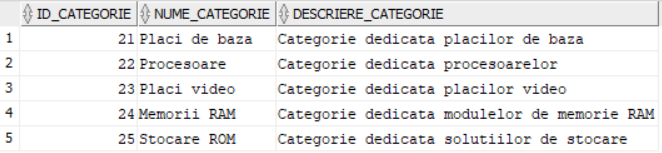
constraint fk\_id\_produs\_rz foreign key (id\_produs)

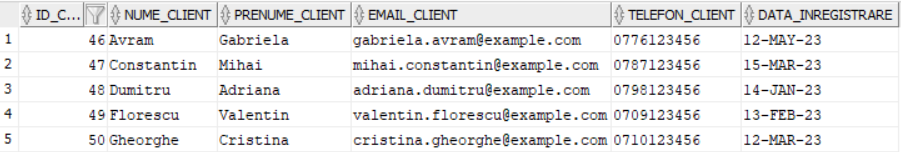
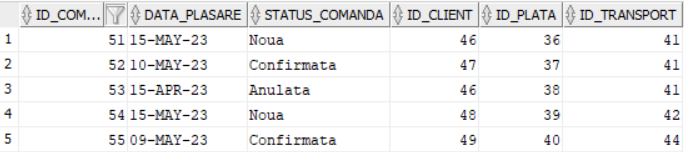
references produse(id\_produs)

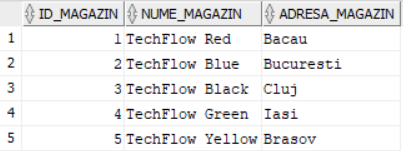
);

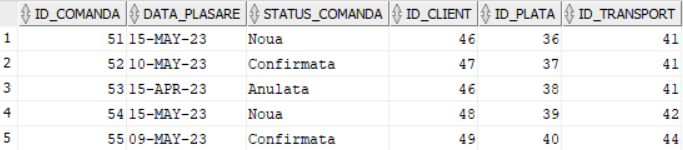
Cerința 5.

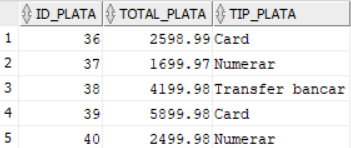
Adăugați informații coerente în tabelele create.

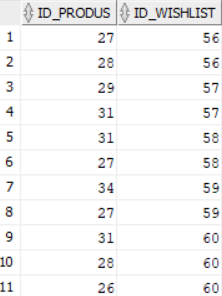
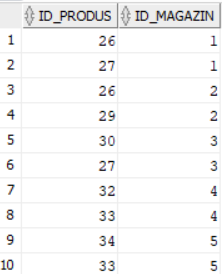
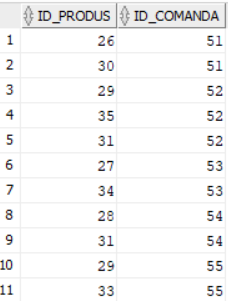


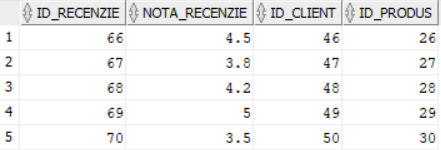
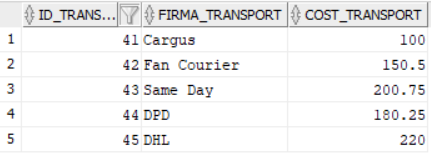


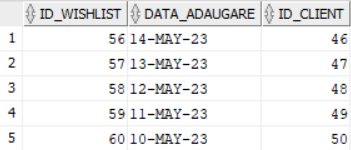












-- 1 tabel MAGAZINE

insert into magazine

values (secventa\_techflow.nextval, 'TechFlow Red', 'Bacau');

insert into magazine

values (secventa\_techflow.nextval, 'TechFlow Blue', 'Bucuresti');

insert into magazine

values (secventa\_techflow.nextval, 'TechFlow Black', 'Cluj');

insert into magazine

values (secventa\_techflow.nextval, 'TechFlow Green', 'Iasi');

insert into magazine

values (secventa\_techflow.nextval, 'TechFlow Yellow', 'Brasov');

select \* from magazine;

-- 2 tabel ANGAJATI

insert into angajati

values (secventa\_techflow.nextval, 'Popescu', 'Ion', 'ion.popescu@example.com', 2500.00, 'Casier', 1);

insert into angajati

values (secventa\_techflow.nextval, 'Ionescu', 'Maria', 'maria.ionescu@example.com', 3000.00, 'Manager', 1);

insert into angajati

values (secventa\_techflow.nextval, 'Popa', 'Andrei', 'andrei.popa@example.com', 2200.00, 'Casier', 2);

insert into angajati

values (secventa\_techflow.nextval, 'Dragomir', 'Elena', 'elena.dragomir@example.com', 2800.00, 'Manager', 2);

insert into angajati

values (secventa\_techflow.nextval, 'Georgescu', 'Alexandru', 'alexandru.georgescu@example.com', 2400.00, 'Casier', 3);

insert into angajati

values (secventa\_techflow.nextval, 'Gheorghe', 'Mihai', 'mihai.gheorghe@example.com', 3100.00, 'Manager', 3);

insert into angajati

values (secventa\_techflow.nextval, 'Pop', 'Adrian', 'adrian.pop@example.com', 2300.00, 'Casier', 4);

insert into angajati

values (secventa\_techflow.nextval, 'Vasile', 'Ioana', 'ioana.vasile@example.com', 2900.00, 'Manager', 4);

insert into angajati

values (secventa\_techflow.nextval, 'Stan', 'Daniel', 'daniel.stan@example.com', 2600.00, 'Casier', 5);

insert into angajati

values (secventa\_techflow.nextval, 'Nistor', 'Cristina', 'cristina.nistor@example.com', 3300.00, 'Manager', 5);

select \* from angajati;

-- 3 tabel PRODUCATORI (inserare explicita)

insert into producatori (id\_producator, nume\_producator, tara\_producator)

values (secventa\_techflow.nextval, 'Stentor', 'Romania');

insert into producatori (id\_producator, nume\_producator, tara\_producator)

values (secventa\_techflow.nextval, 'PC Master', 'Germania');

insert into producatori (id\_producator, nume\_producator, tara\_producator)

values (secventa\_techflow.nextval, 'HardwareCO', 'Franta');

insert into producatori (id\_producator, nume\_producator, tara\_producator)

values (secventa\_techflow.nextval, 'VideoMaster', 'Italia');

insert into producatori (id\_producator, nume\_producator, tara\_producator)

values (secventa\_techflow.nextval, 'SiSoft', 'Spania');

select \* from producatori;

-- 4 tabel CATEGORII

insert into categorii

values (secventa\_techflow.nextval, 'Placi de baza', 'Categorie dedicata placilor de baza');

insert into categorii

values (secventa\_techflow.nextval, 'Procesoare', 'Categorie dedicata procesoarelor');

insert into categorii

values (secventa\_techflow.nextval, 'Placi video', 'Categorie dedicata placilor video');

insert into categorii

values (secventa\_techflow.nextval, 'Memorii RAM', 'Categorie dedicata modulelor de memorie RAM');

insert into categorii

values (secventa\_techflow.nextval, 'Stocare ROM', 'Categorie dedicata solutiilor de stocare');

select \* from categorii;

-- 5 tabel PRODUSE

insert into produse

values (secventa\_techflow.nextval, 'ASUS ROG Strix X570-E Gaming', 'Placă de bază ATX pentru gaming, compatibilă cu procesoare AMD Ryzen', 1599.99, 10, 16, 21);

insert into produse

values (secventa\_techflow.nextval, 'Intel Core i9-10900K', 'Procesor Intel de ultimă generație cu 10 nuclee și 20 fire de execuție', 2899.99, 5, 16, 22);

insert into produse

values (secventa\_techflow.nextval, 'NVIDIA GeForce RTX 3080', 'Placă video high-end pentru gaming, cu 10 GB memorie GDDR6X', 5299.99, 3, 17, 23);

insert into produse

values (secventa\_techflow.nextval, 'Corsair Vengeance RGB Pro', 'Modul de memorie DDR4 cu iluminare RGB și capacitate de 16 GB', 699.99, 20, 17, 24);

insert into produse

values (secventa\_techflow.nextval, 'Samsung 970 EVO Plus', 'Solid State Drive NVMe cu capacitate de 1 TB și viteză de transfer ridicată', 999.99, 8, 17, 25);

insert into produse

VALUES (secventa\_techflow.nextval, 'MSI B450 TOMAHAWK MAX', 'Placă de bază ATX pentru procesoare AMD Ryzen, suportă memorie DDR4', 599.99, 15, 18, 21);

insert into produse

VALUES (secventa\_techflow.nextval, 'AMD Ryzen 7 5800X', 'Procesor AMD cu 8 nuclee și 16 fire de execuție, frecvență de bază 3.8 GHz', 1999.99, 7, 18, 22);

insert into produse

VALUES (secventa\_techflow.nextval, 'Gigabyte GeForce GTX 1660 SUPER OC', 'Placă video performantă pentru gaming, 6 GB memorie GDDR6', 1799.99, 10, 19, 23);

insert into produse

VALUES (secventa\_techflow.nextval, 'RAM Kingston HyperX Fury RGB', 'Modul de memorie DDR4 cu iluminare RGB și capacitate de 32 GB', 1299.99, 12, 19, 24);

insert into produse

VALUES (secventa\_techflow.nextval, 'SSD Western Digital Blue', 'Solid State Drive SATA cu capacitate de 500 GB și viteză de transfer mare', 399.99, 25, 20, 25);

select \* from produse;

-- 6 tabel PRODUSE\_MAGAZINE

-- Magazinul - TechFlow Red

-- Produs - ASUS ROG Strix X570-E Gaming

insert into produse\_magazine

values (26, 1);

-- Produs - Intel Core i9-10900K

insert into produse\_magazine

values (27, 1);

-- Magazinul - TechFlow Blue

-- Produs - ASUS ROG Strix X570-E Gaming

insert into produse\_magazine

values (26,2);

-- Produs - Corsair Vengeance RGB Pro

insert into produse\_magazine

values (29,2);

-- Magazinul - TechFlow Black

-- Produs - Samsung 970 EVO Plus

insert into produse\_magazine

values (30,3);

-- Produs - Intel Core i9-10900K

insert into produse\_magazine

values (27,3);

-- Magazinul - TechFlow Green

-- Produs - AMD Ryzen 7 5800X

insert into produse\_magazine

values (32,4);

-- Produs - Gigabyte GeForce GTX 1660 SUPER OC

insert into produse\_magazine

values (33,4);

-- Magazinul - TechFlow Yellow

-- Produs - RAM Kingston HyperX Fury RGB

insert into produse\_magazine

values (34,5);

-- Produs - Gigabyte GeForce GTX 1660 SUPER OC

insert into produse\_magazine

values (33,5);

select \* from produse\_magazine;

-- 7 tabel PLATI

-- total\_plata id\_produs : 26 + 30

insert into plati (id\_plata, total\_plata, tip\_plata)

values (secventa\_techflow.nextval, 2598.99, 'Card');

-- total\_plata id\_produs : 29 + 35 + 31

insert into plati (id\_plata, total\_plata, tip\_plata)

values (secventa\_techflow.nextval, 1699.97, 'Numerar');

-- total\_plata id\_produs : 27 + 34

insert into plati (id\_plata, total\_plata, tip\_plata)

values (secventa\_techflow.nextval, 4199.98, 'Transfer bancar');

-- total\_plata id\_produs : 28 + 31

insert into plati (id\_plata, total\_plata, tip\_plata)

values (secventa\_techflow.nextval, 5899.98, 'Card');

-- total\_plata id\_produs : 29 + 33

insert into plati (id\_plata, total\_plata, tip\_plata)

values (secventa\_techflow.nextval, 2499.98, 'Numerar');

select \* from plati;

-- 8 tabel TRANSPORT

insert into transport

values (secventa\_techflow.nextval, 'Cargus', 100.00);

insert into transport

values (secventa\_techflow.nextval, 'Fan Courier', 150.50);

insert into transport

values (secventa\_techflow.nextval, 'Same Day', 200.75);

insert into transport

values (secventa\_techflow.nextval, 'DPD', 180.25);

insert into transport

values (secventa\_techflow.nextval, 'DHL', 220.00);

select \* from transport;

-- 9 tabel CLIENTI

insert into clienti

VALUES (secventa\_techflow.nextval, 'Avram', 'Gabriela', 'gabriela.avram@example.com', '0776123456', TO\_DATE('2023-05-12', 'YYYY-MM-DD'));

insert into clienti

VALUES (secventa\_techflow.nextval, 'Constantin', 'Mihai', 'mihai.constantin@example.com', '0787123456', TO\_DATE('2023-03-15', 'YYYY-MM-DD'));

insert into clienti

VALUES (secventa\_techflow.nextval, 'Dumitru', 'Adriana', 'adriana.dumitru@example.com', '0798123456', TO\_DATE('2023-01-14', 'YYYY-MM-DD'));

insert into clienti

VALUES (secventa\_techflow.nextval, 'Florescu', 'Valentin', 'valentin.florescu@example.com', '0709123456', TO\_DATE('2023-02-13', 'YYYY-MM-DD'));

insert into clienti

VALUES (secventa\_techflow.nextval, 'Gheorghe', 'Cristina', 'cristina.gheorghe@example.com', '0710123456', TO\_DATE('2023-03-12', 'YYYY-MM-DD'));

select \* from clienti;

-- 10 tabel COMENZI

insert into comenzi

values (secventa\_techflow.nextval, to\_date('2023-05-15', 'YYYY-MM-DD'), 'Noua', 46, 36, 41);

insert into comenzi

values (secventa\_techflow.nextval, to\_date('2023-05-10', 'YYYY-MM-DD'), 'Confirmata', 47, 37, 41);

insert into comenzi

values (secventa\_techflow.nextval, to\_date('2023-04-15', 'YYYY-MM-DD'), 'Anulata', 46, 38, 41);

insert into comenzi

values (secventa\_techflow.nextval, to\_date('2023-05-15', 'YYYY-MM-DD'), 'Noua', 48, 39, 42);

insert into comenzi

values (secventa\_techflow.nextval, to\_date('2023-05-09', 'YYYY-MM-DD'), 'Confirmata', 49, 40, 44);

select \* from comenzi;

-- 11 tabel PRODUSE\_COMENZI

insert into produse\_comenzi

values (26,51);

insert into produse\_comenzi

values (30,51);

insert into produse\_comenzi

values (29,52);

insert into produse\_comenzi

values (35,52);

insert into produse\_comenzi

values (31,52);

insert into produse\_comenzi

values (27,53);

insert into produse\_comenzi

values (34,53);

insert into produse\_comenzi

values (28,54);

insert into produse\_comenzi

values (31,54);

insert into produse\_comenzi

values (29,55);

insert into produse\_comenzi

values (33,55);

select \* from produse\_comenzi;

-- 12 tabel WISHLIST

insert into wishlist

values (secventa\_techflow.nextval, to\_date('2023-05-14', 'YYYY-MM-DD'), 46);

insert into wishlist

values (secventa\_techflow.nextval, to\_date('2023-05-13', 'YYYY-MM-DD'), 47);

insert into wishlist

values (secventa\_techflow.nextval, to\_date('2023-05-12', 'YYYY-MM-DD'), 48);

insert into wishlist

values (secventa\_techflow.nextval, to\_date('2023-05-11', 'YYYY-MM-DD'), 49);

insert into wishlist

values (secventa\_techflow.nextval, to\_date('2023-05-10', 'YYYY-MM-DD'), 50);

select \* from wishlist;

-- 13 tabel PRODUSE\_WISHLIST

insert into produse\_wishlist

values (27,56);

insert into produse\_wishlist

values (28,56);

insert into produse\_wishlist

values (29,57);

insert into produse\_wishlist

values (31,57);

insert into produse\_wishlist

values (31,58);

insert into produse\_wishlist

values (27,58);

insert into produse\_wishlist

values (34,59);

insert into produse\_wishlist

values (27,59);

insert into produse\_wishlist

values (31,60);

insert into produse\_wishlist

values (28,60);

insert into produse\_wishlist

values (26,60);

select \* from produse\_wishlist;

-- 14 tabel RECENZII

insert into recenzii

values (secventa\_techflow.nextval, 4.5, 46, 26);

insert into recenzii

values (secventa\_techflow.nextval, 3.8, 47, 27);

insert into recenzii

values (secventa\_techflow.nextval, 4.2, 48, 28);

insert into recenzii

values (secventa\_techflow.nextval, 5.0, 49, 29);

insert into recenzii

values (secventa\_techflow.nextval, 3.5, 50, 30);

select \* from recenzii;