Getting data from three different SDSS catalogs:

- **Galaxy** (“P”): galaxies with photometric measurements
- **SpecObj** (“S”): galaxies with spectroscopic measurements
- **galSpecExtra** (“E”): galaxies with derived spectroscopic values

```
SELECT TOP 100000 P.objID, P.flags_r,
  P.ra, P.dec, P.dered_g, P.dered_r, P.dered_i,
  P.err_g, P.err_r ,P.err_i,
  P.petroR50_g,P.petroR90_g,
  S.z, S.zErr, S.velDisp, S.velDisperr,
  E.oh_p50, E.lgm_tot_p50, E.sfr_tot_p50
FROM Galaxy as P
  JOIN SpecObj as S on P.objID = S.BestObjID
  JOIN galSpecExtra as E on S.SpecObjID = E.SpecObjID
WHERE S.z>0.00001 AND S.z<0.3
  AND P.dered_r<17.5
  AND ((P.flags_r & 0x10000000) != 0)
  AND ((P.flags_r & 0x8100000c00a0) = 0)
  AND (((P.flags_r & 0x400000000000) = 0) or (P.err_r <= 0.3))
  AND (((P.flags_r & 0x100000000000) = 0) or (P.flags_r & 0x1000) = 0)
```

The properties you are retrieving for each galaxy.

dered_g, dered_r : g and r magnitudes
z: redshift

Join catalogs on object ID

choose galaxies with measured z<0.3 and r<17.5

obscure but important data quality flags