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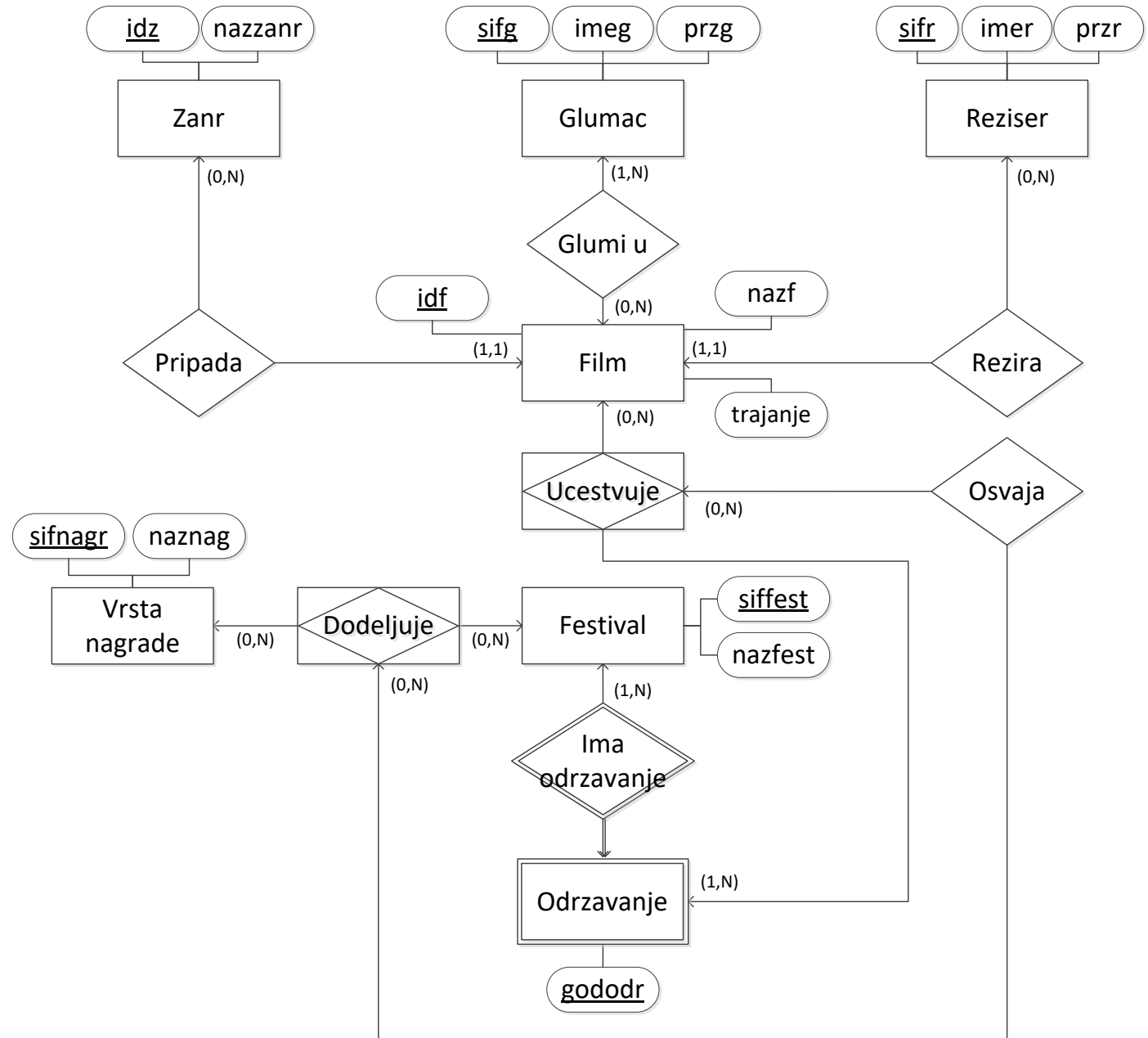
Predmet:

Baze podataka

Prevođenje ER modela u relacioni model zadaci

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Zadatak 1



Zadatak 1

- Zanr({idz, nazzanr}, {idz})
- Reziser({sifr, imer, przr}, {sifr})
- Film({idf, nazf, trajanje, idz, sifr}, {idf})
- Film[idz] \subseteq Zanr[idz], Null(Film, idz) = \perp
- Film[sifr] \subseteq Reziser[sifr], Null(Film, sifr) = \perp
- Glumac({sifg, imeg, przg}, {sifg})
- GlumiU({sifg, idf}, {sifg + idf})
- GlumiU[sifg] \subseteq Glumac[sifg],
- inverzni referencijalni integritet: Glumac[sifg] \subseteq GlumiU[sifg]
- GlumiU[idf] \subseteq Film[idf]
- VrstaNagrade({sifnagr, naznagr}, {sifnagr})
- Festival({sifest, nazfest}, {sifest})
- Dodeljuje({sifnagr, sifest}, {sifnagr+sifest})
- Dodeljuje[sifnagr] \subseteq VrstaNagrade[sifnagr]
- Dodeljuje[sifest] \subseteq Festival[sifest]
- Odrzavanje({gododr, sifest}, {gododr+sifest})
- Odrzavanje[sifest] \subseteq Festival[sifest],
- inverzni referencijalni integritet: Festival[sifest] \subseteq Odrzavanje[sifest]
- Ucestvuje({idf, gododr, sifest}, {idf+gododr+sifest})
- Ucestvuje[idf] \subseteq Film[idf]
- Ucestvuje[gododr+sifest] \subseteq Odrzavanje[gododr+sifest],
- inverzni referencijalni integritet: Odrzavanje[gododr+sifest] \subseteq Ucestvuje[gododr+sifest]
- Osvaja({idf, gododr, sifest, sifnagr}, {idf + gododr + sifest + sifnagr})
- **sifest od dodeljuje je preneti ali je izjednačena sa sifest iz ucestvuje**
- Osvaja[idf+gododr+ sifest] \subseteq Ucestvuje[idf+gododr+ sifest]
- Osvaja[sifnagr+ sifest] \subseteq Dodeljuje[sifnagr+ sifest]

Zadatak 1

```
CREATE TABLE Zanr (  
    idz INTEGER,  
    nazzanr VARCHAR(50),  
    CONSTRAINT Zanr_PK PRIMARY KEY(idz)  
);  
CREATE TABLE Reziser (  
    sifr INTEGER,  
    imer VARCHAR(50),  
    przr VARCHAR(50),  
    CONSTRAINT Reziser_PK PRIMARY KEY(sifr)  
);  
CREATE TABLE Film (  
    idf INTEGER,  
    nazf VARCHAR(50),  
    trajanje VARCHAR(50),  
    idz INTEGER NOT NULL,  
    sifr INTEGER NOT NULL,  
    CONSTRAINT Film_PK PRIMARY KEY(idf),  
    CONSTRAINT Film_Zanr_FK FOREIGN KEY(idz)  
        REFERENCES Zanr(idz),  
    CONSTRAINT Film_Reziser_FK FOREIGN KEY(sifr)  
        REFERENCES Reziser(sifr)  
);
```

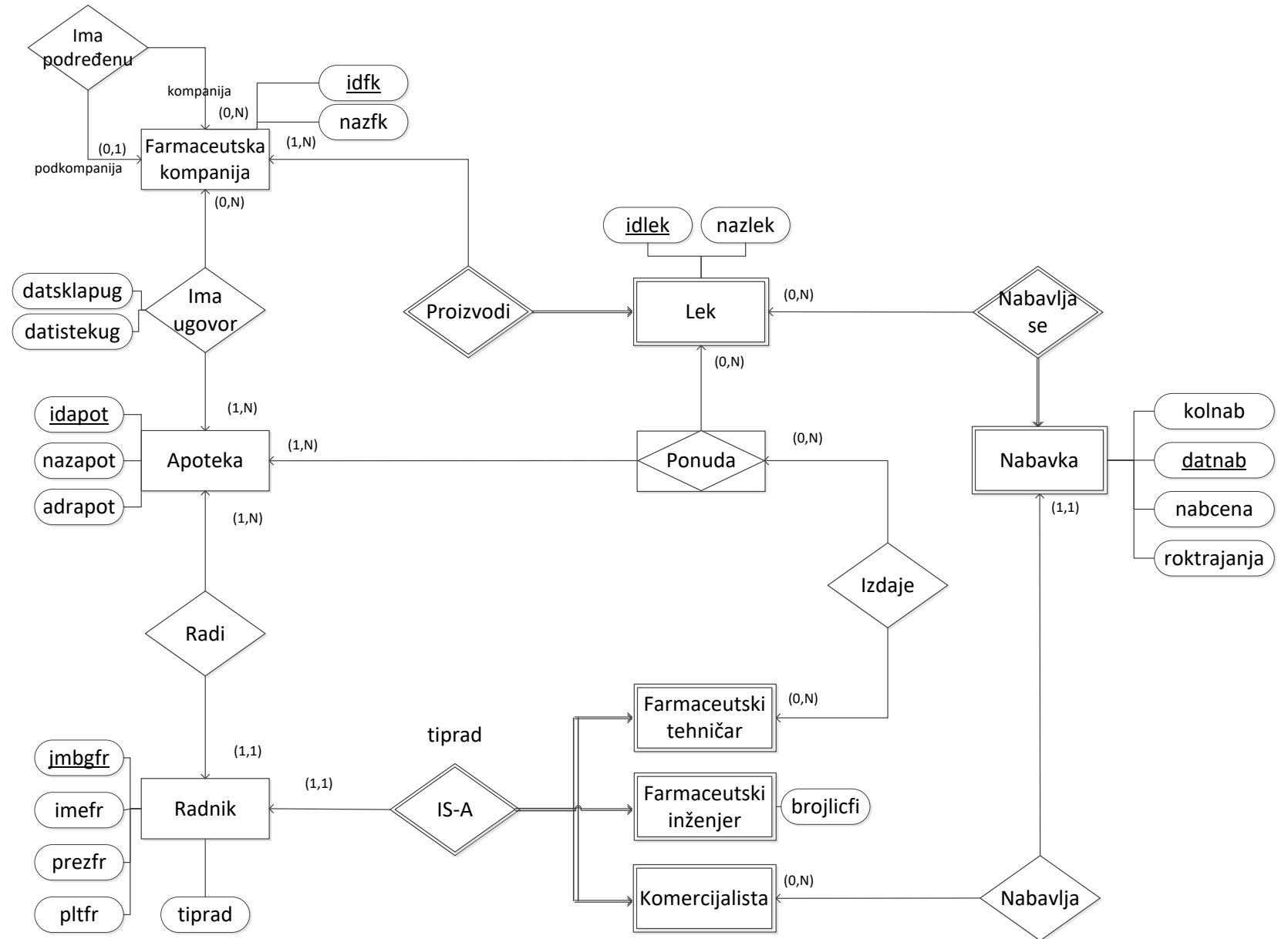
```
CREATE TABLE Glumac (  
    sifg INTEGER,  
    imeg VARCHAR(50),  
    przg VARCHAR(50),  
    CONSTRAINT Glumac_PK PRIMARY KEY(sifg)  
);  
CREATE TABLE Glumi_u (  
    sifg INTEGER,  
    idf INTEGER,  
    CONSTRAINT Glumi_u_PK PRIMARY KEY(sifg, idf),  
    CONSTRAINT Glumi_u_Glumac_FK FOREIGN KEY(sifg)  
        REFERENCES Glumac(sifg),  
    CONSTRAINT Glumi_u_Film_FK FOREIGN KEY(idf)  
        REFERENCES Film(idf)  
);  
CREATE TABLE Vrsta_nagrada (  
    sifnagr INTEGER,  
    naznag VARCHAR(50),  
    CONSTRAINT Vrsta_nagrada_PK PRIMARY KEY(sifnagr)  
);
```

Zadatak 1

```
CREATE TABLE Festival (  
    siffest INTEGER,  
    nazfest VARCHAR(50),  
    CONSTRAINT Festival_PK PRIMARY KEY(siffest)  
);  
CREATE TABLE Dodeljuje (  
    sifnagr INTEGER,  
    siffest INTEGER,  
    CONSTRAINT Dodeljuje_PK PRIMARY KEY(sifnagr, siffest),  
    CONSTRAINT Dodeljuje_Vrsta_nagrade_FK FOREIGN KEY(sifnagr)  
        REFERENCES Vrsta_nagrade(sifnagr),  
    CONSTRAINT Dodeljuje_Festival_FK FOREIGN KEY(siffest)  
        REFERENCES Festival(siffest)  
);  
CREATE TABLE Odrzavanje (  
    gododr DATE,  
    siffest INTEGER,  
    CONSTRAINT Odrzavanje_PK PRIMARY KEY(siffest, gododr),  
    CONSTRAINT Odrzavanje_Festival_FK FOREIGN KEY(siffest)  
        REFERENCES Festival (siffest)  
);
```

```
CREATE TABLE Ucestvuje (  
    idf INTEGER,  
    gododr DATE,  
    siffest INTEGER,  
    CONSTRAINT Ucestvuje_PK PRIMARY KEY(idf, gododr, siffest),  
    CONSTRAINT Ucestvuje_Film_FK FOREIGN KEY(idf)  
        REFERENCES Film(idf),  
    CONSTRAINT Ucestvuje_Odrzavanje_FK FOREIGN KEY(siffest, gododr)  
        REFERENCES Odrzavanje(siffest, gododr)  
);  
CREATE TABLE Osvaja (  
    idf INTEGER,  
    gododr DATE,  
    siffest INTEGER,  
    sifnagr INTEGER,  
    CONSTRAINT Osvaja_PK PRIMARY KEY(idf, gododr, siffest, sifnagr),  
    CONSTRAINT Osvaja_Dodeljuje_FK FOREIGN KEY(sifnagr,siffest)  
        REFERENCES Dodeljuje(sifnagr,siffest),  
    CONSTRAINT Osvaja_Ucestvuje_FK FOREIGN KEY(idf,gododr,siffest)  
        REFERENCES Ucestvuje(idf,gododr,siffest)  
);
```

Zadatak 2



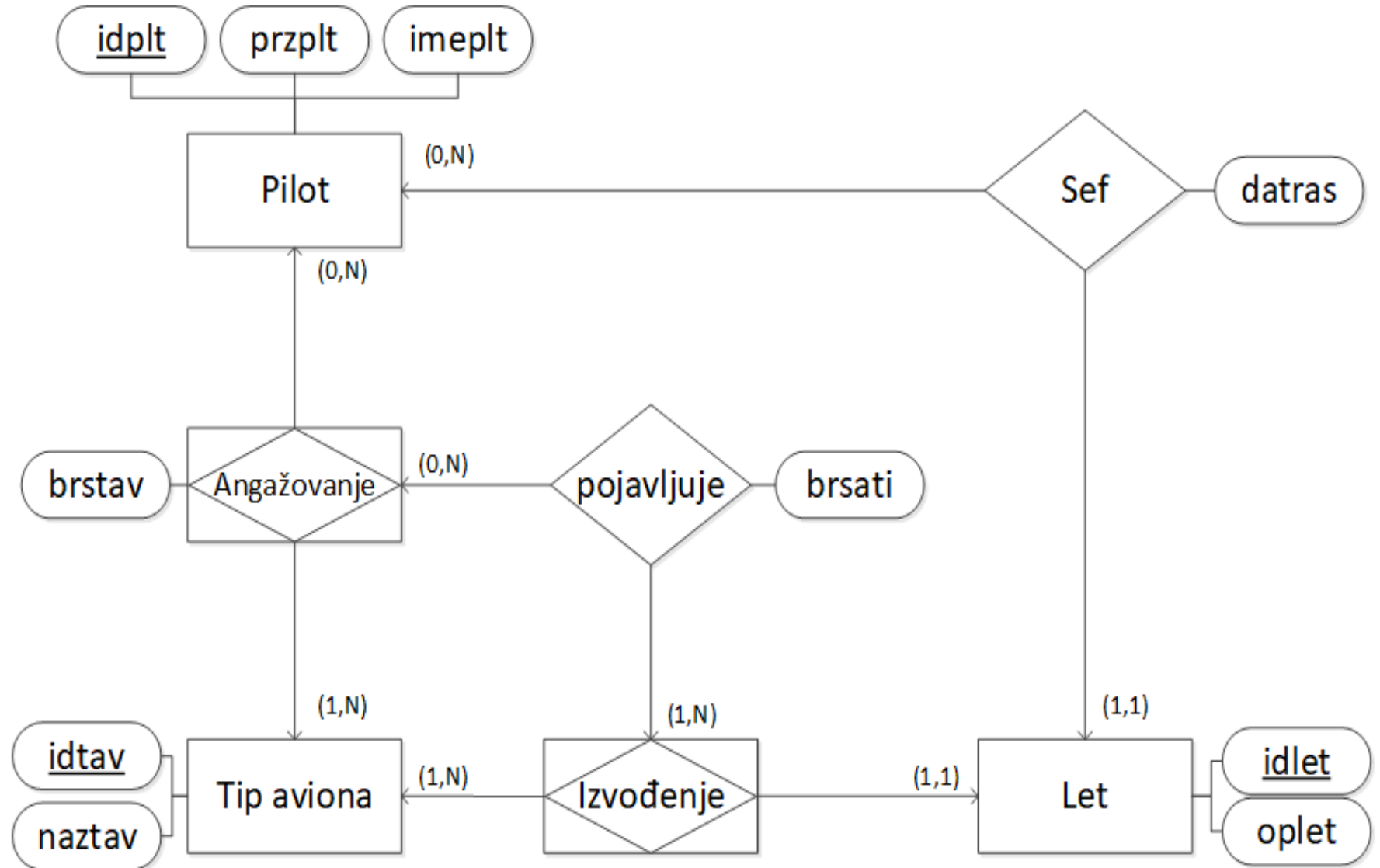
Zadatak 2

- FarmaceutskaKompanija($\{idfk, nazfk, idnadf\}$, $\{idfk\}$)
- FarmaceutskaKompanija[idnadf] \subseteq FarmaceutskaKompanija[idfk]
- Null(FarmaceutskaKompanija, idnadf) = T
- dom(idnadf) \subseteq dom(idfk)
- Lek($\{idfk, idlek, nazlek\}$, $\{idfk+idlek\}$)
- Lek[idfk] \subseteq FarmaceutskaKompanija[idfk]
- inverzni referencijalni integritet: FarmaceutskaKompanija[idfk] \subseteq Lek[idfk]
- Apoteka($\{idapot, nazapot, adrapot\}$, $\{idapot\}$)
- ImaUgovor($\{idfk, idapot, datsklapug, datistekug\}$, $\{idfk+idapot\}$)
- ImaUgovor[idfk] \subseteq FarmaceutskaKompanija[idfk]
- ImaUgovor[idapot] \subseteq Apoteka[idapot]
- inverzni referencijalni integritet: Apoteka[idapot] \subseteq ImaUgovor[idapot]
- Radnik($\{jmbgfr, imefr, prezfr, pltfr, tiprad, idapot\}$, $\{jmbgfr\}$)
- Radnik[idapot] \subseteq Apoteka[idapot], Null(Radnik, idapot) = \perp
- inverzni referencijalni integritet: Apoteka[idapot] \subseteq Radnik[idapot]
- FarmaceutskiTehničar($\{jmbgfr\}$, $\{jmbgfr\}$)
- FarmaceutskiTehničar[jmbgfr] \subseteq Radnik[jmbgfr]
- Farmaceutskilnženjer($\{jmbgfr, brojlicfi\}$, $\{jmbgfr\}$)
- Farmaceutskilnženjer[jmbgfr] \subseteq Radnik[jmbgfr]
- Komercijalista($\{jmbgfr\}$, $\{jmbgfr\}$)
- Komercijalista[jmbgfr] \subseteq Radnik[jmbgfr]
- Totalna IS-A hijerarhija:
- Radnik[jmbgfr] \subseteq FarmaceutskiTehničar[jmbgfr] \cup Farmaceutskilnženjer[jmbgfr] \cup Komercijalista[jmbgfr]

Zadatak 2

- Nepresečna IS-A hijerarhija:
- $\text{FarmaceutskiTehničar}[jmbgfr] \cap \text{FarmaceutskiInženjer}[jmbgfr] = \emptyset$
- $\text{FarmaceutskiTehničar}[jmbgfr] \cap \text{Komercijalista}[jmbgfr] = \emptyset$
- $\text{FarmaceutskiInženjer}[jmbgfr] \cap \text{Komercijalista}[jmbgfr] = \emptyset$
- $\text{Nabavka}(\{\text{idfk}, \text{idlek}, \text{datnab}, \text{kolnab}, \text{nabcena}, \text{roktrajanja}, \text{jmbgfr}\}, \{\text{idfk}+\text{idlek}+\text{datnab}\})$
- $\text{Nabavka}[jmbgfr] \subseteq \text{Komercijalista}[jmbgfr], \text{Null}(\text{Nabavka}, \text{jmbgfr}) = \perp$
- $\text{Nabavka}[\text{idfk}+\text{idlek}] \subseteq \text{Lek}[\text{idfk}+\text{idlek}]$
- $\text{Ponuda}(\{\text{idapot}, \text{idfk}, \text{idlek}, \text{jmbgfr}\}, \{\text{idapot}+\text{idfk}+\text{idlek}\})$
- $\text{Ponuda}[\text{idapot}] \subseteq \text{Apoteka}[\text{idapot}]$
- inverzni referencijalni integritet: $\text{Apoteka}[\text{idapot}] \subseteq \text{Ponuda}[\text{idapot}]$
- $\text{Ponuda}[\text{idlek}+\text{idfk}] \subseteq \text{Lek}[\text{idlek}+\text{idfk}]$
- $\text{Izdaje}(\{\text{idfk}, \text{idlek}, \text{idapot}, \text{jmbgfr}\}, \{\text{idfk}+\text{idlek}+\text{idapot}+\text{jmbgfr}\})$
- $\text{Izdaje}[jmbgfr] \subseteq \text{FarmaceutskiTehničar}[jmbgfr]$
- $\text{Izdaje}[\text{idfk}+\text{idlek}+\text{idapot}] \subseteq \text{Ponuda}[\text{idfk}+\text{idlek}+\text{idapot}]$

Zadatak 3



Zadatak 3

- $\text{Pilot}(\{\text{idplt}, \text{przplt}, \text{imeplt}\}, \{\text{idplt}\})$
- $\text{TipAviona}(\{\text{idtav}, \text{naztav}\}, \{\text{idtav}\})$
- $\text{Angažovanje}(\{\text{brstav}, \text{idplt}, \text{idtav}\}, \{\text{idplt+idtav}\})$
- $\text{Angažovanje}[\text{idplt}] \subseteq \text{Pilot}[\text{idplt}]$
- $\text{Angažovanje}[\text{idtav}] \subseteq \text{TipAviona}[\text{idtav}]$
- inverzni referencijalni integritet: $\text{TipAviona}[\text{idtav}] \subseteq \text{Angažovanje}[\text{idtav}]$
- $\text{Let}(\{\text{idlet}, \text{oilet}, \text{datras}, \text{idpltsef}, \text{idtav}\}, \{\text{idlet}\})$
- $\text{Let}[\text{idpltsef}] \subseteq \text{Pilot}[\text{idplt}]$
- $\text{Null}(\text{Let}, \text{idpltsef}) = \perp$
- $\text{dom}(\text{Let}, \text{idpltsef}) \subseteq \text{dom}(\text{Pilot}, \text{idplt})$
- $\text{Let}[\text{idtav}] \subseteq \text{TipAviona}[\text{idtav}]$
- $\text{Null}(\text{Let}, \text{idtav}) = \perp$
- inverzni referencijalni integritet: $\text{TipAviona}[\text{idtav}] \subseteq \text{Let}[\text{idtav}]$
- $\text{Pojavljuje}(\{\text{brsati}, \text{idplt}, \text{idtav}, \text{idlet}\}, \{\text{idplt+idtav+idlet}\})$
- $\text{Pojavljuje}[\text{idplt+idtav}] \subseteq \text{Angažovanje}[\text{idplt+idtav}]$
- $\text{Pojavljuje}[\text{idlet}] \subseteq \text{Let}[\text{idlet}]$
- inverzni referencijalni integritet: $\text{Let}[\text{idlet}] \subseteq \text{Pojavljuje}[\text{idlet}]$