Consider an application , a 128lb weight is attached to a spring having a spring constant of 64lb/ft. The weight is set in motion with no initial velocity by displacing it 6 *inches* above the equilibrium position and by simultaneously applying to the weight an external force, . Assuming no air resistance, compute the subsequent motion of the weight at

Modeling this problem into a mathematical equation and applying the proposed method to compute the motion on the weight attached to the spring.The following parameters were considered

Thus, the application problem is written mathematically (Ogunware et al., 2023):

with the analytical solution given below

Employ using linear multi- step method. We have these as the method and its derivative

