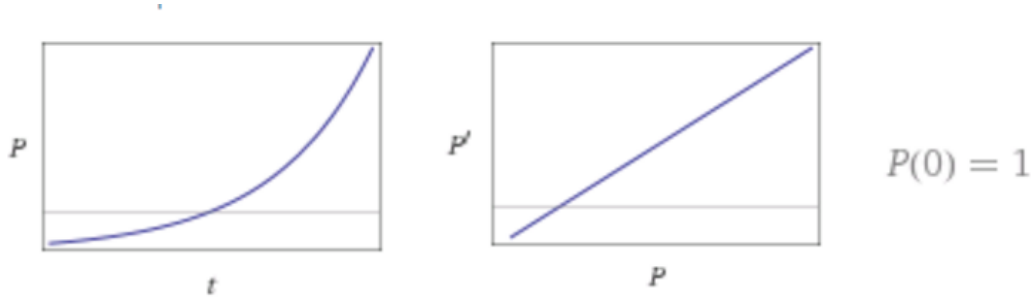
Explicit Euler Homework:

1.1 Malthusian population ODE

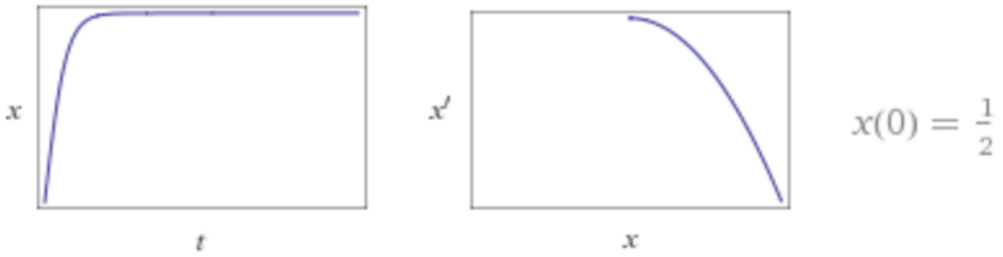
For $\frac{dP}{dt} = kP$, we have $P(t) = P0e^{kt}$, and we have the phase-line as:



This analysis shows the result of the results of Explicit Euler is correct.

1.2 Logistic Equation

For $\frac{dx}{dt} = rx(1-x)$, we have $x(t) = \frac{e^{rt}}{1+e^{rt}}$, and we have the phase-line as



This analysis shows the result of the results of Explicit Euler is correct.