Exercise: *Due by classtime Wednesday April 17*

Exercise 19.0: The star catalog File names:
`yourName_testCatalog.pro`
`yourName_StarCatalogEntry.pro`
`yourName_StarCoordinateClass.pro`
`yourName_Sexagesimal.pro`

Don't just view this as a mindless typing exercise. Pay attention to the nature of the procedures and functions and make sure you understand how they will be used in program.

NOTE: You *cannot* have files named `starcatalogentry.pro`, `starcoordinateclass.pro`, and `sexagesimal.pro` because IDL will try to turn these into functions `starcatalog`, `starcoordinateclass`, and `sexagesimal` *instead of* using the `__define` procedures that you wrote! Just about any other file name will do (I think even capitalization will work, but I haven't tested that yet).
No Whuduzitdo's.

Turn in on github.
`yourName_testCatalog.pro`
`yourName_StarCatalogEntry.pro`
`yourName_StarCoordinateClass.pro`
`yourName_Sexagesimal.pro`
`comall.pro`

Graded Homework Converting N-body animation to object-oriented programming
Due by midnight Monday, April 22

Homework 17.1: Curve fitting of Wien's Law
`yourName_Wien_fit.pro`
OR
Homework 17.2: Curve fitting of Stephan-Boltzmann Law
`yourName_SB_fit.pro`

Homework 19.1: Object-oriented N-body program
`yourName_3D_NbodyAnimation_OOP_HW19.1.pro`
`yourName_StarClass.pro`

Homework 19.2: Circles for stars
`yourName_draw_circle.pro`
(`yourName_coordinateArray.pro`)

EXTRA CREDIT: Each of the following possibilities for extra credit are independent. Do as many as you feel like you want to do. These should only involve changes to the StarClass file. They'll run with the same main procedure in yourName_3D_NbodyAnimation_OOP_HW19.1.pro.

Homework 19.3: (6 pts) Star color as function of mass
Homework 19.4: (6 pts) Star size based on depth (z-coordinate)
Homework 19.5: (10 pts) Merging stars that collide
Not in the book: (10 pts) Convert your `xinteranimate` animation code to be object-oriented, using the `plot` object. Make a `.avi` movie file.

`Turn in` on github
`yourName_Wien_fit.pro OR yourName_SB_fit.pro`
`yourName_3D_NbodyAnimation_OOP_HW19.1.pro`
`yourName_StarClass.pro`
`yourName_draw_circle.pro`
`yourName_StarClass_circles.pro`

If you call your `coordinateArray` function in your `draw_circles` procedure, then turn in that file as well so that when I go to compile your files I have everything I need.