

$$\begin{aligned}
 \text{a) RB 3. Art: } \int_{\Gamma_3} q_3 \varphi_j ds &\xrightarrow{\oplus} f_j \longrightarrow \hat{f}_h \quad (\uparrow) \\
 \int_{\Gamma_3} \alpha \varphi_i \varphi_j ds &\xrightarrow{\oplus} \hat{K}_{ij} \longrightarrow \hat{K}_h
 \end{aligned}$$

Def.  $\mathbb{E}_{3,h} := \{e_3 \subset \partial\Omega_r \cap \Gamma_3 : \text{RB 3. Art}\}$

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FOR  $e_3 \in \mathbb{E}_{3,h}$  DO
  FOR  $\alpha \in A_{e_3} \subset A = \{1, 2, 3\}$  DO
    FOR  $\beta \in A_{e_3}$  DO
      BEGIN
        * compute  $K_{\alpha\beta}^{(e_3)} = \int_{e_3} \alpha(x) \varphi_\alpha^{(e_3)}(x) \varphi_\beta^{(e_3)}(x) ds = \dots$ 
        * determine  $i := i(e_3, \alpha) = i(r, \alpha)$ 
           $j := j(e_3, \alpha) = j(r, \alpha)$ 
        * update  $\hat{K}_{ij} := \hat{K}_{ij} + K_{\alpha\beta}^{(e_3)}$ 
      END
    ENDFOR
  ENDFOR
ENDFOR
  
```

Bsp. CHIP:

$$\begin{aligned}
 \mathbb{E}_{3,h} &= \left\{ \overset{1}{\textcircled{1}} - \overset{2}{\textcircled{2}}, \overset{1}{\textcircled{2}} - \overset{2}{\textcircled{3}}, \overset{1}{\textcircled{3}} - \overset{2}{\textcircled{4}}, \overset{1}{\textcircled{4}} - \overset{2}{\textcircled{5}} \right\} \\
 &= \{1, 2, 3, 4, 5\}
 \end{aligned}$$