Example 3.67

In[1]:=
```
P = {{0, 0.5, 0.5},
    {0.5, 0, 0.5},
    {1, 0, 0}};
α = {0.2, 0.3, 0.5};
MatrixForm[Table[{n, MatrixForm[MatrixPower[P, n]],
    MatrixForm[α.MatrixPower[P, n]]}, {n, 1, 2}]]
MatrixForm[Table[{n, MatrixForm[MatrixPower[P, n]],
    MatrixForm[α.MatrixPower[P, n]]}, {n, 5, 100, 95}]]
```

Out[3]//MatrixForm=

$$\begin{pmatrix} 1 & \begin{pmatrix} 0. & 0.5 & 0.5 \\ 0.5 & 0. & 0.5 \\ 1. & 0. & 0. \end{pmatrix} & \begin{pmatrix} 0.65 \\ 0.1 \\ 0.25 \end{pmatrix} \\ 2 & \begin{pmatrix} 0.75 & 0. & 0.25 \\ 0.5 & 0.25 & 0.25 \\ 0. & 0.5 & 0.5 \end{pmatrix} & \begin{pmatrix} 0.3 \\ 0.325 \\ 0.375 \end{pmatrix} \end{pmatrix}$$

Out[4]//MatrixForm=

$$\begin{pmatrix} 5 & \begin{pmatrix} 0.375 & 0.28125 & 0.34375 \\ 0.40625 & 0.25 & 0.34375 \\ 0.5625 & 0.125 & 0.3125 \end{pmatrix} & \begin{pmatrix} 0.478125 \\ 0.19375 \\ 0.328125 \end{pmatrix} \\ 100 & \begin{pmatrix} 0.444444 & 0.222222 & 0.333333 \\ 0.444444 & 0.222222 & 0.333333 \\ 0.444444 & 0.222222 & 0.333333 \end{pmatrix} & \begin{pmatrix} 0.444444 \\ 0.222222 \\ 0.333333 \end{pmatrix} \end{pmatrix}$$