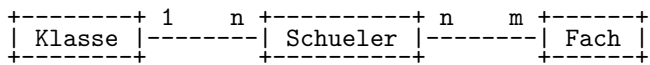


SQL: Beziehungen zwischen Tabellen

Beispieldaten



DDL: Definition des Datenbankschemas

```

CREATE TABLE klasse (
  id INT PRIMARY KEY AUTO_INCREMENT,
  name TEXT
);

CREATE TABLE schueler (
  id INT PRIMARY KEY AUTO_INCREMENT,
  vorname TEXT,
  nachname TEXT,
  klasse_id INT,
  FOREIGN KEY (klasse_id) REFERENCES klasse(id)
);

CREATE TABLE fach (
  id INT PRIMARY KEY AUTO_INCREMENT,
  name TEXT
);

CREATE TABLE schueler_fach (
  schueler_id INT,
  fach_id INT,
  PRIMARY KEY(schueler_id, fach_id),
  FOREIGN KEY (schueler_id) REFERENCES schueler(id),
  FOREIGN KEY (fach_id) REFERENCES fach(id)
);

```

DML: Hinzufügen von Datensätzen

```

INSERT INTO klasse SET name = 'T2A';
INSERT INTO klasse SET name = 'T4A';
INSERT INTO klasse SET name = 'I2A';
INSERT INTO klasse SET name = 'I4A';

INSERT INTO fach SET name = 'DB';
INSERT INTO fach SET name = 'KN';
INSERT INTO fach SET name = 'SWT';

INSERT INTO schueler SET vorname = 'Anna', nachname = 'Arm', klasse_id = 3;
INSERT INTO schueler SET vorname = 'Berta', nachname = 'Bein', klasse_id = 4;
INSERT INTO schueler SET vorname = 'Carla', nachname = 'Copf', klasse_id = 4;
INSERT INTO schueler SET vorname = 'Dieter', nachname = 'Darm', klasse_id = 4;
INSERT INTO schueler SET vorname = 'Emma', nachname = 'Elle', klasse_id = 2;

```

DML: Schüler_innen waehlen Fach

```
INSERT INTO schueler_fach SET schueler_id = 2, fach_id = 1;
INSERT INTO schueler_fach SET schueler_id = 3, fach_id = 1;
INSERT INTO schueler_fach SET schueler_id = 4, fach_id = 1;
```

```
INSERT INTO schueler_fach SET schueler_id = 2, fach_id = 3;
INSERT INTO schueler_fach SET schueler_id = 4, fach_id = 3;
```

DML/DQL: Lesen

Die Namen aller Schüler_innen der Klasse I4A

```
SELECT schueler.vorname, schueler.nachname
FROM schueler
JOIN klasse ON schueler.klasse_id = klasse.id
WHERE klasse.name = 'I4A';
```

Die Namen aller Schüler_innen im Fach SWT

```
SELECT schueler.vorname, schueler.nachname
FROM schueler
JOIN schueler_fach ON schueler.id = schueler_fach.schueler_id
JOIN fach ON fach.id = schueler_fach.fach_id
WHERE fach.name = 'SWT';
```

Die Namen aller Fächer der Schülerin Berta

```
SELECT fach.name
FROM fach
JOIN schueler_fach ON fach.id = schueler_fach.fach_id
JOIN schueler ON schueler.id = schueler_fach.schueler_id
WHERE schueler.vorname = 'Berta';
```