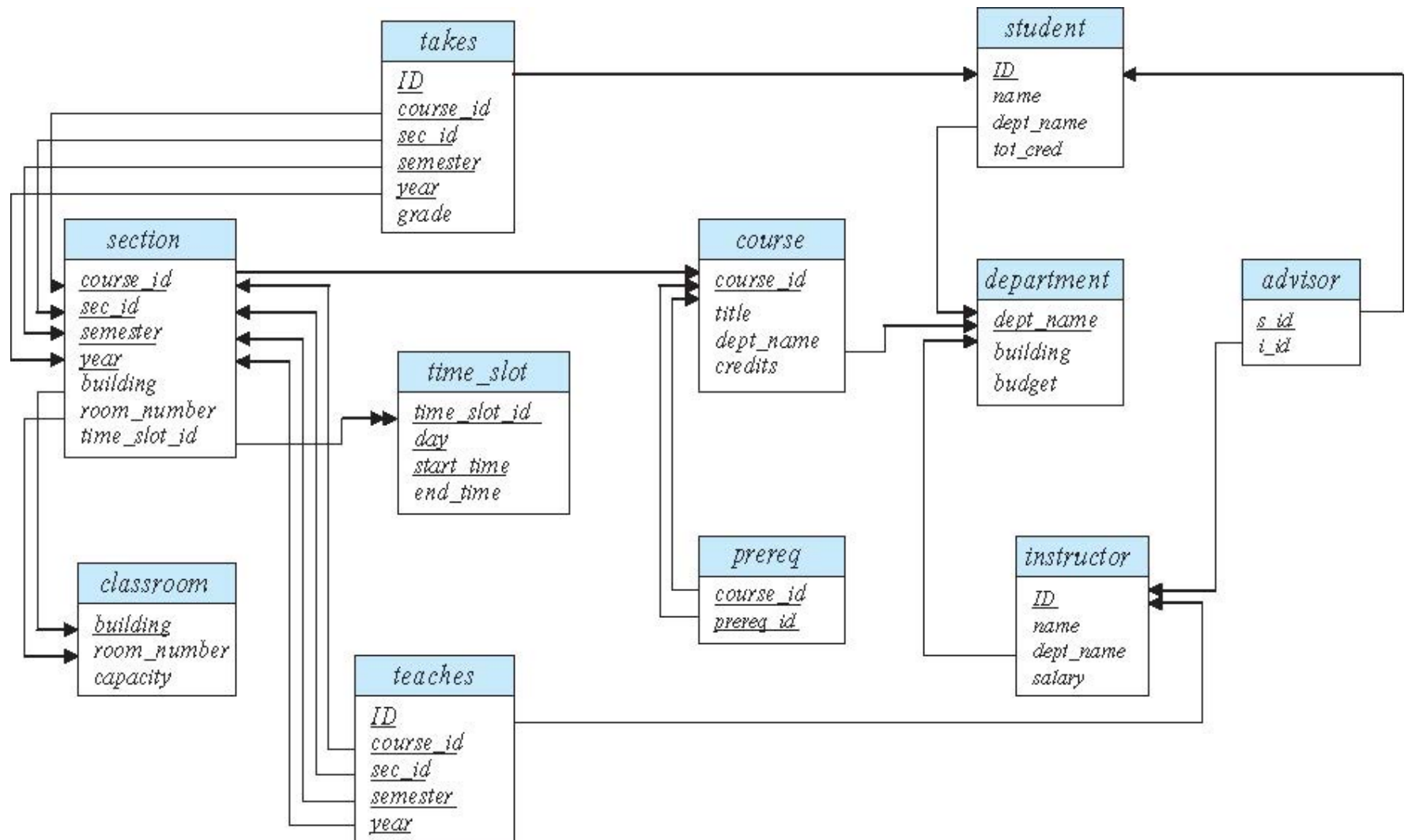
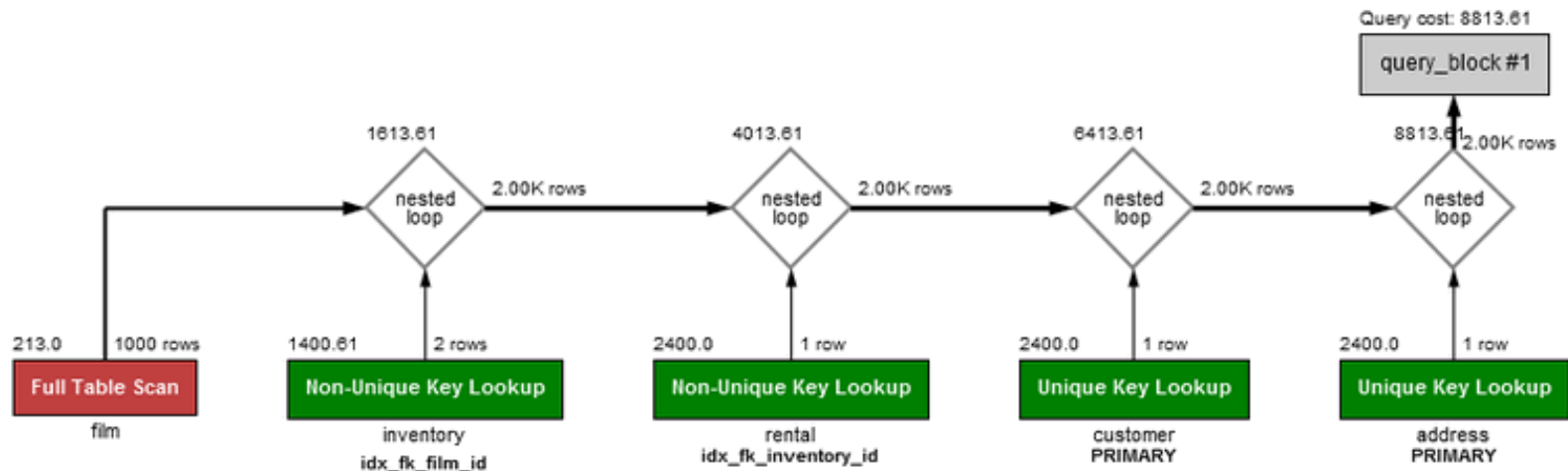


Schema Diagram for University Database



MySQL Visual Explain Example



■ Graphic Conventions

- Standard Boxes: tables
- Rounded boxes: operations such as GROUP and SORT
- Framed boxes: sub-queries
- Diamonds: joins

■ Textual Conventions

- Standard text below boxes: table (or alias) name
- Bold text below boxes: key/index that was used
- Number in top right of a box: number of rows used from the table after filtering
- Number in top left of a box: relative cost of accessing that table
- Number to the right of nested loop diamonds: number of rows produced by the JOIN
- Number above the loop diamonds: relative cost of the JOIN

Task 1

Create two new tables *takes1* and *course1*. The tables have the same schema and data as *takes* and *course* tables, but do not have any indices on them.

Task 2

Run a query that outputs titles of all courses that were taught in 2013.
Review execution plan.

Task 3

Create an index on the attribute *course_id* for table *course1*.
Rerun the query. Review the execution plan

Task 4

Create an index on attribute *title* for table *course1*. Rerun the query.
Review execution plan

Task 5

Create an index on attribute *year* for table *takes1*. Rerun the query.
Review the execution plan

SUBMIT:

1. All SQL queries
2. THE SCREENSHOT OF THIS PLAN (ONLY!)