Numerial solution of the system of equations of x(t) (with error bounds, with comparison of the optimal choice of alpha)

Legend:
- error(x), a = 1.0, N = 2, $x_0 = 0.5$, $\alpha = 1.0$
- error(x), a = 1.0, N = 2, $x_0 = 0.5$, $\alpha = 2.0$
- error(x), a = 1.0, N = 2, $x_0 = 0.5$, $\alpha = \dfrac{\sqrt{N}}{x_0} = 2\sqrt{2}\,(minimum)$