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COS 48O/580 Fall 2012 Class Exercise 18 6 questions; 2 pgs. 2012-11-20
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1. List the members of your group below. Underline your name.
2. Consider a simple enrollment database with the schema:
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Students(sid, name, yr)
Courses(cid, title, ta)
Enrolls(sid, cid, credits)
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Write a SQL query to generate a list, sorted by student ID, of the ID, name, and total enrolled credits per student.
3. Provide an algebraic equivalent of the query of Question 2.
4. Depict logical and physical query trees for the query of Question 3.
5. State reasonable assumptions on likely dependencies for the schema of Question 2 and determine the highest normal form it satisfies.
6. Present all the SQL statements necessary to create and maintain a materialized view BigChange(sid, old_credits, new_credits, ts) with tuples ( $s, b, c, t$ ) indicating that a database modification at time $t$ changed the enrolled credits for the student with ID $s$ from $b$ to $c$, with $c$ at least $50 \%$ larger or smaller than $b$.

