JAVA-Prototype

A Java application called dcprototype is used to implement the Difference Calculus. The main class DIFF is developed to build values in terms of their types respectively and identify and present the difference between two values of the same data type.

Source codes are compiled and executed by standard java commands:

Compile: javac -d lib -cp lib src/*/*.java

Execute: java -cp lib dcprototype.DIFF [options] [args...] (to execute DIFF)

Where options include:

-t *typefile*

Parse and present a type, in which the *typefile* is the path and name of a file containing the text representation of the corresponding type.

-v *typefile valuefile*

Build and present a value in terms of its type, in which the *valuefile* is the path and name of a file containing the text representation of this value and the *typefile* is the path and name of a file containing the text representation of its type. The type and value must be matched, otherwise, a error message will be returned.

-d *typefile valuefile1 valuefile2*

Identify the difference between two values of the same type. The *typefile* is the path and name of a file containing the text representation of a type. And the *valuefile1* and the *valuefile2* are the path and name of two files respectively, these two files contain the text representation of values of the corresponding given type in *typefile*. These two values must be of the same type, and this type and each must be matched, otherwise, a error message will be returned.

Shell script (.sh) files used to test TYPE and value parsers, get and present the difference

between two values are in bin folder.

./bin/compile.sh to compile source code

./bin/testTYPEparser.sh to parse all given TYPEs in testTYPE

./bin/testVALUEparser.sh to parse all given VALUEs with their TYPE in testVALUE

./bin/testExamples.sh to implement examples in the thesis for sets, multisets and mappings.

./bin/delta_Primitive.sh to present difference and similarity of test values of PRIMITIVE TYPE

./bin/delta_Product.sh to present difference and similarity of test values of PRODUCT TYPE

./bin/delta_Union.sh to present difference and similarity of test values of UNION TYPE

./bin/delta_Rec.sh to present difference and similarity of test values of REC TYPE

./bin/delta_Set.sh to present difference and similarity of test values of SET TYPE

./bin/delta_Multiset.sh to present difference and similarity of test values of MSET TYPE

./bin/delta_Mapping.sh to present difference and similarity of test values of MAPPING TYPE