Data Management Systems Design
Assignment - 4
RP946

EXERCISE 1:

1. No faculty member from department number 5 can teach more than four courses

   CREATE ASSERTION k_ class_
   dep5 CHECK (NOT EXISTS
   (SELECT *

                    FROM   FACULTY F, CLASS C

                    WHERE   F.FID=C.FID and

                    DEPTID=5 GROUP BY C.FID

                    HAVING   COUNT(*)>4))

2. The number of CS majors must be more than the number of math majors.

   ALTER TABLE STUDENTS
   CREATE CONSTRAINT K
   MAJORS CHECK (SELECT :
   COUNT(*)

          FROM   STUDENTS

          WHERE MAJOR = 'CS') > (SELECT COUNT(*)

                              FROM   STUDENTS

                              WHERE MAJOR =

                              'Math'))

3. No student should enroll in more than 2 classes offered by the same faculty.

   CREATE ASSERTION ck_Faculty
   CHECK (NOT EXIST (SELECT COUNT(*)

                    FROM   ENROLLED E, CLASS

                    C WHERE   CNAME=E.CNAME

                    GROUP BY SNUM.FID

                    HAVING   COUNT(*)>2))

EXERCISE 2:

A.   CREATE TRIGGER

row_trig_no_red AFTER

INSERT ON RESERVES FOR

EACH ROW

WHEN (SELECT COLOR

     FROM BOATS

     WHERE BID = NEW.BID) = 'RED'

UPDATE SAILORS SET NO_OF_RED=

NO_OF_RED+ 1 WHERE SID = NEW.SID

B.   CREATE TRIGGER statement trig

no red AFTER INSERT ON

RESERVES REFERNCING NEW

TABLE AS N

FOR EACH STATEMENT

WHEN EXISTS (SELECT COLOR

        FROM BOATS

        WHERE BID IN (SELECT BID FROM N) AND

COLOR='Red') UPDATE SAILORS SET NO_OF_RED = NO_OF_RED + 1

WHERE SID IN (SELECT SID

        FROM   N, BOATS B

        WHERE B.BID=N.BID AND COLOR='Red')