Assignment-7

Problem-1: Solve the following set of differential equations using the 4th order Runge-Kutta method from x=0 to x=2 with initial conditions: $y(0) = 0$ and $z(0) = 0$ and compare the result with that of the Euler's and Heun's method.(use 25 integration steps).

$$y' = yz + cos(x) - 0.5sin(2x) \tag{1}$$
$$z' = y^2 + z^2 - (1 + sin(x)) \tag{2}$$