$$\begin{array}{c} 0 \\ 1 \\ 2 \\ \vdots \\ n-1 \\ n \\ \end{array}
\begin{array}{c}
\left[\begin{array}{cccccc}
K_{11}^{(1)} & K_{12}^{(1)} & & & & \\
K_{21}^{(1)} & K_{22}^{(1)}+K_{11}^{(2)} & K_{12}^{(2)} & & \mathbb{O} & \\
0 & K_{21}^{(2)} & K_{22}^{(2)}+K_{11}^{(3)} & K_{21}^{(3)} & & \\
\vdots & & \ddots & \ddots & \ddots & \\
0 & \mathbb{O} & & K_{21}^{(n-1)} & K_{22}^{(n-1)}+K_{11}^{(n)} & K_{12}^{(n)} \\
0 & & & & K_{21}^{(n)} & K_{22}^{(n)}+\alpha_b
\end{array}\right] \\
\begin{array}{cccccc} 0 & 1 & 2 & & n-1 & n \end{array}
\end{array}
\begin{array}{c}
\left[\begin{array}{c} g_a \\ u_1 \\ u_2 \\ \\ u_{n-1} \\ u_n \end{array}\right] \\
\end{array}
\begin{array}{c} = \\ \end{array}
\begin{array}{c}
\left[\begin{array}{c} f_1^{(1)} \\ f_2^{(1)}+f_1^{(2)} \\ f_2^{(2)}+f_1^{(3)} \\ \\ f_2^{(n-1)}+f_1^{(n)} \\ f_2^{(n)}+\alpha_b g_b \end{array}\right] \\
\end{array}$$

$$*$$

$$\Updownarrow$$

$$\underbrace{\left[\begin{array}{ccccc}
K_{22}^{(1)}+K_{11}^{(2)} & K_{12}^{(2)} & & \mathbb{O} & \\
K_{21}^{(2)} & K_{22}^{(2)}+K_{11}^{(3)} & K_{12}^{(3)} & & \\
 & \ddots & \ddots & \ddots & \\
\mathbb{O} & K_{21}^{(n-1)} & K_{22}^{(n-1)}+K_{11}^{(n)} & K_{12}^{(n)} & \\
 & & K_{21}^{(n)} & K_{22}^{(n)}+\alpha_b &
\end{array}\right]}_{K_h}
\underbrace{\left[\begin{array}{c} u_1 \\ u_2 \\ \vdots \\ u_{n-1} \\ u_n \end{array}\right]}_{\underline{u}_h}
=
\underbrace{\left[\begin{array}{c} f_2^{(1)}+f_1^{(2)}-K_{21}^{(1)} g_a \\ f_2^{(2)}+f_1^{(3)} \\ \vdots \\ f_2^{(n-1)}+f_1^{(n)} \\ f_2^{(n)}+\alpha_b g_b \end{array}\right]}_{\underline{f}_h}$$

$(\underline{7})_h \qquad K_h \qquad \underline{u}_h = \underline{f}_h$

Damit haben wir die RB $u(a) = g_a$ und $-u'(b) = \alpha_b\,(u(b) - g_b)$ eingearbeitet!

<u>Bem.:</u> Alternativ können wir die RB 1. Art $u(b) = g_b$ approximativ als RB 3. Art $-u'(b) = \alpha_b\,(u(b) - g_b)$ mit $\alpha_b = 10^s$ einarbeiten!

$$\downarrow \; u_n = g_b + \frac{1}{\alpha_b}\left[f_2^{(n)} - K_{21}^{(n)} u_{n-1} - K_{22}^{(n)} u_n\right] = g_b + O(10^{-s})$$