

Generalized Inverse

This program computes the *Generalized Inverse*, or *Pseudo Inverse* of a $m \times n$ matrix A .

The use of the program will be explained with the following

Example. We store in a the matrix

$$a = \begin{bmatrix} 1 & 1 & 0 & 2 & 2 & 1 \\ 1 & 0 & 1 & 0 & 1 & -1 \\ 1 & 1 & 1 & 0 & 1 & -1 \\ 1 & 0 & 1 & 1 & 2 & -2 \end{bmatrix}$$

We run the program using the instruction

$$ginv(a, "g")$$

Where a is the given matrix and g is the generalized inverse. The following screen show the resulting generalized inverse.

matrix g					
F1	F2	F3	F4	F5	F6
Algebra	Calc	Other	PrgmIO	Clean Up	Done
prog: ginv(a, "g")					
<div> <div>g</div> <div> <div>1/7</div> <div>51/56</div> <div>-1/7</div> <div>-11/28</div> </div> </div>					
<div> <div>0</div> <div>-1</div> <div>1</div> <div>0</div> </div>					
<div> <div>0</div> <div>5/8</div> <div>0</div> <div>-1/4</div> </div>					
<div> <div>1/7</div> <div>-13/28</div> <div>-1/7</div> <div>5/14</div> </div>					
<div> <div>1/7</div> <div>9/56</div> <div>-1/7</div> <div>3/28</div> </div>					
<div> <div>2/7</div> <div>39/56</div> <div>-2/7</div> <div>-15/28</div> </div>					
<div> <div>g</div> <div>MAIN</div> <div>RND AUTO</div> <div>FUNC 30/30</div> </div>					