SCENARIO 1 – Normalization Intermediate Steps

1NF

Publications (Pub_ID(PK), Title, Date, Journal, Category, **Subject (PK)**, Pages, **Faculty_ID(PK)**, Faculty_Name, **Supervisor_ID(PK)**, Supervisor_Name**)**

Functional Dependencies in 2NF

Pub_ID -> Title, Date, Journal, Category Pages

Faculty_ID -> Faculty_Name

Supervisor_ID -> Supervisor_Name

2NF

Publications (Pub_ID(PK), Title, Date, Journal, Category, Pages**)**

Subject Area (Pub_ID(FK), Subject_Name (PK))

Faculty (Faculty_Id, Faculty_Name**)**

Supervisor (Supervisor_Id, Supervisor_Name**)**

Publication_Supervisor_Faculty (Pub_ID(FK), Supervisor_ID(FK), Faculty_ID(FK))

OR

Publication_Supervisor (Pub_ID(FK), Supervisor_ID(FK)) AND Publication_Faculty (Pub_ID(FK), Faculty_ID(FK))

Transitive Dependencies in 3NF

Journal -> Category

3NF

Publications (Pub_ID(PK), Title, Date, Journal (FK), Category, Pages**)**

Journal (Journal_Name (PK), Category**)**

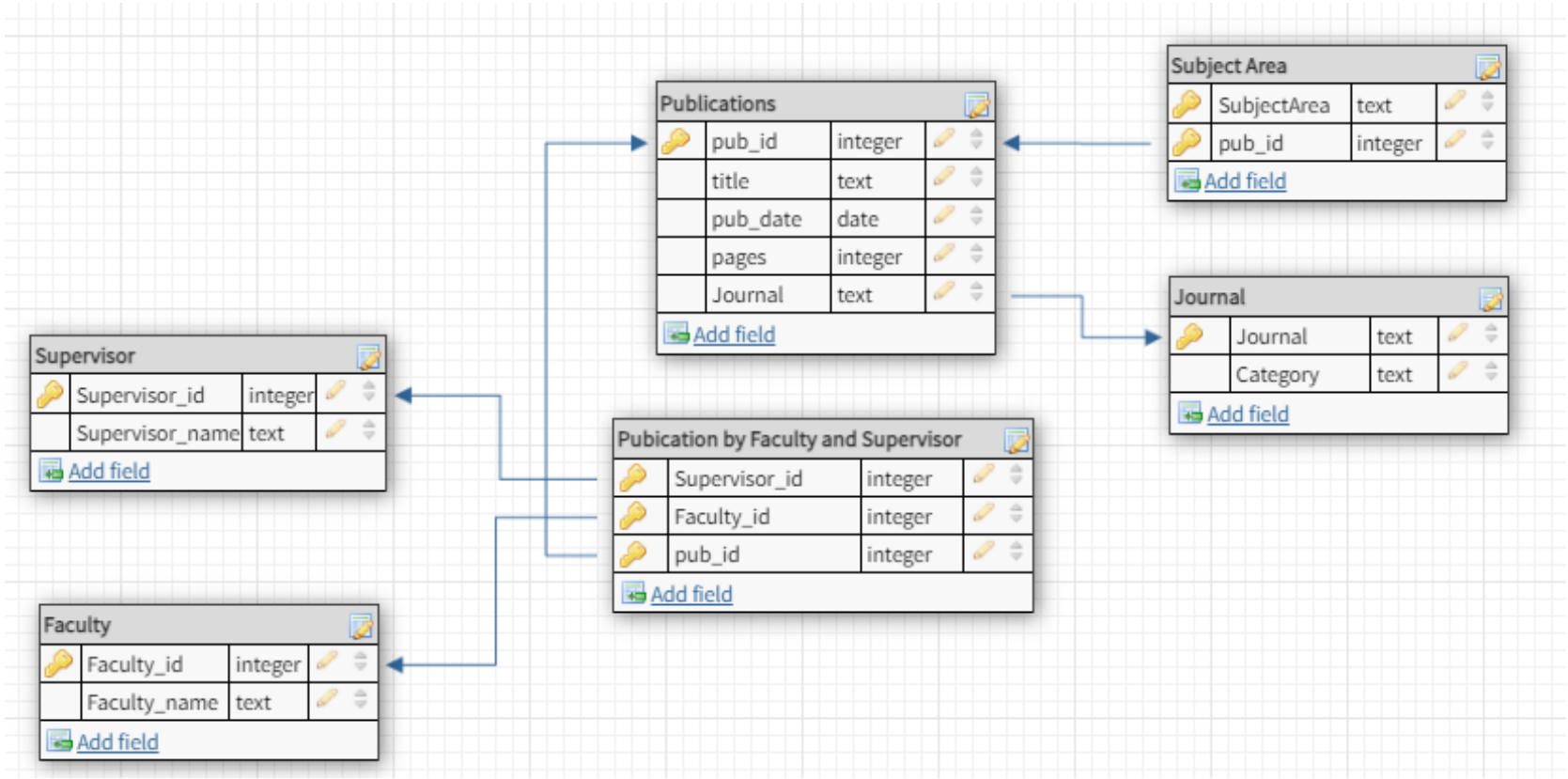
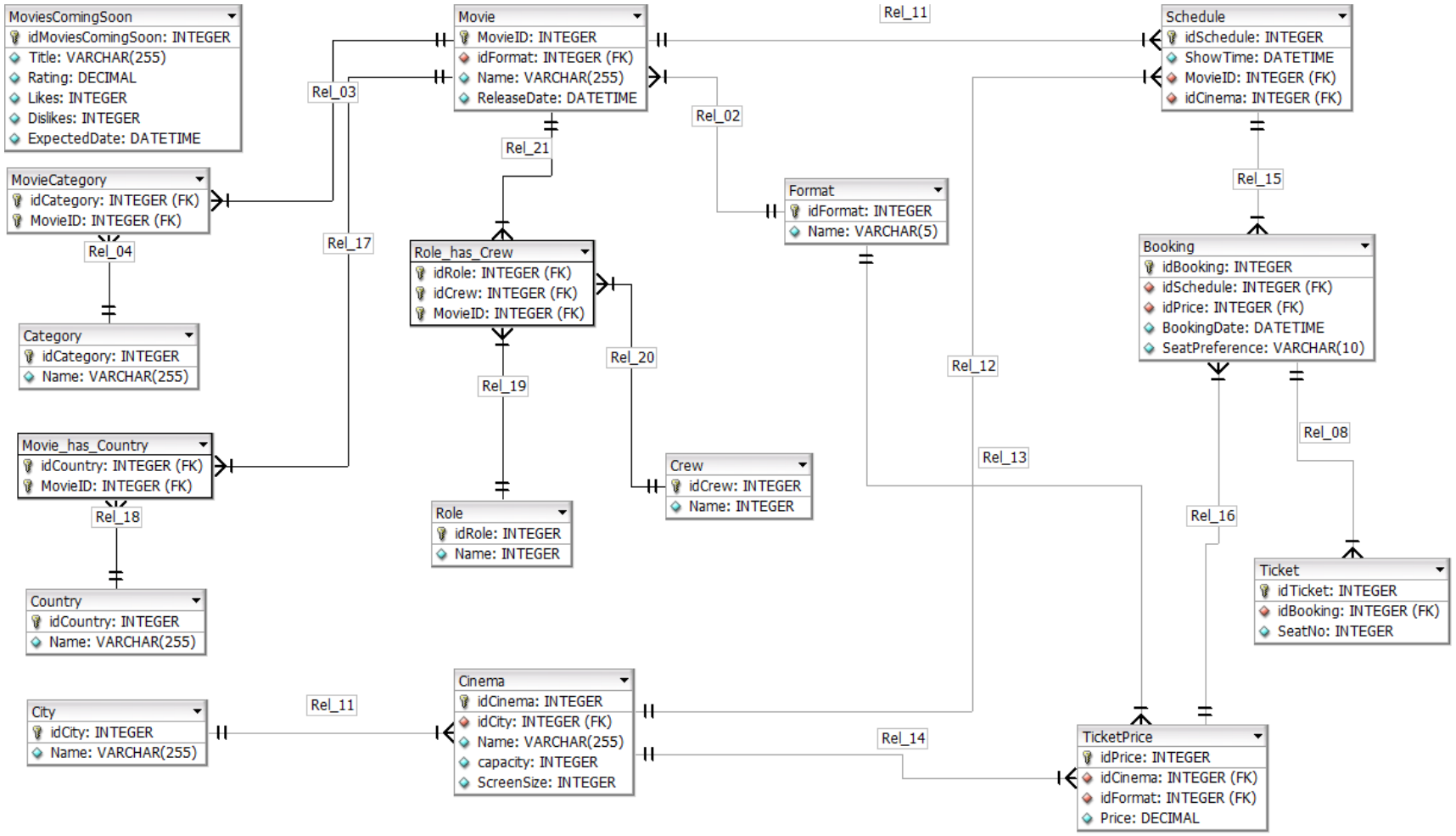
Subject Area (Pub_ID(FK), Subject_Name (PK))

Faculty (Faculty_Id, Faculty_Name**)**

Supervisor (Supervisor_Id, Supervisor_Name**)**

Publication_Supervisor_Faculty (Pub_ID(FK), Supervisor_ID(FK), Faculty_ID(FK))

Scenario 1 - ERD



Scenario 2 - ERD