Class Activity #0

Warm up for your programming skill.
The link below is the observational data from ishigaki island on September 13th, 2015.
Link: https://www.dropbox.com/s/402104q9bzvsjvk/ishgaki_20150913_00z.txt?dl=0

With the help of equation 1, please plot the vertical profiles of temperature [K] and potential temperature (θ) [K] in both height and pressure coordinates. If inversion layers do exist, please mark them in your figures.

Equation 1:
The potential temperature is the temperature that an unsaturated air would have if it is moved from original level to 1000 hPa adiabatically.

$$\theta = T\left(\frac{P_0}{P}\right)^{\frac{R_d}{C_p}}$$

θ: potential temperature [K]
T: temperature [K]
P: pressure [hPa]; P_0: 1000 [hPa]
R_d: 287 $J\,K^{-1}\,kg^{-1}$ (gas constant for dry air)
C_p: 1004 $J\,K^{-1}\,kg^{-1}$ (specific heat capacity of air)

Please note that you should label all necessary information in your figures, make them read easily, and leave some comments about your figures instead of figures only. Last, please upload CA0 in .pdf format.

Due date: February 22, 2023 23:59