

CSCB20 MidtermExam1

February 7, 2018

1 Topics for the exam

There are two major topics for the midterm exam i.e.

1. Relational Algebra
2. SQL queries

You are responsible for what ever we covered in lecture, assignments, tutorials and quiz1. Everything from these areas is a fair game for the exam.

1.1 Relational Algebra

I strongly recommend looking back at the worksheets that we covered in lecture on relational algebra i.e. (σ, π, ρ , etc) and the different joins (cross, natural, and theta join). You must pay careful attention to some of the questions that have the word ‘atleast two’ or ‘exactly two’.

1.2 SQL queries¹

Here you need to pay attention to a variety of things i.e.

1. How do you create a schema of a certain table in SQL? i.e. what are the commands to create a table with certain columns and certain types and certain foreign key constraints. How do you set the primary key constraints?

Keep in mind the constraints that are being used here for example null value, unique, primary key and foreign key.

2. Now that you have a schema in place, how do you insert data in? Again you should be familiar with the syntax here.

3. What are the different kinds of join that we learned? ²

¹Pay careful attention to the SQL syntax

²You will want to revisit what we studied in last lecture, but also nicely summarized here <https://i.stack.imgur.com/yt09K.png>

Cross Join
Inner Join (left and right)
Natural Join (left and right)
Full Outer Join
Views

Also, it will be a good practice, to think about how you can take a complex SQL query and break it down using Views.

2 How do I best prepare for this exam?

Practice! and Practice! and Practice! You may have noticed the questions that you are addressing on assignment1 and on the quiz are purely either relational algebra and SQL queries. Just knowing what the various components (i.e. join, selection, project etc etc) do in isolation is not useful. You must know how to put these together in addressing a query. Again, there is no substitute for practice, and I ask you to review your quiz1 and assignment1 and the worksheets for the midterm exam.

3 What kind of questions can I expect for the exam?

- You can expect some short definition questions for example, ‘What is a candidate key?’, ‘What is a primary key and how is it different from a candidate key?’ etc etc.
- Writing Relational Algebra queries
- Writing SQL queries
- Given some tables, I can ask you to perform outer join, inner join etc etc and you may be asked to produce the final output table.
- ...³

³Few surprises!