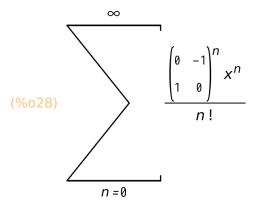→     /* matrix exponentials */

→     /* Define a matrix J. */
J:matrix([0,-1],[1,0]);

(J) $\begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix}$

→     /* Input definitin of exp(xJ).
       Unfortunately, this does not work. */
sum(J^^n . x^n/n!, n,0,inf);

(%o28) $\displaystyle\sum_{n=0}^{\infty} \frac{\begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix}^n x^n}{n!}$

→     /* Use the command to compute exp(J). */
matrixexp(J);

(%o23) $\begin{pmatrix} \dfrac{\%e^{-\%i}\,(\%e^{2\,\%i}+1)}{2} & \dfrac{\%i\,\%e^{-\%i}\,(\%e^{2\,\%i}-1)}{2} \\[2em] -\dfrac{\%i\,\%e^{-\%i}\,(\%e^{2\,\%i}-1)}{2} & \dfrac{\%e^{-\%i}\,(\%e^{2\,\%i}+1)}{2} \end{pmatrix}$

→     /* Use the command to compute exp(xJ). */
matrixexp(J,x);

(%o24) $\begin{pmatrix} \dfrac{\%e^{-\%i\,x}\,(\%e^{2\,\%i\,x}+1)}{2} & \dfrac{\%e^{-\%i\,x}\,(\%i\,\%e^{2\,\%i\,x}-\%i)}{2} \\[2em] -\dfrac{\%e^{-\%i\,x}\,(\%i\,\%e^{2\,\%i\,x}-\%i)}{2} & \dfrac{\%e^{-\%i\,x}\,(\%e^{2\,\%i\,x}+1)}{2} \end{pmatrix}$

→     /* Define a matrix A. */
A:matrix([6,-3,-7],[-1,2,1],[5,-3,-6]);

(A) $\begin{pmatrix} 6 & -3 & -7 \\ -1 & 2 & 1 \\ 5 & -3 & -6 \end{pmatrix}$

→   /* Use the command to compute exp(xA). */
    matrixexp(A,x);

(%o27)
$$\begin{pmatrix} \%e^{-x}\,(\%e^{3x}+2\,\%e^{2x}-2) & -\%e^{-x}\,(\%e^{3x}-1) & -\%e^{-x}\,(\%e^{3x}+2\,\%e^{2x}-3) \\[2ex] \%e^{x}-\%e^{2x} & \%e^{2x} & \%e^{2x}-\%e^{x} \\[2ex] \%e^{-x}\,(\%e^{3x}+\%e^{2x}-2) & -\%e^{-x}\,(\%e^{3x}-1) & -\%e^{-x}\,(\%e^{3x}+\%e^{2x}-3) \end{pmatrix}$$