2019 MATH3201 Prac Week 5

(1) Solve the IVP $y'(t) = -5y(t)$, $y(0) = 2$ using the explicit Euler method with tep size $h = 0.5$.

(2) Solve the IVP $y'(t) = -5y(t)$, $y(0) = 2$ using the implicit Euler method with tep size $h = 0.5$.

(3) Solve the initial value problem $y'' - 2y' + 2y = e^{2t}, 1 \leq t \leq 2, y(0) = -0.4, y'(0) = -0.6$ using RK4.

(4) Solve the BVP $y'' = y' + 2y + \cos(x)$, $0 \leq x \leq \frac{\pi}{2}$, $y(0) = -0.3$, $y(\frac{\pi}{2}) = -0.1$ with the shooting method.

(5) Work on your assignment.