

# CS166 HW #3

Sunday, February 27, 2022 10:17 AM

Eugene Baldonado SID: 862070316

Problem 1) Exercise 5.2 6 - 11

Suppliers(sid: integer, sname: string, address: string)

Parts(pid: integer, pname: string, color: string)

Catalog(sid: integer, pid: integer, cost: real)

6. For each part, find the sname of the supplier who charges the most for that part
- SELECT s.sname, MAX(c.cost) AS maxPart
- FROM Suppliers s, Parts p, Catalog c
- WHERE c.sid = s.sid AND c.pid = p.pid
- GROUP BY s.sname;
7. Find the sids of suppliers who supply only red pats
- SELECT s.sid
- FROM Suppliers s, Parts p, Catalog c
- WHERE c.sid = s.sid AND c.pid = p.pid AND p.color = 'Green';
8. Find the sids of suppliers who supply a red part and a green part
- #FIND RED SUPPLIERS
- SELECT s.sid INTO redSuppliers
- FROM Parts p, Suppliers s, Catalog c
- WHERE c.pid = p.pid AND c.sid = s.sid AND p.color = 'Red';
- #FIND GREEN SUPPLIERS
- SELECT s.sid INTO greenSuppliers
- FROM Parts p, Suppliers s, Catalog c
- WHERE c.pid = p.pid AND c.sid = s.sid AND p.color = 'Green';
- #FIND RED AND GREEN SUPPLIERS
- SELECT s.sid
- FROM redSuppliers rs, greenSuppliers gs, Suppliers s
- WHERE rs.sid = gs.sid AND gs.sid = s.sid;
9. Find the sids of suppliers who supply a red part or a green part
- SELECT s.sid
- FROM Parts p, Suppleirs s, Catalog c
- WHERE c.pid = p.pid AND c.sid = s.sid AND (p.color = 'Green' OR p.color = 'Red');
10. For every supplier that only supplies green parts, print the name of the supplier and the total
- number of parts that she supplies
- SELECT s.sname, COUNT(c.sid) AS partsSupplied
- FROM Suppliers s, Parts p, Catalog c
- WHERE c.pid = p.pid AND c.sid = s.sid AND p.color = 'Green'
- GROUP BY s.sname;
11. For every supplier that supplies a green part and a red part, print the name and price of the most
- expensive part that she supplies
- #ASSUME TABLES FROM QUESTION 8 ARE STILL IN DB
- SELECT s.sid INTO redGreenSuppliers
- FROM Suppliers s, redSuppliers rs, greenSuppliers gs
- WHERE gs.sid = rs.sid AND rs.sid = s.sid;
- #FIND MOST EXPENSIVE PARTS
- SELECT p.pname, MAX(c.cost) AS maxPartPrice
- FROM redGreenSuppliers rgs, Parts p, Catalog c
- WHERE rgs.sid = c.sid AND p.pid = c.pid
- GROUP BY p.pname;

Problem 2)

STUDENT (Name, StudentNumber, Class, Major)

COURSE (CourseName, CourseNumber, CreditHours, Department)

PREREQUISITE (CourseNumber, PrerequisiteNumber)

SECTION (SectionIdentifier, CourseNumber, Semester, Year, Instructor)

GRADE\_REPORT (StudentNumber, SectionIdentifier, Grade)

- a. Retrieve the names of all courses taught by professor King in 2005 and 2010.
- SELECT c.CourseName
- FROM COURSE c, SECTION s
- WHERE c.CourseNumber = s.CourseNumber AND Instructor = 'King' AND (Year = 2005 OR Year = 2010)
- b. For each section taught by professor King, retrieve the course number, semester, year, and
- number of students who took the section
- SELECT c.CourseNumber, s.Semester, s.Year, COUNT(gr.StudentNumber) AS numStudents
- FROM COURSE c, SECTION s, GRADE\_REPORT gr
- WHERE c.CourseNumber = s.CourseNumber AND Instructor = 'King' AND s.SectionIdentifier =
- gr.SectionIdentifier;
- #GROUP BY SECTION IDENTIFIER CAUSES ISSUES IN SELECT (not part of Group By)
- #Already split by each section, alt solution: make a table with just the COUNT of students and
- make a different SELECT including that table
- c. Retrieve the names and major departments of all A students (students who have a grade of A in all
- their courses)
- SELECT s.Name, s.Major, c.Department
- FROM STUDENT s, COURSE c, GRADE\_REPORT gr, SECTION se
- WHERE gr.StudentNumber = s.StudentNumber AND gr.Grade = 'A' AND gr.SectionIdentifer =
- se.SectionIdentifer AND se.CourseNumber = c.CourseNumber;
- d. Retrieve the names and major departments of all students of all students who do not have a grade
- of A in any of their courses
- SELECT s.Name, s.Major, c.Department
- FROM STUDENT s, COURSE c, GRADE\_REPORT gr, SECTION se
- WHERE gr.StudentNumber = s.StudentNumber AND gr.Grade != 'A' AND gr.SectionIdentifier =
- se.SectionIdentifer AND se.CourseNumber = c.CourseNumber;