STARFISH SCHOOL

A Virtual Bootcamp for Astronomy Graduate Students

WEEK 4 EXERCISES

Version 1.0

Exercise 1

Teams of 2-3 (Distribute Parts)

Using the SDSS Web Interface (http://skyserver.sdss.org/dr16/en/tools/search/sql.aspx), grab all objects between 29.75 < dec < 30 and 180.75 < RA < 181 (download them as CSV files) from the following tables:

1. the PhotoObj Table left joined with the SpecObj table (joined on objid and bestobjid respectively), grabbing the columns objid, ra, dec, u, g, r, i, z from PhotoObj, and z and class from SpecObj
2. the tmassxsc Table left joined with the PhotoObj table (joined on objid from both tables), grabbing the columns ra, dec, J_M_K20FE, H_M_K20FE, K_M_K20FE from tmassxsc, and objid, ra, dec, u, g, r, i, z from PhotoObj
3. the FIRST Table left joined with the PhotoObj table (joined on the objid from both tables) grabbing the columns ra, dec, and integr from FIRST, and objid, ra, dec, u, g, r, i, z from PhotoObj

Exercise 2

1. Create a directory with a couple of new python files.
2. Initialize a git repository within the directory
3. Make changes to the files and commit them to your repository
4. Make a new branch and commit a new change to your python files
5. Merge the new branch down to the main branch
6. Check out the git log to see all of your commits

Exercise 3

1. Create a new uninitialized git repository on github
2. Push your repository to the new repository
3. Clone the remote repo to a new folder
4. Create a conflict: make changes to both the old and new repository
5. Fix the conflict and push everything back to the remote

Exercise 4

Teams of 2-3 (Same as before)

1. One member of the team should fork the exercise repository (https://github.com/starfishschool/repo_for_week4_exercise) and give the other team member access to the repository.

2. Each of the members should clone the repository and edit a file called “load_data.py”
3. In the file, everyone should create a function that reads in the csv file they downloaded from the SQL exercise, and commit it to their local repository
4. Push your changes to the remote repository, and deal with the conflicts.

Stretch Goals:

1. Run a live share session in VS Code: https://docs.microsoft.com/en-us/visualstudio/liveshare/use/vscode

Optional Exercise

2. Create a new folder called "TestProject"
3. Open R Studio and start a new R Project within this folder
4. Make an R script with a function, or a few commands, etc. (whatever you like!)
5. Save the R script and add it to the git repository
6. Commit the file.
7. Make a change to the R script, and then look at the difference between the changes and the previous commit.