In[1]:=
```
mat1 = {{1, 0, 0, 0}, {-a10 , a00, 0 , 0}, {-a20, 0, a00, 0}, {-a30, 0, 0, a00}}
```

Out[1]=
```
{{1, 0, 0, 0}, {-a10, a00, 0, 0}, {-a20, 0, a00, 0}, {-a30, 0, 0, a00}}
```

In[2]:=
```
mat1 // MatrixForm
```

Out[2]//MatrixForm=

$$\begin{pmatrix} 1 & 0 & 0 & 0 \\ -a10 & a00 & 0 & 0 \\ -a20 & 0 & a00 & 0 \\ -a30 & 0 & 0 & a00 \end{pmatrix}$$

In[3]:=
```
mat2 = {{a00, a01, a02, a03},
  {a10, a11, a12, a13}, {a20, a21, a22, a23}, {a30, a31, a32, a33}}
```

Out[3]=
```
{{a00, a01, a02, a03}, {a10, a11, a12, a13}, {a20, a21, a22, a23}, {a30, a31, a32, a33}}
```

In[4]:=
```
mat2 // MatrixForm
```

Out[4]//MatrixForm=

$$\begin{pmatrix} a00 & a01 & a02 & a03 \\ a10 & a11 & a12 & a13 \\ a20 & a21 & a22 & a23 \\ a30 & a31 & a32 & a33 \end{pmatrix}$$

In[5]:=
```
mat1.mat2 // MatrixForm
```

Out[5]//MatrixForm=

$$\begin{pmatrix} a00 & a01 & a02 & a03 \\ 0 & -a01\,a10 + a00\,a11 & -a02\,a10 + a00\,a12 & -a03\,a10 + a00\,a13 \\ 0 & -a01\,a20 + a00\,a21 & -a02\,a20 + a00\,a22 & -a03\,a20 + a00\,a23 \\ 0 & -a01\,a30 + a00\,a31 & -a02\,a30 + a00\,a32 & -a03\,a30 + a00\,a33 \end{pmatrix}$$