Homework # 5, due Apr 14

1. Establish the slope $d \ln L / d \ln T_{eff}$ in the H-R diagram of both the Hayashi (fully convective) and Henyey epochs of a protostar's evolution.
2. Use the Henyey integration technique to solve for the structure of a polytrope of indices $n = 0$ and $n = 1$. Since these structures have analytic solutions, compare your results, using 100 equally spaced mass zones, with the analytic solutions. You should plot pressure vs. mass and radius vs. mass inside the star. The constant K in the pressure-density relation simply sets, together with G, the scales in the problem. It might be helpful to define pressure and radial variables that are identical or similar to Lane-Emden variables. The Henyey technique is described on the course website.