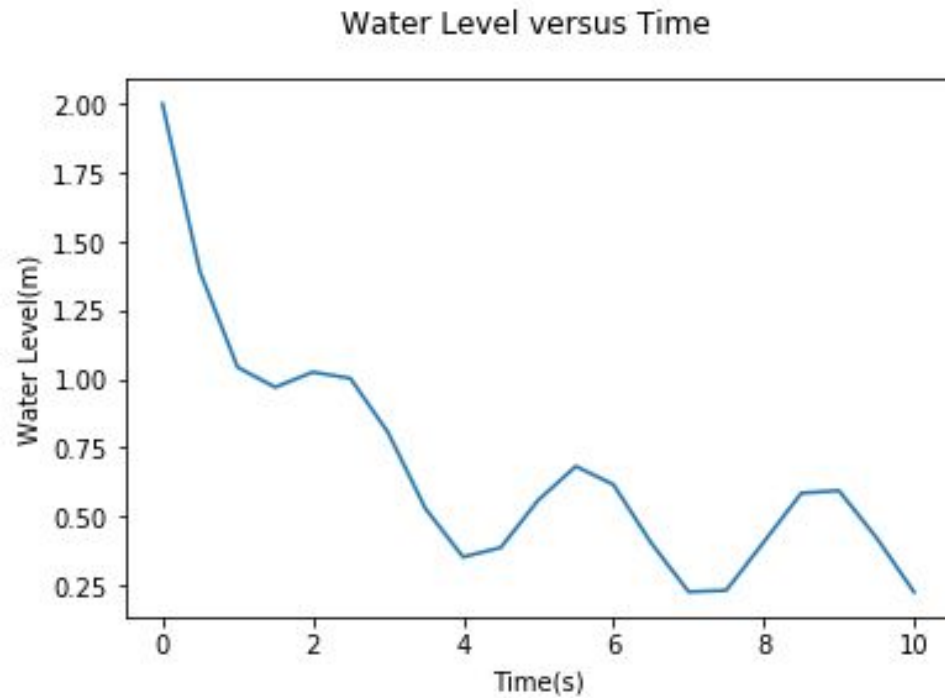


ME EN 2450  
Ryan Dalby u0848407  
HW1a

c)



d)

The numerical approximation I got seems accurate based on the situation. Looking at my calculations by hand I clearly see that between  $y(0)$  and  $y(1.5)$   $y$  is decreasing throughout the whole interval. Looking at the differential equation as well we notice that as  $y$  becomes small we get a small second term and the first term that has  $\sin^2(t)$  in it dominates. This is reflected in the solution as we get oscillating increasing/decreasing behavior just as a sinusoidal derivative would behave.