

LINSYS

ExLinsol: choosebox with examples for Linsol	<pre> 7: 6: 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Examples for Linsol</p> <p>Exh1: [[1 2 -1 2 5 -</p> <p>Exh2: [[1 0 12 0 0]</p> <p>Exh3: [[1 0 12 -7 0]</p> <p>Exih1: [[1 1 1 1 1 1</p> <p>Exih2: [[2 3 -1 4 1]</p> <p>Exih3: [[1 2 -1 2 5]</p> <p>Exih4: [[0 2 4 13 70]</p> <p>Exih5: [[1 0 12 0 0]</p> </div> <p>[OK] gives system</p>	<pre> 7: 6: 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 2 -1 2 5 -2 0</p> <p>3 2 1 -4 1 2 0</p> <p>4 4 0 -2 6 0 0</p> </div> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>
Linsol: solution of homogenous system (2s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 2 -1 2 5 -2 0</p> <p>3 2 1 -4 1 2 0</p> <p>4 4 0 -2 6 0 0</p> </div> <p>1: xh: {c1 -1 -1 0 0 0} [-3 5 0 -1]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>	<pre> 6: 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 2 -1 2 5 -2 0</p> <p>3 2 1 -4 1 2 0</p> <p>4 4 0 -2 6 0 0</p> </div> <p>2: [x1+3x2+2x3+2x4 -(x12)+5x5]</p> <p>1: c0=0 0=0 0=0 0=0</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>
Linsol: solution of inhomogenous system (2s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 1 1 1 1 1</p> <p>2 3 -2 4 0 6</p> <p>4 5 0 6 2 8</p> <p>3 4 -1 5 1 7</p> </div> <p>2: xh: {c5 -4 -1 0 0} [-1 2 0 -1 0]</p> <p>1: xi: [-3 4 0 0 0]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>	<pre> 6: 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 1 1 1 1 1</p> <p>2 3 -2 4 0 6</p> <p>4 5 0 6 2 8</p> <p>3 4 -1 5 1 7</p> </div> <p>2: c5x1-x2+3x3+-3 -4x1+2x2+-2x3</p> <p>1: c1=1 6=6 8=8 7=7</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>
Linsol: solution of inhomogenous system (2.5s)	<pre> 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 0 12 0 0</p> <p>0 1 -5 0 0</p> <p>-1 0 -12 1 0</p> <p>-2 0 -24 0 0</p> <p>2 4 0 2 1</p> </div> <p>2: xh: {c0 0 0 0}</p> <p>1: xi: [3 -5 -1 4 0]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>	<pre> 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 0 12 0 0</p> <p>0 1 -5 0 0</p> <p>-1 0 -12 1 0</p> <p>-2 0 -24 0 0</p> <p>2 4 0 2 1</p> </div> <p>2: [3 -5 -1 4 0]</p> <p>1: c0=0 0=0 0=0 0=0 1=1</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>
Example with no solution	<pre> 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>2 3 -1 4</p> <p>1 -2 3 6</p> <p>3 1 2 11</p> </div> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>	<pre> 6: 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>no solution?</p> </div> <p>1: [14 0 14 0]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>
Linsol: (2s)	<pre> 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 0 12 0 0</p> <p>0 1 -5 0 0</p> <p>-1 0 -12 1 0</p> <p>-2 0 -24 0 0</p> <p>2 4 0 2 1</p> </div> <p>2: xh: {c0 0 0 0}</p> <p>1: xi: [3 -5 -1 4 0]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>	<pre> 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 0 12 0 5</p> <p>0 0 0 0 0</p> <p>1 0 -5 0 3</p> <p>0 0 0 1 2</p> <p>0 0 0 0 0</p> </div> <p>1: [1 0 0 17]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>
Linsol: overdetermined system (3s)	<pre> 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 0 12 0 0</p> <p>0 1 -5 0 0</p> <p>-1 0 -12 1 0</p> <p>-2 0 -24 0 0</p> <p>2 4 0 2 1</p> </div> <p>2: xh: {c0 0 0 0}</p> <p>1: xi: [3 -5 -1 4 0]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>	<pre> 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 0 12 0 5</p> <p>0 0 0 0 0</p> <p>1 0 -5 0 3</p> <p>0 0 0 1 2</p> <p>0 0 0 0 0</p> </div> <p>1: [1 0 0 17]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>
Linsol: overdetermined system (3s)	<pre> 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 0 12 0 0</p> <p>0 1 -5 0 0</p> <p>-1 0 -12 1 0</p> <p>-2 0 -24 0 0</p> <p>2 4 0 2 1</p> </div> <p>2: xh: {c0 0 0 0}</p> <p>1: xi: [3 -5 -1 4 0]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>	<pre> 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 0 12 0 0</p> <p>0 1 -5 0 0</p> <p>-1 0 -12 1 0</p> <p>-2 0 -24 0 0</p> <p>2 4 0 2 1</p> </div> <p>2: [3 -5 -1 4 0]</p> <p>1: c0=0 0=0 0=0 0=0 1=1</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>
Apivot: pivot with element {r c} of array (1s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 2 -1 2 5 -2 -8</p> <p>3 2 1 -4 1 2 18</p> <p>4 4 0 -2 6 0 10</p> </div> <p>2: [1 2 -1 2 5 -2 -8]</p> <p>1: [0 -4 4 -10 -14 8 42]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>	<pre> 5: 4: 3: 2: 1: </pre> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>1 2 -1 2 5 -2 -8</p> <p>3 2 1 -4 1 2 18</p> <p>4 4 0 -2 6 0 10</p> </div> <p>2: [1 0 1 -3 -2 2 13]</p> <p>1: [0 1 -1 5 7 -2 -21]</p> <p>ExLin Linsol xhi=x x+LSY EQsah Apiao</p>

Linsol: system with parameters (5s) $\Sigma hi \rightarrow x\lambda$: general solution (0.5s) $x \rightarrow$ LSYS: insert solution (0.3s) EQsimp: simplify equation (0.4s)		
MATxSYS: matrix to system with variables x1..xn (2s) xSolve: solve system with respect to x1..xn (1.5s)		
xSimp: simplify equations respect to x1..xn (1.5s) xSubst: substitute solution in system (1s)		
xSolve: solve system with parameters (1.7s) xSubst: substitute solution in system (1s)		
ExMatsol: examples for Matsol [OK] shows example		
Matsol: solves Matrix equation AX=B, picture shows equation solution (3.1s)		
Matsol: next example solution (4.2s)		
Matsol: next example (2.1s) \rightarrow Xrc: generate matrix with variables (0.5s)		

ExINEQ: examples for INEQ->EQ	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div>Examples For INEQ->EQ</div> <pre> Ex1: < [[2 1 1 37] Ex2: < [[2 3 0 1 14] </pre>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 37 \\ 1 & 4 & 2 & 18 \\ 1 & 2 & 1 & 3 \\ 1 & 1 & 1 & -1 \end{bmatrix}$ </div>
[OK] gives example	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 37 \\ 1 & 4 & 2 & 18 \\ 1 & 2 & 1 & 3 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 1 & 0 & 0 & 37 \\ 1 & 4 & 2 & 0 & 1 & 0 & 18 \\ 1 & 2 & 1 & 0 & 0 & -1 & 3 \end{bmatrix}$ </div>
INEQ->EQ: transform system of linear inequalities to linear system (0.2s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 1 & 0 & 0 & 37 \\ 1 & 4 & 2 & 0 & 1 & 0 & 18 \\ 1 & 2 & 1 & 0 & 0 & -1 & 3 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 1 & 0 & 0 & 37 \\ 1 & 4 & 2 & 0 & 1 & 0 & 18 \\ 1 & 2 & 1 & 0 & 0 & -1 & 3 \end{bmatrix}$ </div>
1: \leq , -1: \geq , 0: =	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 1 & 0 & 0 & 37 \\ 1 & 4 & 2 & 0 & 1 & 0 & 18 \\ 1 & 2 & 1 & 0 & 0 & -1 & 3 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 1 & 0 & 0 & 37 \\ 1 & 4 & 2 & 0 & 1 & 0 & 18 \\ 1 & 2 & 1 & 0 & 0 & -1 & 3 \end{bmatrix}$ </div>
Linsolve: solves system (2s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 1 & 0 & 0 & 37 \\ 1 & 4 & 2 & 0 & 1 & 0 & 18 \\ 1 & 2 & 1 & 0 & 0 & -1 & 3 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 1 & 0 & 0 & 37 \\ 1 & 4 & 2 & 0 & 1 & 0 & 18 \\ 1 & 2 & 1 & 0 & 0 & -1 & 3 \end{bmatrix}$ </div>
Σ hi->x λ : general solution(0.5s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 1 & 0 & 0 & 37 \\ 1 & 4 & 2 & 0 & 1 & 0 & 18 \\ 1 & 2 & 1 & 0 & 0 & -1 & 3 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 2 & 1 & 1 & 1 & 0 & 0 & 37 \\ 1 & 4 & 2 & 0 & 1 & 0 & 18 \\ 1 & 2 & 1 & 0 & 0 & -1 & 3 \end{bmatrix}$ </div>
MPex: examples for MPinv and MPlsq	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div>MoorePenrose Pseudoinv.</div> <pre> [[1 1 0 1] [0 0 2] [[[1 1 0 1 0 1] [0 0 2 [[1 2 3 1] [4 5 6] [[[1 2 3 1] [4 5 6] [[[1 'A' 2] [1 'A' 2 [[1 2 3] MPlsq: < [[1 2] [2 </pre>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
[OK] shows example	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
MPinv: calculates Moore Penrose pseudo inverse A ⁺ (3 s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
next example	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
MPinv: (3s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
next example: (10s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
MPinv: symbolic example (8s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
MPinv: for vector (1s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
MPlsq: solve system A x=b with Moore Penrose inverse (least square) (2s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
next example (10s)	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
LinComm: choosebox with HP commands for systems	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div>Commands For LINSYS</div> <pre> CON REF IMAGE LNAME LINSOLVE RANK REF REF </pre>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>
[OK] evaluates command	<pre> 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>	<pre> 9: 8: 7: 6: 5: 4: 3: 2: 1: </pre> <div> $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 2 \\ 1 & 2 & 0 \\ 2 & 2 & 1 \end{bmatrix}$ </div>

HelpLINSYS: help	<p>LINSYS LINEAR SYSTEMS A·x=b [a] = [[a11...a1n b1]] [a] = [[a11...a1n b1]] LIN. SYSTEM OF INEQUALITIES (LSI) A·x ≤, ≥, = b [a] [1 -1 0...], 1:4, -1:4, 0:=</p> <p>ExLinsol = + [a] CHOOSEBOX WITH EXAMPLES FOR Linsol Linsol [a] + :xh:[i] :xi:[i] SOLUTION OF LINEAR</p> <p>GRAPH <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OK</p>	<p>Linsol [a] + :xh:[i] :xi:[i] SOLUTION OF LINEAR SYSTEM = FUND. SYSTEM OF NON. SYSTEM AND SPECIAL SOLUTION OF INHOM. SYSTEM</p> <p>xhi→xi [a] :xh:[i] :xi:[i] + [a] :xh:[i] GENERAL SOLUTION WITH PARAMETERS ah, INSERT IN SYSTEM [a] :xh:[i] + [a·x=b] INSERT SOLUTION IN</p> <p>x←LSYS</p> <p>GRAPH <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OK</p>
HelpLINSYS: help	<p>Eqsimp [LS=RS.] + [LS=RS=0.] SIMPLIFY EQUATION AFTER INSERT OF SYMB. SOLUTION</p> <p>Drop0 [a] + [a] DROP ROWS AND COLUMNS WITH ONLY 0 (EXCEPT LAST COLUMN) IN MATRIX [a], PERFORMS FIRST REF => SIMPLIFIED LINSYS</p> <p>Apivot [a] <r c> + [a] PIVOT WITH ELEMENT <r c> IN ROW r AND COLUMN c</p> <p>GRAPH <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OK</p>	<p>MATxSYS [a]++ ['a1x1+...=b1'] VARIABLES ARE x1,x2... xSolve ['a1x1+...=b1'] + ['xi=...'] SOLVE SYSTEM WITH RESPECT TO x1...xn IN TERMS OF UNBOUNDED VARS</p> <p>xSubst ['a1x1+...'] ['xi=...'] + ['a=b'] SUBST SOLUTION IN EQ</p> <p>xSimpl ['a1x1+...'] ['xi=...'] + [...] SIMPLIFY TERMS</p> <p>GRAPH <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OK</p>
HelpLINSYS: help	<p>ExMatSol = + A B EXAMPLE MatSol MatSol A B + ['a11x11...'] ['x11=...'] SOLVE MATRIX EQUATION A·x=B r·c + [rc] GENERATE MATRIX WITH VARIABLES [x11...][xrc] [a] [1,-1,0...] EXAMPLE FOR INEQ+EQ SYSTEM OF LINEAR INEQUALITIES (LSI) WHERE</p> <p>GRAPH <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OK</p>	<p>1:4, -1:4, 0:= [a] [1,-1,0...] + [b] TRANSFORM LSI TO LINEAR SYSTEM WITH ADDITIONAL VARIABLES, WHICH CAN BE SOLVED WITH Linsol OR AFTER MATxSYS WITH xSolve, ONLY SOLUTIONS WITH POS. ADD. VARS ARE SOLUTIONS OF LSI</p> <p>MPex = + A CHOOSEBOX WITH EXAMPLES MPInv, MPInv</p> <p>GRAPH <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OK</p>
HelpLINSYS: help	<p>MPInv A + A+ MOORE PENROSE INVERSE OF MATRIX, VECTOR, SCALAR</p> <p>MPlsq A b + x LEAST SQUARE SOLUTION OF LINEAR SYST. A·x=b WITH x=A+·b b A LSQ + NUM. SOLUTION</p> <p>LinComm = + COMMAND, CHOOSEBOX WITH HP50 COMMANDS FOR LINEAR SYSTEMS</p> <p>PROPERTIES OF MOORE PENROSE INV:</p> <p>GRAPH <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OK</p>	<p>SOLUTION OF LINEAR SYST. A·x=b WITH x=A+·b b A LSQ + NUM. SOLUTION</p> <p>LinComm = + COMMAND, CHOOSEBOX WITH HP50 COMMANDS FOR LINEAR SYSTEMS</p> <p>PROPERTIES OF MOORE PENROSE INV: A·A+·A=A, A+·A·A+=A+ TR(A·A+)=A·A+, TR(A+·A)=A+·A TR = CONJUGATE TRANSPOSE TRAN = TRANSPOSE (AT HP)</p> <p>GRAPH <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OK</p>