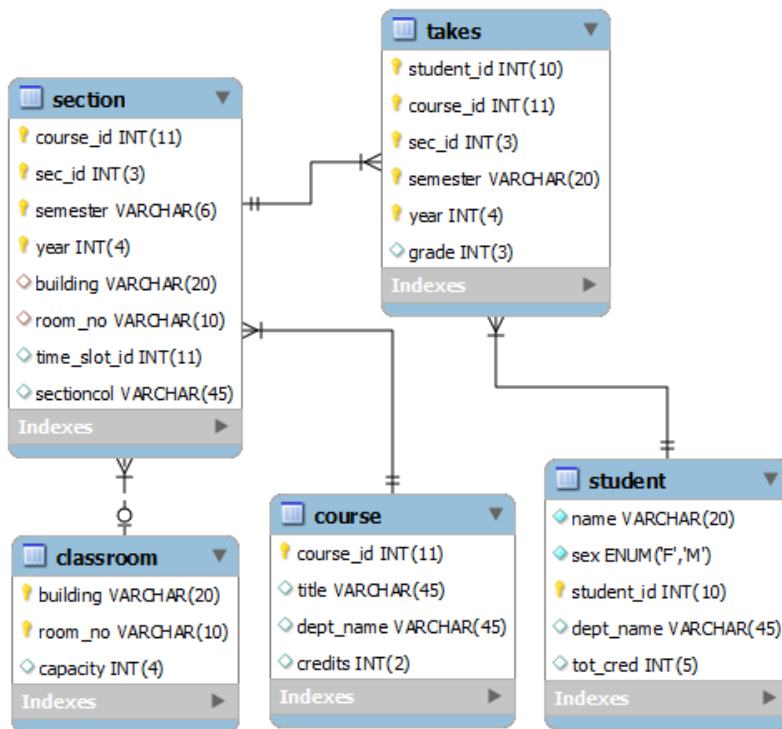


## Optimization Worksheet

### Assumptions

1. DB has info for just one semester, Fall 2016
2. There are 25,000 sections in the DB (i.e. 25,000 rows/tuples in section)
3. There are 20 buildings on campus
4. Each building has 50 classrooms
5. Only 5 buildings on campus have high capacity classrooms and just one such classroom per building
6. Every room has the same number of sections scheduled in it (=25)
7. There are 30 students in each section
8. There is no short-circuit evaluation of predicates (analysis will therefore provide an upper bound)



# Contains order of operation

5	classrooms w capacity>30
25	sections / classroom
30	students / section
<hr/>	
3750	students (takes)

### Query 1:

Display how many students are taking a class in a large capacity classroom using subqueries

### Query 2:

Display how many students are taking a class in a large capacity classroom using natural joins

### Query 3:

Display how many students are taking a class in a large capacity classroom using no joins, but just WHERE clauses.

For these queries show the memory utilization and the processing requirements.