

[CS430] midterm exam BEN GIFTAKIS

1a) $(\pi_{\text{name,age}}((\pi_{\text{sid}}((\sigma_{\text{credits}=4} \text{ Courses})) \bowtie (\sigma_{\text{grade}=10} \text{ Enrolled}))) \bowtie \text{Students}))$

1b) $(\pi_{\text{name,age}} \text{ Students}) - (\pi_{\text{name,age}}((\pi_{\text{sid}}(\sigma_{\text{grade}<7} \text{ Enrolled})) \bowtie \text{Students}))$

1c)

1d)

--1a

select c.cname

from Courses c, Enrolled e, Students s

where s.sid = e.sid and e.cid = c.cid and s.age in

(select MAX(s.age)

from Students s);

--1b

select c.cname

from Courses c, Enrolled e, Students s

where s.sid = e.sid and e.cid = c.cid and s.sid not in

(select s.sid

from Enrolled e, Students s

where s.age > 25 and s.sid = e.sid and e.grade < 7);

--1c

select s.sname

from Courses c, Enrolled e, Students s

where

--1d

select c.cname AVG(e.grade)

from Courses c, Enrolled e, Students s

where s.sid = e.sid and e.cid = c.cid and s.age > 25

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group by c.cid  
having count(*) > 10
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--1e
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```
select c.cname  
from Courses c, Enrolled e, Students s  
where s.sid = e.sid and e.cid = c.cid and s.sid not in  
  (select s.age  
   from Students s  
   where s.age < 20)  
group by c.name
```