How to obtain the latest Tycho2 and Gaia EDR3 bright star catalog database

1.) Open the the gaia_query_merging_tycho.py file in a text editor
2.) Edit the string variable path, so that it reads something relevant for the computer you are on
      i.e.   path='c:/user/My Documents/star_catalog/'
               path='/home/pi/Documents/observatory/'
3.) Save, close, and run the python script (install pandas and astroquery.gaia, if necessary)
4.) Find the new CSV file called 'tycho2_gaia_bright_database.csv' made in the path/directory you specified
5.) And away you go with the new CSV file!

Old Method – for completeness and python script verification

1.) Go to https://gea.esac.esa.int/archive/ in a (web) browser
2.) Click on search (magnifying glass)
3.) Click on Advanced (ADQL) button/tab
4.) In the primary/large field, enter the following:

  SELECT public.tycho2.id,
  gaiaedr3.tycho2tdsc_merge_best_neighbour.original_ext_source_id,
  gaiaedr3.tycho2tdsc_merge_best_neighbour.source_id, gaiaedr3.gaia_source.source_id,
  public.tycho2.ra, public.tycho2.dec, gaiaedr3.gaia_source.ra, gaiaedr3.gaia_source.dec,
  public.tycho2.vt_mag, gaiaedr3.gaia_source.pseudocolour,
  gaiaedr3.gaia_source.phot_g_mean_mag, gaiaedr3.gaia_source.pm,
  gaiaedr3.gaia_source.pmra, gaiaedr3.gaia_source.pmdec
  FROM public.tycho2, gaiaedr3.tycho2tdsc_merge_best_neighbour, gaiaedr3.gaia_source
  WHERE (public.tycho2.vt_mag<=7)
  AND (public.tycho2.id=gaiaedr3.tycho2tdsc_merge_best_neighbour.original_ext_source_id)
  AND (gaiaedr3.tycho2tdsc_merge_best_neighbour.source_id=gaiaedr3.gaia_source.source_id)
  ORDER by public.tycho2.vt_mag

If minimizing the file size, omit the text "public.tycho2.id,
gaiaedr3.tycho2tdsc_merge_best_neighbour.original_ext_source_id,
gaiaedr3.tycho2tdsc_merge_best_neighbour.source_id, gaiaedr3.gaia_source.source_id"; it
shows that the two catalogs are providing a single database entry for each star, but it is not
critical for device operation.

5.) Click Submit Query
6.) Wait until the job is finished
7.) Select CSV from the 'Download format' drop-down options
8.) In the job, click Download results (the stack of 3 disks with a down-pointing arrow)
9.) Save the CSV file with a reasonable name; "tycho2_gaia_bright_database.csv" is recommended
10.) And away you go with the new CSV file!

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