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PHYS 437A Assignment 2

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This week, I compared my list of 284 primaries to Ryan's list of 274 primaries to check if the extra 10 in my list were the ones missing in Ryan's list and why Ryan excluded them.

I made a script called "284_primaries_compared_to_274.py" to compare the two lists and print the primaries in my list that were missing from Ryan's list. When I did that, instead of getting back 10 extra primaries, I got back 23. 23 primaries in my list that weren't in Ryan's list. These were primaries that Ryan cut that I did not cut. Namely:

1. NGC2549
2. PGC042549
3. NGC0573
4. NGC0864
5. NGC1012
6. NGC1924
7. NGC2690
8. NGC3359
9. NGC4348
10. NGC4602
11. NGC4604
12. NGC4691
13. NGC6015
14. NGC6070
15. NGC6118
16. NGC6339
17. NGC6384
18. NGC6675
19. NGC7814
20. PGC005363
21. UGC03258
22. UGC10288
23. UGC12857

I then went back to last week's script to see what was going on. I found out that there was a discrepancy between my cut of primaries not within the SDSS survey and Ryan's cut. I had cut 64 primaries in that cut, as the SDSS DR8 CrossID tool did not give back those primaries when I queried them in the database (ie. these galaxies were not within 0.5 arcminutes of a detection in SDSS). However, 13 of those primaries were in Ryan's list of 274 primaries. These were primaries I cut that Ryan did not cut. Using the SDSS DR8 Navigate Tool [9], these 13 were in fact in SDSS. The CrossID tool was not sufficient at providing all the primaries that were in SDSS that I queried. The 13 primaries that I should not have cut were namely:

1. NGC0628
2. NGC1073
3. NGC2775
4. NGC2903
5. NGC3169
6. NGC3184
7. NGC3344
8. NGC4559
9. NGC4725
10. NGC4736
11. NGC5005
12. NGC5371
13. NGC7714

So in all, I had 23 extra primaries in my final list, not the expected 10, from Ryan's list and Ryan had 13 primaries which I cut from my list. That means I cut 13 that I shouldn't have cut, leaving me with 297 primaries, not 284 primaries after applying the second cut, and 23 primaries extra which are in badly masked regions or regions of incomplete coverage. This would leave me with 284 + 13 - 23 = 274 primaries - the same as Ryan.

I checked to make sure my first and third cuts were applied properly. This involved writing in last week's script, "871_to_274_cuts.py", code which looked into each list of cut primaries for each cut and making sure each primary that I cut was not in Ryan's list (ie. the first and third cuts I applied were the same primaries that Ryan cut). Both the first and third cuts cut primaries that Ryan also cut. Therefore, the 23 extra primaries Ryan must have cut in his second cut, and they must have been primaries in badly masked regions, or regions of incomplete coverage.

To check why Ryan cut these extra 23 primaries (why they were in badly masked regions or regions of incomplete coverage), I queried the 23 primaries in the SDSS DR8 Navigate Tool. I provide reasoning for why they are cut, as well as pictures to support my reasoning.

1. NGC0628 - can't seem to find out why this was cut from Ryan's list.
2. NGC1073
3. NGC2775
4. NGC2903
5. NGC3169
6. NGC3184
7. NGC3344
8. NGC4559
9. NGC4725

10. NGC4736
11. NGC5005
12. NGC5371
13. NGC7714

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