

Signature of the logic program:

$$\Sigma_0 = \mathbb{N} \cup \{\text{monika, karin, reate, susanne, aline, werner, klaus, gerd, peter, dominique}\}$$

$$\Sigma_3 = \{\text{date}\}$$

$$\Delta_1 = \{\text{female, male, human}\}$$

$$\Delta_2 = \{\text{married, motherOf, fatherOf, parent, ancestor, born}\}$$

Formulas corresponding to the logic program:

female(monika)	male(werner)	married(werner, monika)	motherOf(monika, karin)
female(karin)	male(klaus)	married(gerd, reate)	motherOf(monika, klaus)
female(renate)	male(gerd)	married(klaus, susanne)	motherOf(renate, susanne)
female(susanne)	male(peter)		motherOf(renate, peter)
female(aline)	male(dominique)		motherOf(susanne, aline)
			motherOf(susanne, dominique)

$\forall X$ human(X)

$\forall F, W, C$ married(F, W) \wedge motherOf(W, C) \rightarrow fatherOf(F, C)

$\forall X, Y$ motherOf(X, Y) \rightarrow parent(X, Y)

$\forall X, Y$ fatherOf(X, Y) \rightarrow parent(X, Y)

$\forall V, X$ parent(V, X) \rightarrow ancestor(V, X)

$\forall V, Y, X$ parent(V, Y) \wedge ancestor(Y, X) \rightarrow ancestor(V, X)