1. Van der Pol's equation is a second-order non-linear differential equation which may be expressed as two first-order equations as follows:

$$dx_1/dt = x_2$$

$$dx_2/dt = \epsilon(1 - x_1^2)x_2 - b^2 x_1.$$

The solution of this system has a stable limit cycle, which means that if you plot the phase trajectory of the solution (the plot of x_1 against x_2) starting at any point in the positive x_1-x_2 plane, it always moves continuously into the same closed loop. Use ode23 to solve this system numerically, for $x_1(0) = 0$, and $x_2(0) = 1$. Draw some phase trajectories for $b = 1$ and ϵ ranging between 0.01 and 1.0.