## Question

Find a matrix A with no zero entries such that $A^{2}=0$.

$$
\begin{aligned}
& \text { Answer } \\
& \left(\begin{array}{cc}
a & -\frac{a^{2}}{c} \\
c & -a
\end{array}\right) \quad a c \neq 0
\end{aligned}
$$

