This directory contains the main subprojects of Sample:

* /sample: the core of sample, that is, all the statements of the Simple language and their semantics, some basic implementation of the abstract states, and all the interfaces for heap and semantic analyses;
* /AccessPermissionInference: the implementation of the static analysis and the inference of access permissions;
* /ArrayAnalysis: some basic interfaces for the analysis of the content of arrays. It has been developed for the project assigned to students in Venice for AVP 2010/11;
* /ClientSideInference: the implementation of the client side inference of contracts;
* /GUI: the user interfaces
* /HeapAnalysis: simple heap analyses that can be used in combination with other analyses for whom the heap structure is not particularly critical;
* /JavaBytecodePreprocessing: the compiler of Java bytecode to Simple (bachelor thesis of Roman Scheidegger). This implementation is not yet working since the type system is missing;
* /NumericalAnalysis: numerical analyses both non-relational (sign and intervals, together with a generic interface that can be used to develop other non-relational numerical domains) and relational (and in particular apron - <http://apron.cri.ensmp.fr/library/>);
* /Partitioning: support for trace partitioning (master thesis of Dominik Gabi);
* /ScalaPreprocessing: the compiler of Scala to Simple;
* /String: abstract domains for string values (master thesis of Giulia Costantini, see ICFEM 2011);
* /Test: black box testing;
* /TVLA: implementation of the heap domain for TVLA (bachelor thesis of Raphael Fuchs);
* /TypeAnalysis: a particular type analysis for proving some particular properties on pattern matching (see FORTE/FMOODS 2010).

The dependencies between different projects of each subproject follow.

|  |  |
| --- | --- |
| Subproject | Dependencies |
| sample | /////////// |
| AccessPermissionInference | sample, HeapAnalysis |
| ArrayAnalysis | sample, HeapAnalysis, NumericalAnalysis |
| ClientSideInference | sample, GUI |
| GUI | *ALL subprojects* |
| HeapAnalysis | sample, GUI |
| JavaBytecodePreprocessing | sample |
| NumericalAnalysis | sample, ScalaPreprocessing, HeapAnalysis |
| Partitioning | sample, ScalaPreprocessing, GUI |
| ScalaPreprocessing | sample |
| String | sample, GUI |
| Test | *ALL subprojects* |
| TVLA | sample, GUI, NumericalAnalysis |
| TypeAnalysis | sample |

In addition each subproject depends on the libraries contained in its /lib directory.