Consider two wings with the same span $b = 2\,\text{m}$, and average chord $c_{\text{avg}} = 0.25\,\text{m}$, but different taper ratios:

Constant chord ($c_r = 0.250\,\text{m}$, $c_t = 0.250\,\text{m}$, $r = 1.0$)
Straight taper ($c_r = 0.333\,\text{m}$, $c_t = 0.167\,\text{m}$, $r = 0.5$)

Constant airfoil thickness/chord ratio $\tau = 0.08$ everywhere.
Assume local loading $q(y)$ is proportional to chord $c(y)$.
Total load on half-wing is $F = 10\,\text{N}$ (15 oz gross weight at 5 g's).

For each wing ...

a) Determine $q(y), S(y), M(y)$

b) Assuming load is carried by top and bottom sparcaps with separation equal to local $h(y) = \tau c(y)$, determine sparcap load $\pm P(y)$.

c) Assuming max permissible sparcap stress ($1\,\text{ksi} = 7\,\text{MPa}$ for balsa), calculate minimum cap area $A(y)$. Assuming balsa density of $\rho = 0.125\,\text{g/cm}^3$, estimate sparcap mass.

d) Compute beam curvature at wing center $\kappa = M(0)/EI(0)$, and esimate tip deflection $\delta = w(b/2)$ assuming $w''(y) = \kappa$ is constant along span. Balsa modulus: $E = 200\,\text{ksi} = 1.36\,\text{GPa}$.

e) Discuss structural and aerodynamic merits of straight vs tapered wing. Plotting of the various distributions is suggested to help with interpretation.