$$U \xrightarrow[\text{stet}]{\dot{\dashv}} {}_n\mathbb{K}^n$$

$$\frac{dy}{dx} = \dot{\dashv}\, y$$

$$W = U \times {}_n\mathbb{K}$$

$$U \ni a \underset{\text{PIC}}{\Longrightarrow} \bigwedge_{.b \,\in\, {}_n\mathbb{K}} \bigvee U \xrightarrow[\text{max Lsg}]{.\dashv} {}_n\mathbb{K} : \quad {}^{a}_{.}\dashv = .b$$

$$U_{\blacktriangle_1}{}_n\mathbb{K} = \frac{U \xrightarrow[\text{diff+}]{.\dashv} {}_n\mathbb{K}}{\underset{-}{.\dashv} = \dot{\dashv}\, .\dashv : \quad \underset{i-}{\dashv} = \underset{i}{\dashv}^{j}\, {}_{j}\dashv} \text{ hom Lsg-Raum}$$

$$U_{\blacktriangle_{1+}}{}_n\mathbb{K} \sqsubset U_{\triangle_{1+}}{}_n\mathbb{K} \text{ lin UR}$$

$$U_{\blacktriangle_{1+}}{}_n\mathbb{K} \ni .\acute{\dashv} \Rightarrow \underline{.\dashv + .\acute{\dashv}} = \underset{-}{.\dashv} + \underset{-}{.\acute{\dashv}} = \dot{\dashv}\, .\dashv + \dot{\dashv}\, .\acute{\dashv} = \dot{\dashv}\, \overbrace{.\dashv + .\acute{\dashv}} \Rightarrow .\dashv + .\acute{\dashv} \in U_{\blacktriangle_{1+}}{}_n\mathbb{K}$$

$$\bigwedge_{j \,\in\, n} \bigvee U \xrightarrow[\text{hom Lsg}]{.\mathbb{1}^{j}} {}_n\mathbb{K} : \quad {}^{a}_{.}\mathbb{1}^{j} = \mathbb{1}^{j}$$

$$U \xrightarrow[\text{hom Lsg}]{\left[.\mathbb{1}^{0} \quad .\mathbb{1}^{n\text{-}1} \right]} {}_n\mathbb{K}^n$$

$${}^{x}_{.}\mathbb{1}^{j} = \mathbb{1}^{j} \text{ lin unabh}$$

$$\text{WRO} \ \det \begin{array}{c|c} {}^{x}_{0}\mathbb{1}^{0} & {}^{x}_{0}\mathbb{1}^{n\text{-}1} \\ \hline {}^{x}_{n\text{-}1}\mathbb{1}^{0} & {}^{x}_{n\text{-}1}\mathbb{1}^{n\text{-}1} \end{array} \neq 0$$

$$\mathbb{1}^{0} \cdots \mathbb{1}^{n\text{-}1} \underset{\text{basic}}{\in} {}^{U}\blacktriangle_{1+n}\mathbb{K}: \quad \dim_{\mathbb{K}} {}^{U}\blacktriangle_{1+n}\mathbb{K} = n$$

$$\mathbb{1}^{0} \cdots \mathbb{1}^{n\text{-}1} \ \text{free}$$

$$0 = \sum_{j}^{n} \mathbb{1}^{j} \underbrace{{}_{j}c}_{\in \mathbb{K}} \Rightarrow 0 = \overbrace{\sum_{j}^{n} \mathbb{1}^{j}\, {}_{j}c}^{a} = \sum_{j}^{n} {}^{a}\mathbb{1}^{j}\, {}_{j}c \Rightarrow {}_{j}c = 0$$

$$\mathbb{1}^{0} \cdots \mathbb{1}^{n\text{-}1} \ \text{hull}$$

$$\mathbf{1} \in {}^{U}\blacktriangle_{1+n}\mathbb{K} \Rightarrow {}^{a}\mathbf{1} = \sum_{j}^{n} \mathbb{1}^{j}\, {}_{j}c = \sum_{j}^{n} {}^{a}\mathbb{1}^{j}\, {}_{j}c = \overbrace{\sum_{j}^{n} \mathbb{1}^{j}\, {}_{j}c}^{a}$$

$$\Rightarrow \mathbf{1} - \sum_{j}^{n} \mathbb{1}^{j}\, {}_{j}c \in {}^{U}\blacktriangle_{1+n}\mathbb{K} \wedge \overbrace{\mathbf{1} - \sum_{j}^{n} \mathbb{1}^{j}\, {}_{j}c}^{a} = 0 \underset{\text{eind}}{\Rightarrow} \mathbf{1} - \sum_{j}^{n} \mathbb{1}^{j}\, {}_{j}c = 0 \Rightarrow \mathbf{1} = \sum_{j}^{n} \mathbb{1}^{j}\, {}_{j}c$$

$${}^{U}\blacktriangle_{1+n}\mathbb{K} \ni {}^{x}\mathbb{1}^{\cdot}\, {}_{\cdot}c = {}^{x}\mathbb{1}^{j}\, {}_{j}c = \begin{bmatrix} {}^{x}_{1}\mathbb{1}^{\cdot}\, {}_{\cdot}c \\ {}^{x}_{n}\mathbb{1}^{\cdot}\, {}_{\cdot}c \end{bmatrix} = \begin{bmatrix} {}^{x}\mathbb{1}^{0} & {}^{x}\mathbb{1}^{n\text{-}1} \end{bmatrix} \begin{bmatrix} {}_{0}c \\ {}_{n\text{-}1}c \end{bmatrix} \ \text{gen sol}$$