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Query Optimization

2. Exercise, Winter 2007/2006

Due 2007-11-13

Consider the following SQL queries. For each of them, perform the canonical translation, logical optimization and (plausible) physical optimization. Give a short justification for the physical optimization.

1. (3)

```
select      s.name, l.name
from       students s, lectures l, attends s
where      s.id=a.sid and a.lid=l.id and l.year=2007
```

2. (3)

```
select distinct s.name
from          students s, lectures l, attends s, professors p
where        s.id=a.id and a.lid=l.id and l.pid=p.id and l.name=""Sokrates""
```

3. (4)

```
select distinct p.name, avg(e.grade)
from          lectures l, professors p, exams e
where        l.pid=p.id and e.lid=l.id and l.year=2007
group by    p.id, p.name
```