H.W. # 3

1) Find the first three eigenvalues λ associated with the equation (use linear elements)

$$-\frac{d^2u}{dx^2} = \lambda u \qquad 0 < x < l$$
$$u(0) = u(l) = 0$$

2) Find the first two eigenvalues λ of the equation

$$-\frac{d^2u}{dx^2} = \lambda u \qquad 0 < x < 1$$
$$u(0) = 0, \quad u(1) + \frac{du}{dx}(1) = 0$$

using linear elements and quadratic element.