```
M:matrix([a,c],[c,b])
Maxima 5.45.1 https://maxima.sourceforge.io
using Lisp SBCL 2.0.0
Distributed under the GNU Public License. See the file COPYING.
Dedicated to the memory of William Schelter.
The function bug_report() provides bug reporting information.
```

(%i35) `M:matrix([a,b],[b,c])`

(%o39) $$\begin{pmatrix} a & b \\ b & c \end{pmatrix}$$

(%i40)
```
u1:matrix([0],[Y]);
                u2:matrix([X],[L[y]]);
                u3:matrix([L[x]],[Y]);
                u4:matrix([X],[0
                          ]);
```

(%o40) $$\begin{pmatrix} 0 \\ Y \end{pmatrix}$$

(%o41) $$\begin{pmatrix} X \\ L_y \end{pmatrix}$$

(%o42) $$\begin{pmatrix} L_x \\ Y \end{pmatrix}$$

(%o43) $$\begin{pmatrix} X \\ 0 \end{pmatrix}$$

(%i44)
```
p1:M.u1;
       p2:M.u2
       ;
       p3:M.u3;
       p4:M.u4;
```

(%o44) $$\begin{pmatrix} Yb \\ Yc \end{pmatrix}$$

(%o45) $$\begin{pmatrix} b\,L_y + X\,a \\ c\,L_y + X\,b \end{pmatrix}$$

(%o46) $$\begin{pmatrix} a\,L_x + Yb \\ b\,L_x + Yc \end{pmatrix}$$

(%o47) $$\begin{pmatrix} X\,a \\ X\,b \end{pmatrix}$$

```
incorrect syntax: Premature termination of input at ;.
 ;
 ^
```

(%i44) `(5*%pi*R^2)/(20)=4/5`

(%o48) $$\frac{\pi\,R^2}{4} = \frac{4}{5}$$

(%i49) `inverse(M)`

(%o49) $$\text{inverse}\left(\begin{pmatrix} a & b \\ b & c \end{pmatrix}\right)$$

(%i50) `invert(M)`

(%o50) $$\begin{pmatrix} \frac{c}{a\,c - b^2} & -\frac{b}{a\,c - b^2} \\ -\frac{b}{a\,c - b^2} & \frac{a}{a\,c - b^2} \end{pmatrix}$$

```
(%i53) C:matrix([57.10,27.24,-9.45],
                [27.74,58.79,-18.70],
                [6*10^(-4),3.93,17.83])
```

$$(\%o53)\quad \begin{pmatrix} 57.1 & 27.24 & -9.45 \\ 27.74 & 58.79 & -18.7 \\ \frac{3}{5000} & 3.93 & 17.83 \end{pmatrix}$$

```
(%i54) invert(C)
```

(%o54) (0.02263953380875922, −0.01055219681609967, 9.319974218570322 × 10^{-4}; −0.0099827\
90238768524, 0.02054821797706836, 0.01625991634407268; 0.002199595172073755, −0.004528781\
005708862, 0.05250128825402924)

```
(%i55) fpprinprec
```

(%o55) fpprinprec

```
(%i56) fpprintprec : 4 $
(%i58) S:invert(C)
```

$$(\%o58)\quad \begin{pmatrix} 0.02264 & -0.01055 & 9.32\times 10^{-4} \\ -0.009983 & 0.02055 & 0.01626 \\ 0.0022 & -0.004529 & 0.0525 \end{pmatrix}$$

```
(%i60) E[1]=1/S[1][1]*GPa;
       E[2]=
```

(%o60) $E_1 = 44.17\,\mathrm{GPa}$

```
(%i61)
```