## Project

# Stars filtering

**Prerequisites:**

* Purpose is to test your python skills.
* You should not use third-party libs and modules. Only usage of python’s standard library modules is allowed, but if an algorithmic action is needed, you should write your own(for example, if you want to sort an array, you should write your own sorting logic, and don’t use the python array.sort() method).
* Keep your code clean, modular and atomic.

**SOW:**

* Implement a program which will parse the database of stars given in .tsv format and perform filtering actions
* When executed, the program accepts the following input parameters:
  1. equatorial coordinates(ra, dec)
  2. fov\_h, fov\_v
  3. Number of stars(N)
* The output will be a .csv file which should contain the brightest N stars, their ID, RA, DEC, brightness(Magnitude) and distance from the given point.
* Output file name should be the current timestamp.
* In the output, the stars should be sorted by their distance from the given point.

**What will be provided:**

* 2 .tsv files: a small one and a big one.
  + <https://drive.google.com/file/d/1JpI473TnAGtOxp-plkiKQXOBPv3WXb5B/view?usp=sharing>
  + <https://drive.google.com/file/d/15a3ESZ9kZ5iQJfohvqu_B6R44T15C5Xm/view?usp=sharing>
* Use the small one to solve the problem.
* Use the big one to test the performance of your solution.

**TSV file description:**

* RA of the star is under the name “ra\_epoch2000”
* DEC of the star is under the name “dec\_epoch2000”
* Brightness of the star you should find the correct column in a tsv file

### **Process of work:**

* Each Intern developer should work independently without help from each other.
* Work should be estimated in advance and informed during standup.
* Work should be done under GIT with commit on everyday bases
  + GIT: create a public repository for you in GitHub with your corporate gmail account
  + Create a branch for each feature and merge it with master when it is done.
* Questions/problems ask to our supervising developers
* After all work is done and tested on the master branch
* During exam you will need to submit URL of the repository