

Section 4 Worksheet

Part 1: Interpreting SQL and Relational Data

A. (Midterm 12AU)

Clinic(cid, name, street, state)

Equipment(eid, type, model)

Assignment(cid, eid)

Find the count of clinics that do not have a fridge (of model 1004) assigned to it.

B. (Midterm 15AU)

Item(oid, category, price)

Gift(pid, rid, oid) -- pid gifts oid to rid

```
SELECT O1.category, max(abs(O1.price - O2.price))
  FROM Gift AS G1, Gift AS G2, Item AS O1, Item AS O2
 WHERE G1.pid = G2.rid AND
       G2.pid = G1.rid AND
       O1.oid = G1.oid AND
       O2.oid = G2.oid AND
       O1.category = O2.category
 GROUP BY O1.category
 HAVING count(*) > 5;
```

Part 2: Misc. SQL Practice

A. (Difference Techniques/3-Value Logic) Imagine we have the table R(v), such that R holds the tuples {(NULL), (1)}, and we also have the table S(v) such that S holds the tuples {(NULL), (2)}. What are the outputs of the following queries?

<pre>-- 1 SELECT * FROM R WHERE R.v NOT IN (SELECT v FROM S);</pre>	<pre>-- 2 SELECT * FROM R WHERE NOT EXISTS (SELECT * FROM S WHERE R.v=S.v);</pre>	<pre>-- 3 SELECT * FROM R EXCEPT SELECT * FROM S;</pre>
--	---	---

B. (Set Operations and ALL keyword) Say we have the R and S again but now

R has tuples {(1), (2), (2), (2), (3), (4), (4)} and

S has tuples {(2), (3), (4), (4), (4), (5)}.

What are the outputs of the following queries?

<pre>SELECT * FROM R UNION SELECT * FROM S;</pre>	<pre>SELECT * FROM R UNION ALL SELECT * FROM S;</pre>	<pre>SELECT * FROM R INTERSECT SELECT * FROM S;</pre>	<pre>SELECT * FROM R INTERSECT ALL SELECT * FROM S;</pre>	<pre>SELECT * FROM R EXCEPT ALL SELECT * FROM S;</pre>
--	--	--	--	---