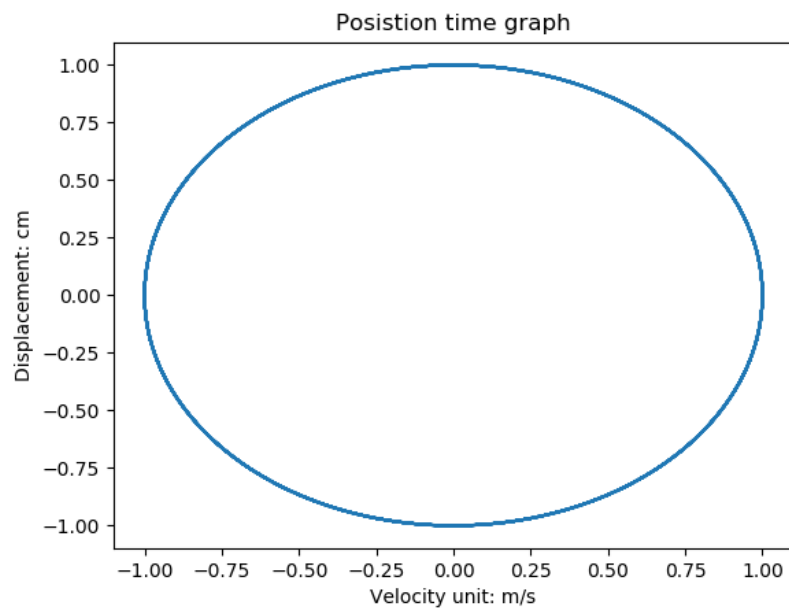
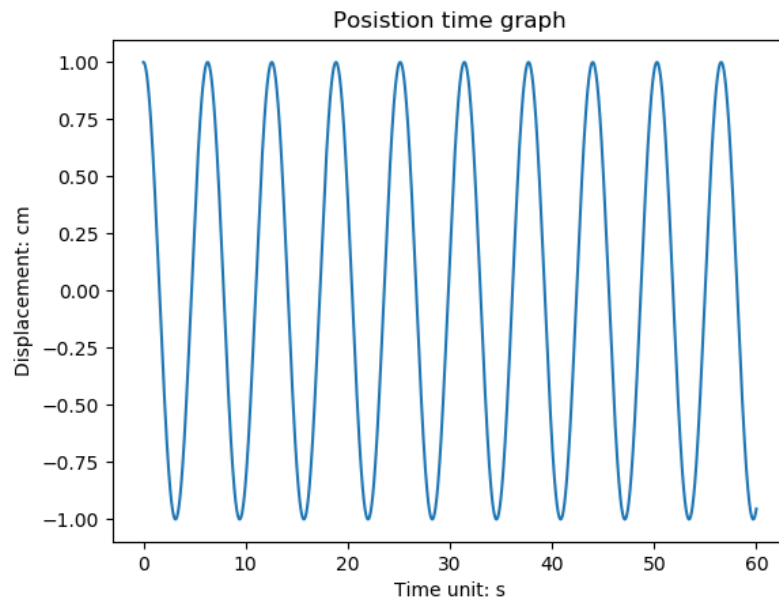


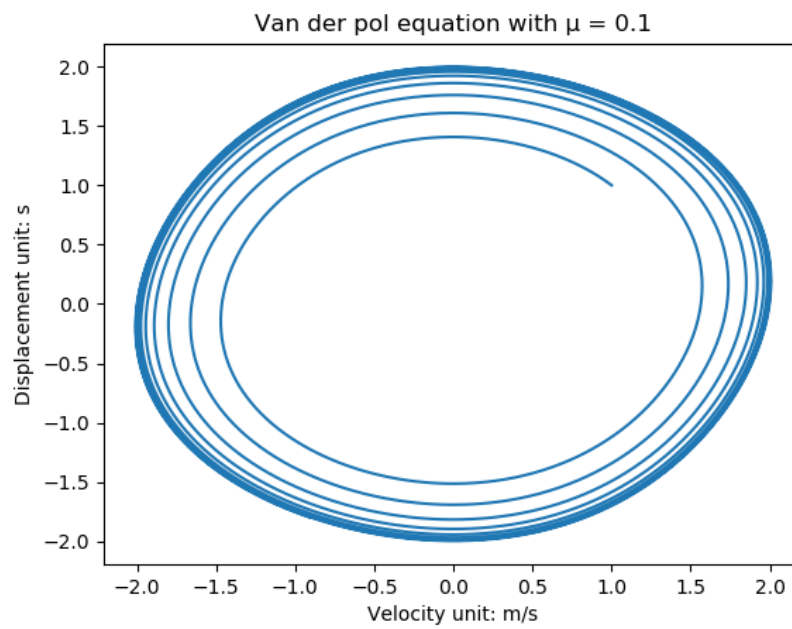
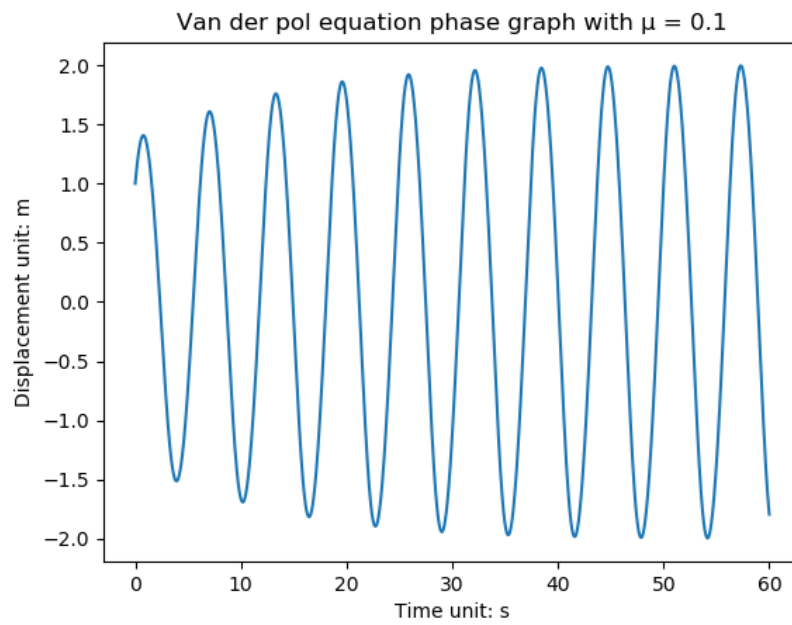
Question1:

a) Displacement graph and phase graph for simple harmonic oscillator.

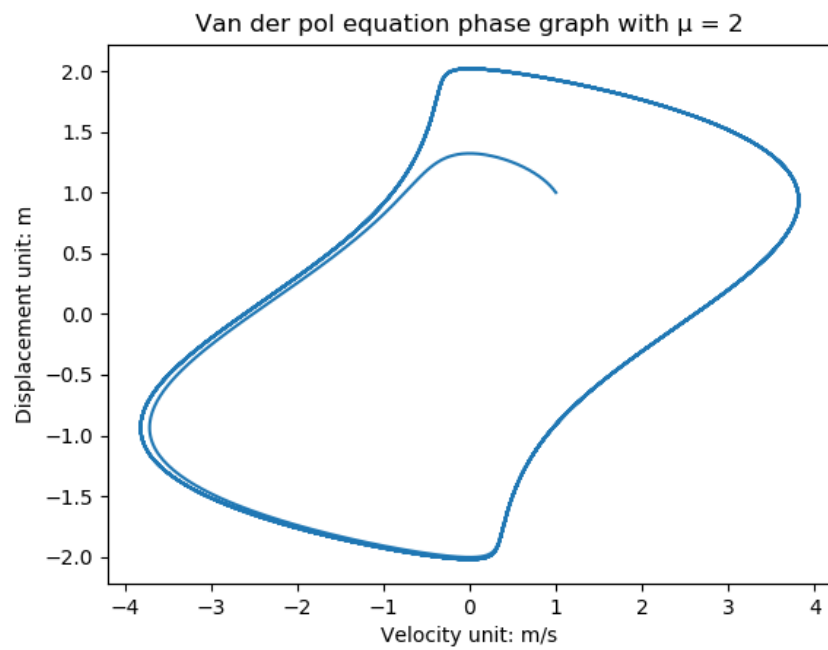
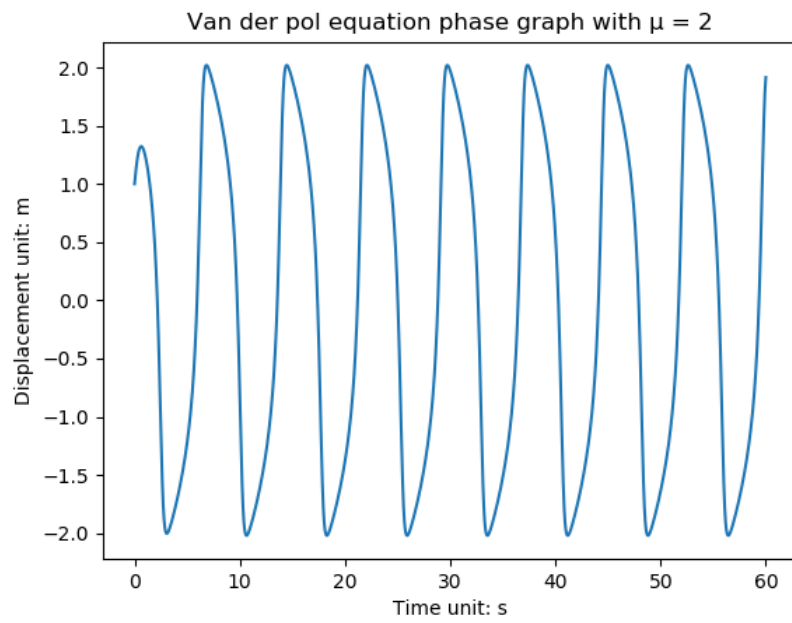


b) Displacement and Phase graph for Van der Pol equation:

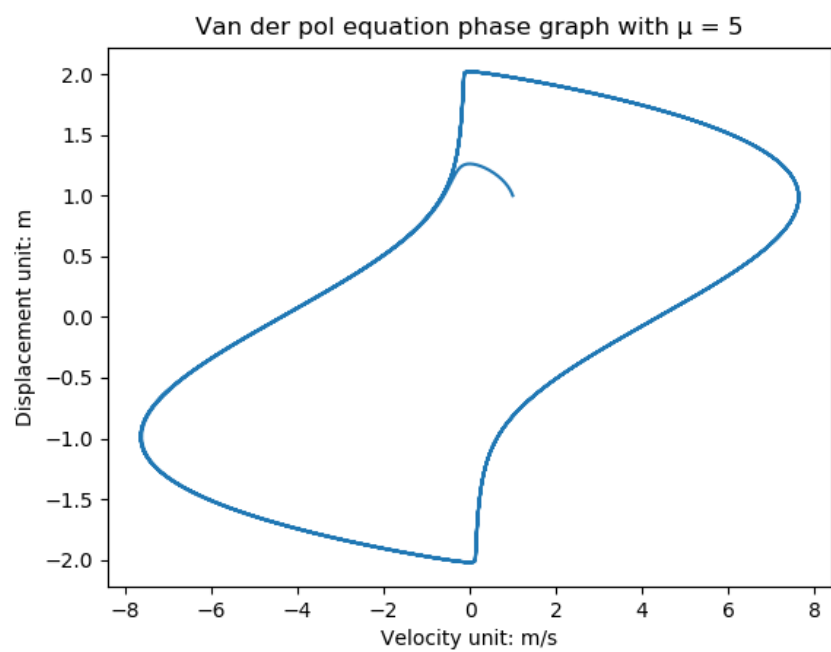
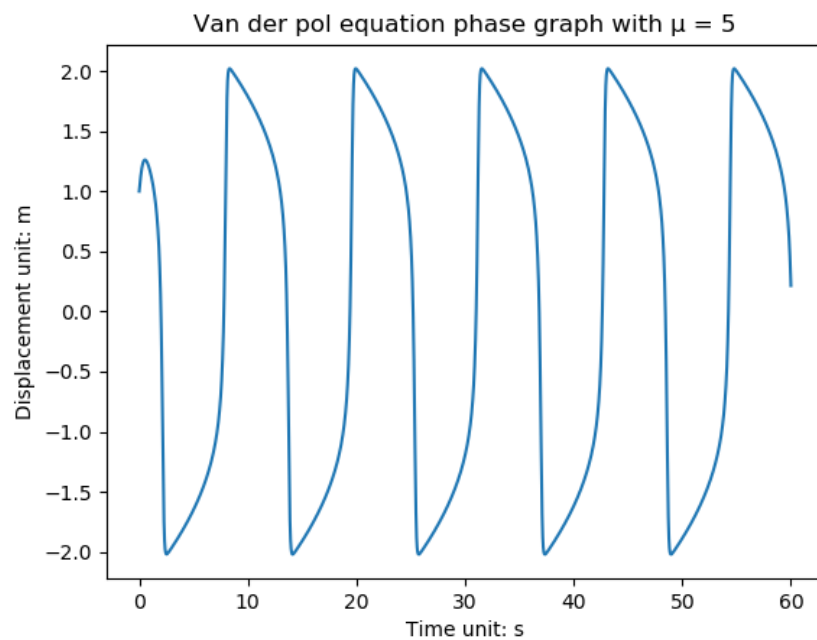
$\mu = 0.1$:



$\mu = 2$:

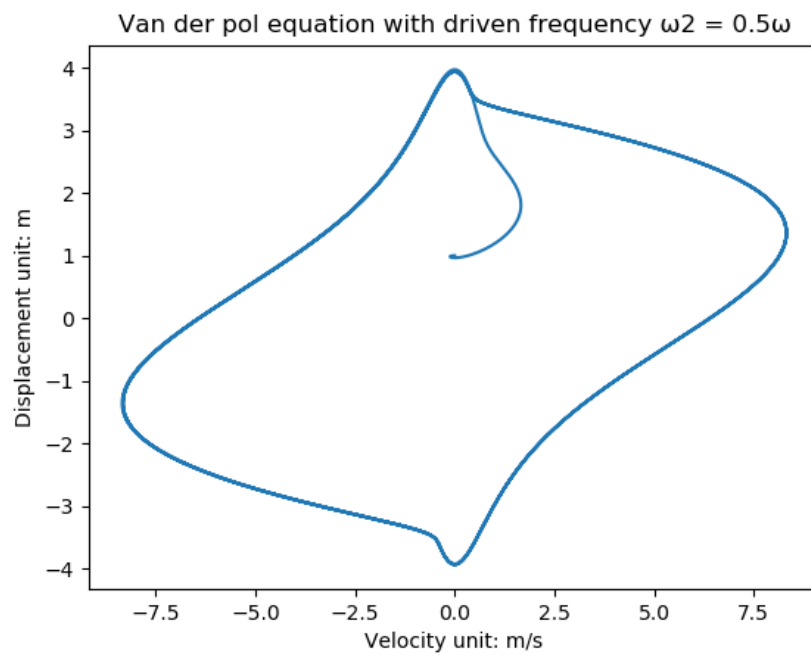
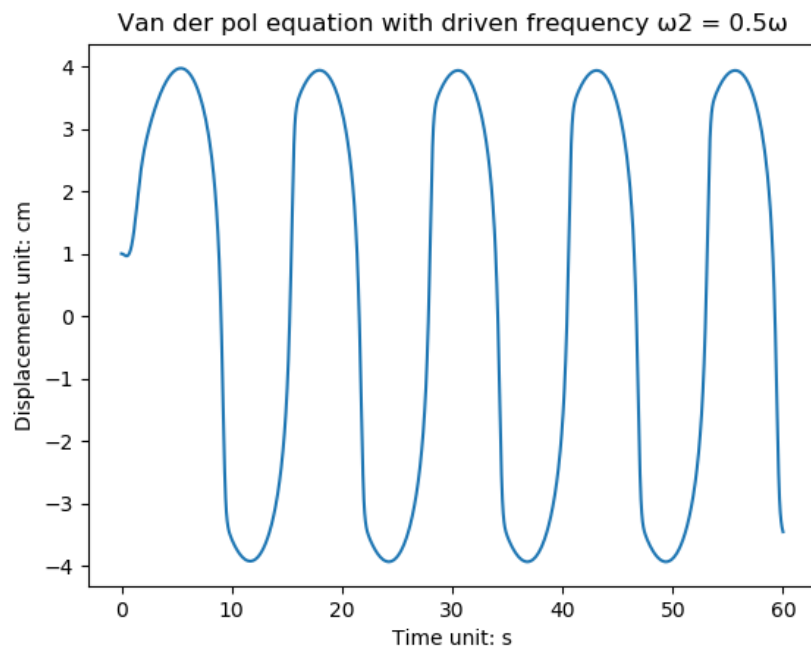


$\mu = 5$:

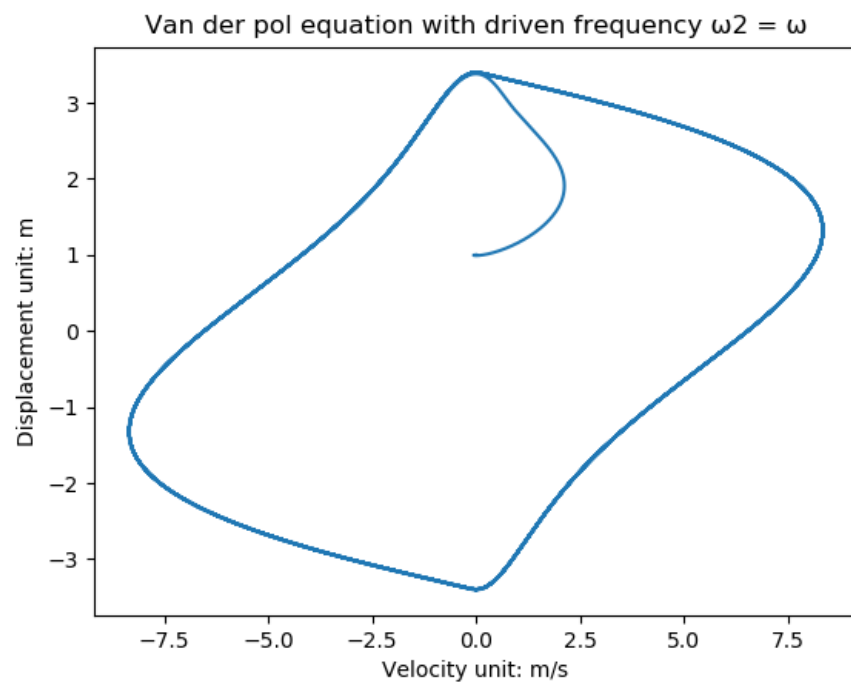
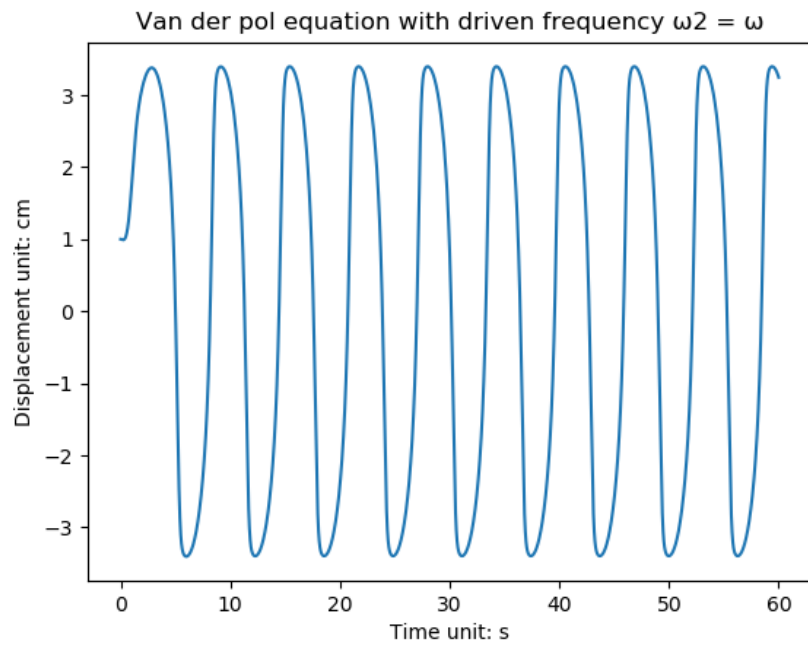


c) Displacement and Phase graph for driven Van der Pol equation

$\omega_2 = 0.5\omega$:



$\omega_2 = \omega$:



$\omega_2 = 4\omega$:

