CIS 353

Week 6 Notes

Set Operations –

* Union
* Intersection
* Minus/Expect
* IN
* Some/Any
* All
* Exists/Not Exists

Book(bid, title, yearsofpub)

Student(sid, sname, age, city)

Buy(bid, sid, dateofbuy)

Pub(pid, phone, bid, price)

1. Select bid from book where title = ‘DBMS’ **Intersect** select bod from bag
   1. This gives us all the DBMD books bought by at least one student
2. Select bid from book where title = ‘DBMS’ **Minus** select bod from bag
   1. All DBMS books not bought by any students
3. Select pname from pub where price >= 1000
   1. Gives all names that have at least one book more than 1000
4. Select pname form pub **minus** select pname from pub where price <= 1000
   1. Find all names that have a book less than 1000 and then minus it from all names to find who has all books over 1000
5. Find the name of the publishers who published at least 1 book at a price of any books published by ‘ABC’.
   1. Select pname from publisher where the price **IN** (Select from price from pub where pname = ‘ABC’)
      1. Can use IN or use =Some. Both do the same thing.
6. Find the name of the publishers who published at least 1 book at a price of any books published by ‘ABC’.
   1. Select pname from publisher where the price **> Some** (Select from price from pub where pname = ‘ABC’)
      1. Publised at least one book greater than ABC
7. > SOME – greater than the least
8. < SOME – lesser than the greatest
9. Find the name of the publishers who published at least 1 book at a price of any books published by ‘ABC’.
   1. Select pname from publisher where the price **> ALL** (Select from price from pub where pname = ‘ABC’)
      1. Get names of those that have published at least one book that is more than all the books published by ‘ABC’

**Practice**

Book(bid, title, yearsofpub)

Student(sid, sname, age, city)

Buy(bid, sid, dateofbuy)

Pub(pid, phame, bid, price)

Find the name of the students who live in the same city as the student ‘Dave’

* Select student name from student S1 where city **IN** (Select city from student S2 where sname = ‘Dave’ AND S1.sid != S2.sid)

Find the sname of the student who have bought at least one book

* Select sname from student where sid IN (select sid form buy)

Find the names of the publishers who published at least 1 book of the same title as bought by the student named ‘Dave’

* Select pname form pub, book where book.bid = pub.bid AND title IN (select title from book, student, buy, where sname = ‘Dave’ AND book.bid = buy.bid AND student.sid = buy.sid)

Find the price of the least priced book published by ‘ABC’

* Pub p1, pub p2
* P1.price <= All (p2.price)

Find student names who bought at least 1 book

* Select sname from student, buy where student.sid = buy.sid
* Select sname from student s1 where **exists** (select bid from buy where s1.sid = buy.sid)
  + Exists only cares if something is returned true

Find the student name that bought at least 1 book published by ‘ABC’

* Select sname from student s1 where **Exist** (Select \* from buy, pub, where s1.sid = buy.sid and pub.pname = ‘ABC’ and pub.bid = buy.bid)

Emp(empid,ename, dept, salary)

Customer(custid, cname, salesRep, rating)

Find the employee names who got a good rating from every customer that he/she did serve

* Select ename from emp, customer where empid = salesRep and rating = ‘Good’
  + Not right. Will give us even name of those that got good reviews but also bad and avg.
* Select ename from emp e1 where NOT EXISTS (select \* from customer where rating != ‘Good’ and e1.empid = salesrep)
  + Finds all the people that had at least one review that was not good. Then outer query uses that to find those who has not one bad query.

Find employee names who make a higher salary than anyone who works for dept ‘AB’

* Select e1.ename from emp s1 where e1.salary >SOME(Select salary from emp e2 where e2.dept != ‘AB’)
* Select e1.ename from emp e1 where exists (Select salary from emp2 where e2.dept != ‘AB’ and e1.empid = e2.emplid != e1.empid and e1.salary > e2.salary)

Find employee names who make a higher salary than all who works for dept ‘AB’

* Select ename from emp e1 where e1.salary > (select MAX(salary) from emp e2 where e2.dept = ‘AB’)
* Select ename from emp e1 where not exists (select salary from emp e2 where e2.dept = ‘AB’ and e1.salray < e2.salary and e1.empid != e2.empid)