UML Design

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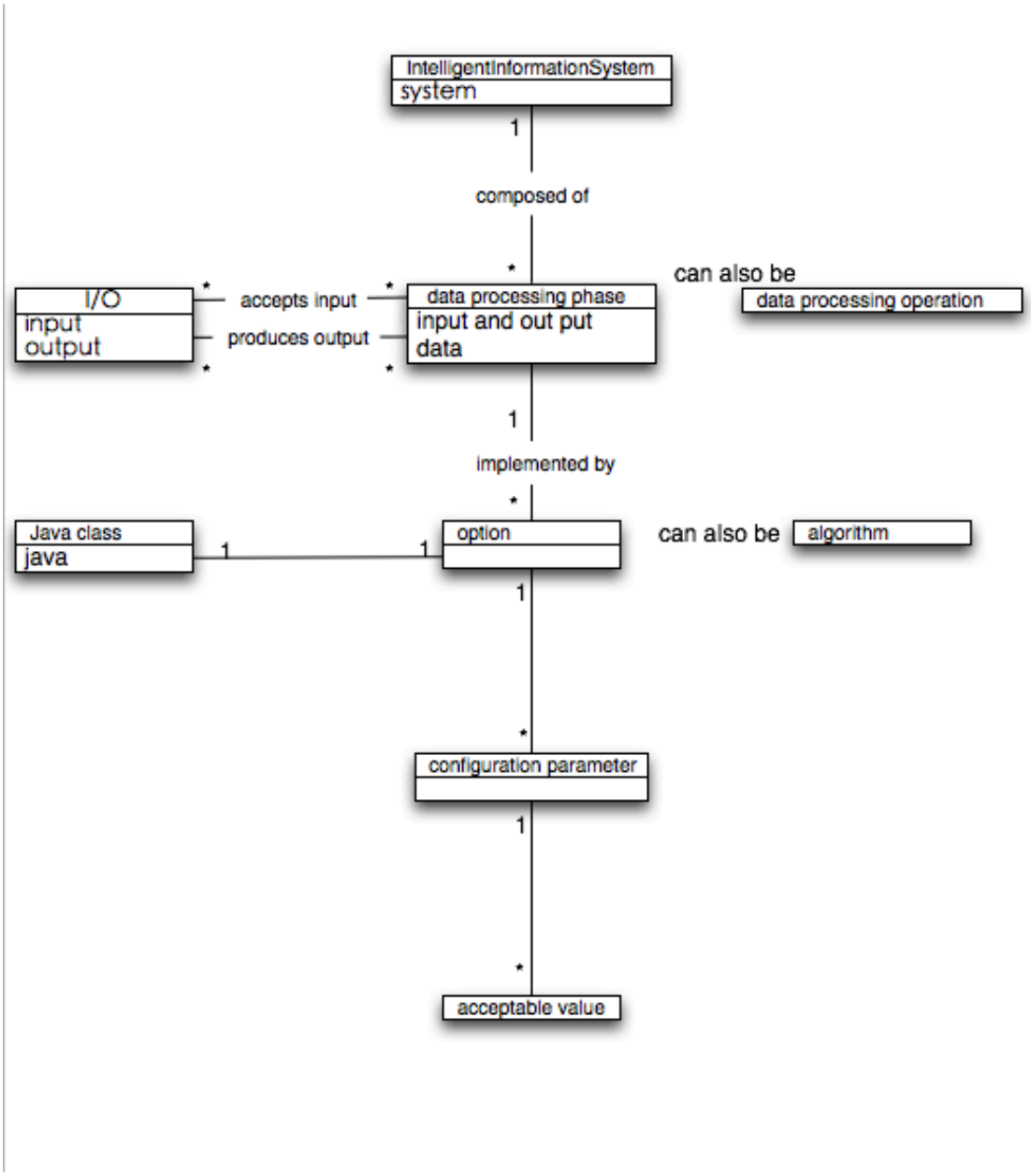
Task 1.1 Domain diagram for Intelligent Information System

“An Intelligent Information System is composed of a sequence of data processing operations or phases. Each phase accepts certain data types as input and produces certain data types as output. Each phase can be implemented by any number of algorithms or options. Each option is implemented by a specific Java class. Each option may have any number of configuration parameters; each configuration parameter has some set of acceptable values.”

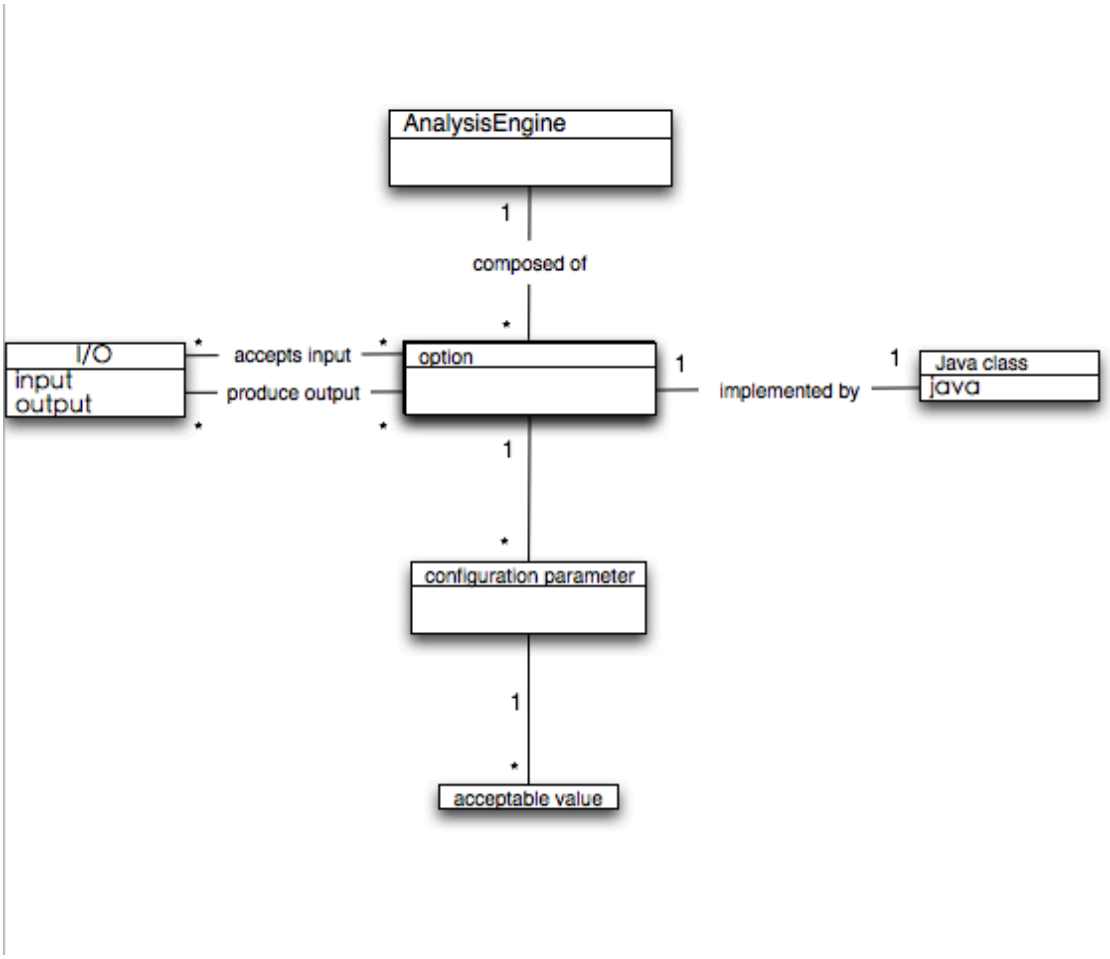
Draw a UML Domain Diagram to represent the domain concepts, associations(with multiplicities) and attributes expressed in the description above.



Task 1.2 Domain diagram for AnalysisEngine

"An AnalysisEngine is composed of a sequence of algorithms or options. Each option accepts certain data types as input and produces certain data types as output. Each option is implemented by a specific Java class. Each option has some number of configuration parameters; each configuration parameter has a specific assigned value."

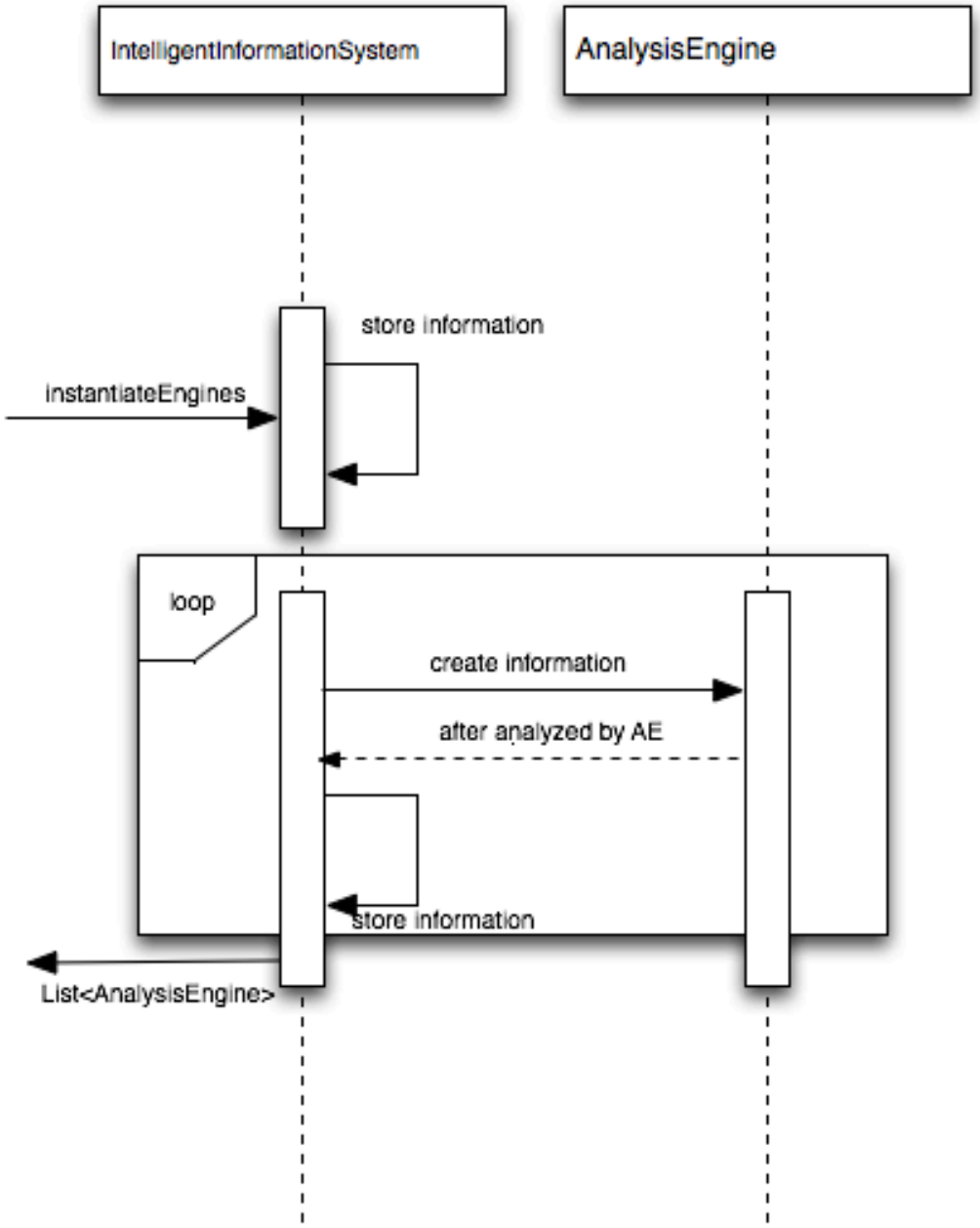
Draw a UML Domain Diagram to represent the domain concepts, associations (with multiplicities) and attributes expressed in the description above.



Task 1.3 Sequence Diagram

There is a one-to-many relationship between Intelligent Information System and Analysis Engine. Assume that an Intelligent Information System has the responsibility to produce a set of Analysis Engines that represent all of the possible data flows in the Intelligent Information System. Design a method with this signature: Array List<Collection Processing Engine>instantiate Engines(Intelligent Information System i);

Draw a UML Sequence Diagram to show the sequence of messages required to a) read the information from the Intelligent Information System instance, b) instantiate the corresponding Analysis Engine instances, and c) store the Analysis Engine instances in a List, which is the final output of the program.


IntelligentInformationSystem
AnalysisEngine
store information
instantiateEngines
loop
create information
after analyzed by AE
store information
List<AnalysisEngine>