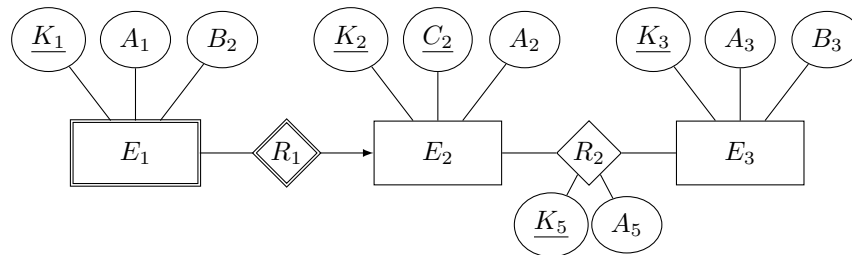


Databases 1

TD: Relational Database Model

Exercise 1. Translate the E/R diagrams from the previous TD session into relational schemas.

Exercise 2. Translate the following E/R diagram to relational schema.



Exercise 3. Propose an E/R diagram for the following relational schema. Is only one E/R diagram possible?

```
CREATE TABLE TO (
  A INT PRIMARY KEY,
  B TEXT
);
```

```
CREATE TABLE T1 (
  A INT PRIMARY KEY,
  C DATE NOT NULL,
  FOREIGN KEY (A) REFERENCES TO(A)
);
```

```
CREATE TABLE Q (
  A INT,
  B TEXT,
  C DATE,
  PRIMARY KEY (B,C),
  FOREIGN KEY (A) REFERENCES T1(A)
);
```

```
CREATE TABLE R (
  A INT,
  B TEXT,
  C DATE,
  D INT
  PRIMARY KEY (D, A),
  FOREIGN KEY (B,C) REFERENCES Q(B,C),
  FOREIGN KEY (A) REFERENCES TO(A)
);
```

Exercise 4. Propose an E/R diagram for the schema of the SNCF database you can find on the course page.

Exercise 5*. Propose a general translation scheme from E/R to DTDs for the XML model.

Exercise 6*. Propose a general translation scheme from E/R to ShEx for the RDF model.