**Exercise 2.6:** Repeat the calculation in exercise 2.5 with a non-linear constitutive law given by

$$S = \frac{E}{2} \frac{\ln(2\epsilon_G + 1)}{(2\epsilon_G + 1)^{(1/2)}}$$

The normal force is as previously given by $N = A_o S$

a) Write the following functions
      1) S=stress1D(E, $\epsilon_G$ ): Calculating the second Piola-Kirchhoff stress.
      2) D=dmat1D(E, $\epsilon_G$ ): Calculating the tangent stiffness

b) Modify the Newton-Raphson algorithm such that the non-linear material model can be used.

c) Carry out the calculations is exercise 2.5 c)-e)