FINITE ELEMENT METHOD (MMC 17102)
ASSIGNMENT-I

SUBMISSION DEADLINE: 19-08-2021, 10:00 PM
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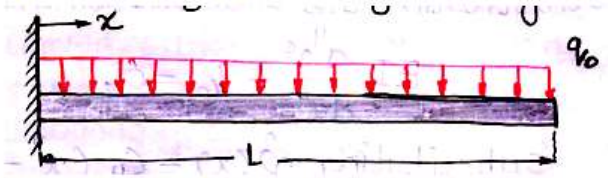
EXAMPLE 3: Consider the problem of a cantilever beam under uniformly distributed load q_0 as shown in the figure. The governing differential equation is given by:

$$EI\frac{d^4v}{dx^4} - q_o = 0$$ **DE**



the boundary conditions are given by:

$$v(0) = 0, \left.\frac{dv}{dx}\right|_{x=0} = 0$$

(Deflection and slope at the fixed end are zero)

BCS

$$\left.\frac{d^2v}{dx^2}\right|_{x=L} = 0, \left.\frac{d^3v}{dx^3}\right|_{x=L} = 0$$

(Shear force and bending moment are zero at the free end)

Find out an approximate solution to the GDE through RMM