EE 6100 Homework 5
Due November 6, 1997

1. By direct differentiation show that

\[ x(t) = \Phi(t, t_0)x(t_0) + \int_{t_0}^{t} \Phi(t, \sigma)B(\sigma)u(\sigma)d\sigma \]

2. Compute \( \Phi(t,0) \) for

\[ A(t) = \begin{bmatrix} t & t \\ 0 & t \end{bmatrix} \]

3. 9.37 in text

4. 9.38 in text

5. 9.40 in text