$$\underset{=}{A}_j = \begin{bmatrix} \text{Scalar} \\ \underline{a}^{(r_1)} \\ \vdots \\ \underline{a}^{(r_{\alpha l})} \\ \underline{b}^{(\epsilon(j-1)+1)} \\ \vdots \\ \underline{b}^{(\epsilon j)} \end{bmatrix} \Bigg| \quad \underset{=}{A}_j = \begin{bmatrix} \text{Vector} \\ \underset{=}{A}^{(r_1)} \\ \vdots \\ \underset{=}{A}^{(r_{\alpha l})} \\ \underset{=}{B}^{(\epsilon(j-1)+1)} \\ \vdots \\ \underset{=}{B}^{(\epsilon j)} \end{bmatrix}$$