Problem set 1

Some comments

Getting small samples of stars

```
SELECT * into mydb.UnionOfStars2 from
(
(SELECT TOP 100 objID, psfMag_r, psfMag_g-psfMag_r as gr
FROM Star as s
WHERE psfMag_r >= 10 AND psfMag_r < 11)
UNION
(SELECT TOP 100 objID, psfMag_r, psfMag_g-psfMag_r as gr
FROM Star as s
WHERE psfMag_r >= 11 AND psfMag_r < 12)
UNION
(SELECT TOP 100 objID, psfMag_r, psfMag_g-psfMag_r as gr
FROM Star as s
WHERE psfMag_r >= 12 AND psfMag_r < 13)
```

Galaxy fractions

Divide and conquer:

Red galaxies:

```
Select floor(0.5+z*50.)/50 as redshift, count(*) as num
From SpecPhoto
Where
modelMag_u-modelMag_g > 2
AND
z between 0.001 and 0.5
GROUP BY floor(0.5+z*50.)/50
```

Galaxy fractions

Divide and conquer:

All galaxies

```
Select floor(0.5+z*50.)/50 as redshift, count(*) as num
From SpecPhoto
Where
z between 0.001 and 0.5
GROUP BY floor(0.5+z*50.)/50
```

Galaxy fractions Divide and conquer:

```
SELECT red.redshift, cast(red.num AS float)/cast(b.num AS float) as
fraction
FROM (
Select floor(0.5+z*50.)/50 as redshift, count(*) as num
From SpecPhoto
Where
modelMag_u-modelMag_g > 2
AND
z between 0.001 and 0.5
GROUP BY floor(0.5+z*50.)/50
) as red JOIN
(
Select floor(0.5+z*50.)/50 as redshift, count(*) as num
From SpecPhoto
Where
z between 0.001 and 0.5
GROUP BY floor(0.5+z*50.)/50
) AS b ON b.redshift = red.redshift
ORDER BY red.redshift
```

Easy reading from databases

```
import pandas as pd

con = lite.connect('SimpleTables-default.db')

t = pd.read_sql_query("Select Name, Ra, Decl From
MagTable Where B > 16", con)
```