In[1]:=
```
σ0 = IdentityMatrix[2]; σ1 = {{0, 1}, {1, 0}};
σ2 = {{0, -I}, {I, 0}}; σ3 = {{1, 0}, {0, -1}};
```

In[2]:=
```
σ[k_] := { σ0  k == 0
           σ1  k == 1
           σ2  k == 2
           σ3  k == 3
```

In[3]:=
```
γ[k_] := {{{{0, 0}, {0, 0}}, σ[k]}, {-σ[k], {{0, 0}, {0, 0}}}} // ArrayFlatten
```

In[4]:=
```
Table[γ[i] // MatrixForm, {i, 0, 3}] // TableForm
```

Out[4]//TableForm=

$$\begin{pmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & 0 \end{pmatrix}$$

$$\begin{pmatrix} 0 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \\ 0 & -1 & 0 & 0 \\ -1 & 0 & 0 & 0 \end{pmatrix}$$

$$\begin{pmatrix} 0 & 0 & 0 & -i \\ 0 & 0 & i & 0 \\ 0 & i & 0 & 0 \\ -i & 0 & 0 & 0 \end{pmatrix}$$

$$\begin{pmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & -1 \\ -1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \end{pmatrix}$$

In[5]:=
```
I γ[0].γ[1].γ[2].γ[3] // MatrixForm
```

Out[5]//MatrixForm=

$$\begin{pmatrix} -1 & 0 & 0 & 0 \\ 0 & -1 & 0 & 0 \\ 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & -1 \end{pmatrix}$$