CSCB20 WEEK 5 TUTORIAL

The purpose of this tutorial is to practice writing queries using:

- VIEW
- LEFT JOIN
- RIGHT JOIN
- CONCAT

1 Creating Views

If you forget the syntax for creating a VIEW you can check it here (note we only do simple views):

http://www.mysqltutorial.org/create-sql-views-mysql.aspx

Create a view called A_students that contains all student ids and course_ids for students who have an A, A- or A+.

create view A_students as select id, course_id from takes where grade='A' or grade='A+' or grade='A-';

Your solution should output a table like this:

+-		-+-	+
	id		course_id
+-		-+-	+
I	00128	Ι	CS-101
I	00128	Ι	CS-347
I	12345	Ι	CS-190
I	12345	Ι	CS-315
I	12345	Ι	CS-347
I	54321	Ι	CS-101
I	55739	Ι	MU-199
I	76543	Ι	CS-101
I	76543	Ι	CS-319
I	98988	Ι	BIO-101
+-		-+-	+

2 LEFT and RIGHT JOINS

Read the section on LEFT JOINs: http://www.mysqltutorial.org/mysql-left-join.aspx

• Use a **natural left** join to find all those instructors who are not teaching anything. First return a table with all columns. Then add to your query to only return the instructor names.

select * from instructor natural left join teaches;

and then add the clause where sec_id is null. Your final output should be:

+----+ | name | +----+ | Gold | | Califieri | | Singh | +----+

• Now find the only time slot that does not have a course scheduled. Use a LEFT/RIGHT JOIN and IS NULL.

SELECT distinct time_slot.time_slot_id FROM section RIGHT JOIN time_slot ON time_slot.time_slot_id=section.time_slot_id WHERE course_id IS NULL;

This one you can also do with a natural right join which simplifies things a little.

• Come up with a query that requires a left/right/full join and ask a partner to solve your query.

3 CONCAT

Refer to the tutorial on string functions as needed.

http://www.tutorialspoint.com/mysql/mysql-string-functions.htm

• For all prerequisites, return a table of sentences of the form "Course A is a prerequisite for course B" where A and B come from the prereq table. Label your column 'Requirements'.

```
select concat('Course ', prereq_id, ' is a prerequisite for ', course_id, '.')
as 'Requirements' from prereq;
```

```
+--------+
| Requirements
                                      Ι
+-----
         -----+
| Course BIO-101 is a prerequisite for BIO-301. |
| Course BIO-101 is a prerequisite for BIO-399. |
| Course CS-101 is a prerequisite for CS-190.
| Course CS-101 is a prerequisite for CS-315.
                                      | Course CS-101 is a prerequisite for CS-319.
                                      T
| Course CS-101 is a prerequisite for CS-347.
                                      Ι
| Course PHY-101 is a prerequisite for EE-181.
                                      Ι
+-----+
```

• Play around with some other string functions. Become familiar with a few of them.