Download the following file:

http://ucolick.org/~cdorman/Rm4_astro.tar

Even if you won't be using your computer today (if it's not set up yet, for example), please download this file today so that I can take it down after class. You'll use the data and programs throughout the next three weeks.

Unarchive (double-click on) the .tar file and move the whole folder system to where you want it on your computer. The rest of the instructions will assume you moved it to your Desktop. Check to see that the folder system contains folders labeled 'plots', 'data','MILES', and 'programs'.

Open a Terminal or X11 window. Go to the data folder by typing `cd Desktop/Rm4_astro/data/`

Type `ls` to see the data available in this folder. The 10 'ap*****_phot.fits' files contain PHAT photometric information for the ten clusters. The 'ap*****_skyphot.fits' files contain photometric information for "background" stars in an annulus around each cluster.

Type `cd ../programs/` and then `ls` to see the pre-written programs. We'll use plot_cmd.py for this unit. You can open this program to see what it looks like -- I recommend opening it in Aquamacs, but any text editor will work.

Run the program by typing `python plot_cmd.py --name ap15657`
This will produce a CMD of stars in cluster ap15657 in the plots/ folder -- check to see that the plot was generated and looks reasonable.

You can make a CMD of any of the ten clusters by replacing `ap15657` in the call line with the name of another cluster.

Your task is to use the CMDs to describe the appearance of each cluster in as much detail as you can. Parameters to think about include color, size, brightness, or whatever else you want. Someone in your group should keep detailed notes of your predictions and why you made them, since we'll use these for the rest of the astrophysics module. You are welcome to edit the code to modify the CMDs in any way that might be helpful to you.