



Queries

- Given a particular Execution, retrieve the pertaining ComputerModel
- Given some InstantiationAttributeOutput retrieve all related CodeFile

Mutually disjoint classes: Attribute, ComputationalModel, Algorithm, CodeCollection, CodeFile, ExecutableCollection, ExecutableFile, Execution, AttributeInstantiation.

$$\text{Attribute} \sqcap \text{AttributeInstantiation} \quad (1)$$

$$\text{InputAttribute} \sqsubseteq \text{Attribute} \quad (2)$$

$$\text{OutputAttribute} \sqsubseteq \text{Attribute} \quad (3)$$

$$\text{ComputationalObservation} \sqsubseteq \text{OutputAttributeInstantiation} \quad (4)$$

$$\text{OutputAttributeInstantiation} \sqsubseteq \text{AttributeInstantiation} \quad (5)$$

$$\text{InputAttributeInstantiation} \sqsubseteq \text{AttributeInstantiation} \quad (6)$$

$$\text{ComputationalModel} \sqsubseteq \exists \text{hasInputAttribute}.\text{InputAttribute} \quad (7)$$

$$\text{ComputationalModel} \sqsubseteq \exists \text{hasOutputAttribute}.\text{OutputAttribute} \quad (8)$$

$$\text{Execution} \sqsubseteq \exists \text{hasInputAttributeInstantiation}.\text{InputAttributeInstantiation} \quad (9)$$

$$\text{Execution} \sqsubseteq \exists \text{hasOutputAttributeInstantiation}.\text{OutputAttributeInstantiation} \quad (10)$$

$$\text{Execution} \sqsubseteq \geq 0 \text{hasStartTime}.\text{StartTime} \quad (11)$$

$$\text{Execution} \sqsubseteq \geq 0 \text{hasEndTime}.\text{EndTime} \quad (12)$$

$$\text{Execution} \sqsubseteq \geq 0 \text{occurredAtMachine}.\text{Machine} \quad (13)$$

$$\text{Execution} \sqsubseteq \geq 0 \dots\dots\dots \quad (14)$$

$$\text{Execution} \sqsubseteq \leq 1 \text{isExecutionOf}.\text{ExecutableCollection} \quad (15)$$

$$\text{Execution} \sqsubseteq \leq 1 \text{isRealizationOf}.\text{CodeCollection} \quad (16)$$

$$\text{ExecutableCollection} \sqsubseteq \leq 1 \text{wasCompiledFrom}.\text{CodeCollection} \quad (17)$$

$$\text{wasCompiledFrom}^- \sqsubseteq \text{isCompiledInto} \quad (18)$$

$$\text{isExecutionOf} \circ \text{wasCompiledFrom} \text{isRealizationOf} \quad (19)$$