The point of my code is to find where the Sun goes from radiative to convective. If heat is too evenly spread out or the fluid (hydrogen plasma in this case) convection cannot occur. Heat is very evenly spread in and around the core because of the intensity of the nuclear fusion, but at some point the heat becomes less spread out so convection can occur. For **Reasons** this is when $\frac{T}{P}\frac{dP}{dT} < \frac{\gamma}{1-\gamma}$ where T is temperature, P is pressure, γ is the specific heat of the material with respect at constant volume divided by the specific heat of the material at constant pressure. For the sun (well, for mono atomic hydrogen, but this is a reasonable assumption) $\gamma = \frac{5}{3}$ so we want $\frac{T}{P}\frac{dP}{dT} < 2.5$ how we find that is using the data from the Standard Solar Model we have T as a function of radius and P as a function of radius. So $\frac{dT}{dr} \approx \frac{T_{n+1}-T_n}{r_{n+1}-r_n}$ and $\frac{dP}{dr} \approx \frac{P_{n+1}-P_n}{r_{n+1}-r_n}$ and because I'm a physicist $\frac{dP}{dT} = \frac{\frac{dP}{dr}}{\frac{dT}{dr}}$. So that's what the code does, it grabs T and P from the data set, finds an approximate of $\frac{dP}{dr}$ and $\frac{dT}{dr}$, divides one by the other, multiplies by $\frac{T}{P}$ and them compares it with 2.5 ($\frac{\gamma}{1-\gamma} = 2.5$ when $\gamma = \frac{5}{3}$) and finds that the Sun gains a convective zone 71.4% up the way from the center of the Sun.