

Informationssysteme - Übungsblatt 6

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Mi, 14-16 Uhr, Andreas Kaster

Aufgabe 6.1

(a)

```
CREATE TRIGGER LöschePrüfung
AFTER DELETE ON Student
FOR EACH ROW
DELETE FROM Prüfung WHERE Prüfung.Matrikel_Nr = Student.Matrikel_Nr
```

```
CREATE TRIGGER LöschePrüfer
AFTER DELETE ON Professor
FOR EACH ROW
UPDATE Prüfung SET Prüfer = NULL WHERE Prüfer = Professor.P_Name
```

(b)

(i)

```
CREATE ASSERTION CONSTRAINT Semester5
CHECK NOT EXISTS (SELECT * FROM Prüfung p, Student s
                  WHERE p.Matrikel_Nr = s.Matrikel_Nr
                  AND Fach LIKE '%Softwaretechnik%'
                  AND Semester < 5)
```

(ii)

```
CREATE ASSERTION CONSTRAINT Semester15
CHECK NOT EXISTS ((SELECT Matrikel_Nr FROM Student
                  WHERE Semester > 14)
                 MINUS
                 (SELECT Matrikel_Nr
                  FROM Prüfung
                  WHERE Note <= 4.0))
```

(iii)

```
CREATE ASSERTION CONSTRAINT BüroDesProfessors
CHECK 1=ALL (SELECT COUNT(*) FROM Professor GROUP BY Gebäude,Raum)
```

(iv)

```
CREATE TRIGGER Matr_Nr
BEFORE UPDATE OF Matrikel_Nr ON Student
("Das Ändern einer Matrikel-Nummer ist nicht möglich."; ROLLBACK WORK)
```

(v)

```
CREATE TRIGGER Notenänderung
AFTER UPDATE OF Note ON Prüfung
REFERENCING OLD AS Prüfung_alt NEW AS Prüfung_neu
FOR EACH ROW
WHEN (Prüfung_neu.Note > Prüfung_alt.Note) (ROLLBACK WORK)
```

Aufgabe 6.2

(a)

```
CREATE ASSERTION CHECK (Lieferdatum>=ALL
                        (SELECT Erscheinungsdatum
                         FROM Bücher b
                         WHERE b.isbn=isbn))
```

(b)

```
CREATE OR REPLACE TRIGGER Bankverbindungsänderung
BEFORE UPDATE OF Bankverbindung ON Kunden
REFERENCING NEW AS neu
FOR EACH ROW
DECLARE i LONG;
BEGIN
    SELECT COUNT(*) INTO i FROM Verkäufe V WHERE V.Email=neu.Email
    AND V.Bestelldatum IS NOT NULL AND V.Lieferdatum IS NULL;
    IF i>0 THEN
        ROLLBACK WORK;
    END IF;
END;
```