Subject AbdelRahman Adel AbdelFattah Date 17012296

Sheet 3

4.7.

	Constraint	ON DELETE	ON UPDATE
①	Book Authors → Book Book id → Book id	Cascade ↳ remove all then if no booke	Cascade ↳ incase there is a change all must change
②	Book → Publisher Publisher_name ↳ name	Set NULL ↳ The Book is still there but no Publisher	Cascade ↳ if name was input incorrectly
③	Booke_Copies → Book Book_id → Book-id	~~Cascade~~ reject → No remove a book with copies	Cascade ↳ Because it can just change for all Bookes
④	Book_Copies ↳ Library-branch Branch_id ↳ Branch_id	reject ↳ refuse the removal of Bookes that is there	Cascade ↳ Just to keep all in sync
⑤	Book_Loans → Book Booke_id → Book id	reject ↳ No delete if it is Looned	~~Cascade~~ reject ↳ The Booke is outside of the library it shouldn't change before it's back
⑥	Book-Loans → Library-Banch Banch_id ↳ Branch id	reject ↳ No delete if it's Looned	reject ↳ Shouldn't return the booke to a place with different id
⑦	Book-Loans → Borrower card no → Card-no	~~Set~~ reject ↳ No card should be deleted if there are loans	reject ↳ Card-no shouldn't change mid loan

```
4.8) CREATE BOOK
  ( Book id          VARCHAR(20)      NOT NULL
    Title            VARCHAR(100)
    Publisher_name   VARCHAR(30)
    PRIMARY MEY (Book_id)
    CONSTRAINT  PublisherName
       Foreign key   (Publiser_Name) REFERANCES PUBLISHER (name)
           on DELETE    set NULL    ON UPDATE Cascade);
```

```
   CREATE  BOOK_AUTHERS
 ( Book_id        VARCHAR(20)      NOT NULL
   Author_name   VARCHAR(30)
   PRIMARY MEY     (Book_id, Authername)
   CONSTRAINT       BOOKID
      FOREIGN KEY (Book_id) REFERENCES  BOOK(Book_id)
       ON DELETE Cascade    ON UPDATE   Cascade);
```

```
CREATE  PUBLISHER
( Name        VARCHAR(30)
  Address     VARCHAR(50)
  Phone       INT
  PRIMARY KEY (Name));
```

```
CREATE  BOOK_COPIES
( Book_id  VARCHAR(20)  NOT NULL
  Branch_id VARCHAR(10)  NOT NULL
  No_of_Copies    INT
 PRIAMARY  (Book_id, Branch_id)
  CONSERAINT   BOOKID
      Foreign key (Book_id) refrences Book (Book_id)
         on Delete reject    on UPDATE Cascade
  CONSTRAINT
     BRANCHID
  FOREGN KEY (Branch_id)
  References LIBARY_Branch
  (Branch_Id)
  on Delete reject
  on Update cascade );
```

```
~~Book~~ CREATE BOOK LOANS
( Book_id          VARCHAR(20)     NOT NULL
  Branch_id        VARCHAR(10)
  Card_no          ~~B~~INT         NOT NULL
  Date_out           DATE
  Due - Date         DATE
  PRIMARY KEY (Book_id, Branch_id, Card_no)
   ConstRAINT  BOOKID
     FOREIGN KEY (Book-Id) REFERENCES BOOK (Book_id)
       ON DELETE  REJECT  ON UPDATE  REJECT
Constraint
BRANCHID xFOREIGN KEY (Branch_Id) REFERENCES LIBRARY_BANCH (Branch_Id)
      ON DELETE    Reject  ON UPDATE Reject
  CONSTRAINT CARD
      FOREIGN KEY (card-no) REFERENCES BORROWER(card_no)
       ON DELETE  Reject  on UPDATE  Reject );

CREATE LIBARY_BRANCH
( Branch_id,    VARCHAR(10)
  Branch - name    VARCHAR(20)
  Address          VARCHAR(50)
  PRIMARY KEY (Branch_id) );

CREATE  BORROWER
( Card_no        INT
  Name          VARCHAR(30)
  Address       VARCHAR(50)
  Phone          INt
  PRIMARY KEY (Card_no) );
```

Subject ______________ Date / /

```
4.12)) a) SELECT Name
          FROM Student
          WHERE Major = 'CS' AND Class = 4

       b) ~~SELECT Course_number~~
            SELECT Course_name ~~course~~
            FROM   Course   AS C
            Where  C.course_NumbER in(SELECT Course_Number
                                      From Section
                                      Where Instructor = king
                                      And (Year = 07 or Year = 08))

       c) SELECT Course_nuber, semester, year
          FROM Section
          WHERE instructor = "king"

       d) SELECT Course_name, Course_number, credit hours_semester
                 year, grade
          FROM STUDENT, COURSE, GRADE_REPORT
          WHERE Class = 4
```

```
4.13) a) INSERT INTO Stdent
          Values ('Johnson', 25, 1, 'Math')

      b) UPDATE STUDENT
          SET CLASS = 2
          Where Name = 'Smith'
```

Subject ____________ Date / /

c) INSERT INTO Course
VALUES
('Knowledge Engineering', 'CS 4390', 3, 'CS')

d) DELETE FROM STUDENT
WHERE Name = 'Smith" AND student_number = 17