(2) Properties of Matrix Exponential

① $e^{At} = \sum_{K=0}^{\infty} \frac{A^K t^K}{K!}$ {definition}

② $\frac{d}{dt} e^{At} = A e^{At}$

③ $e^{A(t+s)} = e^{At} e^{As}$

④ $e^{(A+B)t} \neq e^{At} e^{Bt}$ {If $AB \neq BA$}

$e^{(A+B)t} = e^{At} e^{Bt}$ {If $AB = BA$}