1. Show that Brunt-Väisälä frequency criterion for oscillations is equivalent to Schwarzschild criterion for convective instability.

2. Using Model S, find if the radiation pressure is important in the Sun.

3. Using Model S, calculate Brunt-Väisälä frequency in the solar interior. Show where radiative and convective zones are.

Model S (Christensen-Dalsgaard et al. 1996) can be downloaded from:
http://users.monash.edu.au/~sergiys/cptrho.l5bi.d.15c
In the table, r/R is the radius normalized by solar radius, c is the sound speed, rho is the density, p is the gas pressure, Gamma_1 is the adiabatic index, and T is the temperature. Note that the r/R is not uniform, and cgs units are used.