

$$h_{\text{loop}(\mathbf{d})} : \mathbf{F}_1 \rightarrow \mathcal{A}\mathbf{R}, \tag{0.1}$$

$$f_1 \mapsto \begin{cases} \text{using} & r, f_2 \in \mathbf{R}, \\ \text{Min}_{\leq \mathbf{R}} & r, \\ \text{s.t.} & r \in h_{\mathbf{d}}(f_1, f_2), \\ & r \leq \mathbf{R} f_2. \end{cases} \tag{0.2}$$