

Squander
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Chapter 1

Squander

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src/edu/mit/csail/sdg/squander/spec/ ReflectiveSpecProvider.java	914
src/edu/mit/csail/sdg/squander/spec/ Source.java	915
src/edu/mit/csail/sdg/squander/spec/ Spec.java	916
src/edu/mit/csail/sdg/squander/spec/ SpecFileSpecProvider.java	917
src/edu/mit/csail/sdg/squander/spec/ SqFunc.java	918
src/edu/mit/csail/sdg/squander/spec/ Tr.java	919
src/edu/mit/csail/sdg/squander/spec/ TypeChecker.java	920
src/edu/mit/csail/sdg/squander/spec/ TypeCheckException.java	921
src/edu/mit/csail/sdg/squander/spec/ Visitor.java	922
src/edu/mit/csail/sdg/squander/spec/constant/ ConstRel.java	896
src/edu/mit/csail/sdg/squander/spec/constant/ ConstRel2Bound.java	897
src/edu/mit/csail/sdg/squander/spec/constant/ ConstRels.java	898
src/edu/mit/csail/sdg/squander/spec/constant/ ConstRelVisitor.java	899
src/edu/mit/csail/sdg/squander/utils/ Counter.java	924
src/edu/mit/csail/sdg/squander/utils/ Predicate.java	925
src/edu/mit/csail/sdg/squander/utils/ ReflectionUtils.java	926
src/edu/mit/csail/sdg/squander/utils/ TwoWayMap.java	927
src/edu/mit/csail/sdg/squander/utils/ Utils.java	928
tests/edu/mit/csail/sdg/squander/examples/bst/ BinarySearchTreeTest.java	930
tests/edu/mit/csail/sdg/squander/examples/bst/ BST_noParentTest.java	931
tests/edu/mit/csail/sdg/squander/examples/bst/ BST_noSpecFldTest.java	932
tests/edu/mit/csail/sdg/squander/examples/graph/ GraphTest.java	933
tests/edu/mit/csail/sdg/squander/examples/graph2/ GraphTest.java	934
tests/edu/mit/csail/sdg/squander/examples/javacol/ ListTest.java	935
tests/edu/mit/csail/sdg/squander/examples/javacol/ MapTest.java	937
tests/edu/mit/csail/sdg/squander/examples/javacol/ SetTest.java	938
tests/edu/mit/csail/sdg/squander/examples/javacol/ TypeParamsTest.java	939
tests/edu/mit/csail/sdg/squander/examples/list/ LinkedListTest.java	940
tests/edu/mit/csail/sdg/squander/examples/list/func2/ ListTest.java	936

tests/edu/mit/csail/sdg/squander/examples/mock/ MockAddressBookTest.java	941
tests/edu/mit/csail/sdg/squander/examples/mock/ TestAddressBook.java	942
tests/edu/mit/csail/sdg/squander/examples/mock/ TestSquanderAddressBook.java	943
tests/edu/mit/csail/sdg/squander/examples/numbers/ ArithmeticTest.java	944
tests/edu/mit/csail/sdg/squander/examples/numbers/ SqRootTest.java	945
tests/edu/mit/csail/sdg/squander/examples/sort/ SortTest.java	946
tests/edu/mit/csail/sdg/squander/examples/sudoku/ Sudoku1Test.java	947
tests/edu/mit/csail/sdg/squander/regressions/ Tests.java	948
tests/edu/mit/csail/sdg/squander/util/test/ TestUtils.java	949

Chapter 7

Module Documentation

7.1 Abstract State

Classes

- class [edu.mit.csail.sdg.squander.absstate.AbstractState](#)
- class [edu.mit.csail.sdg.squander.absstate.FieldValue](#)
- class [edu.mit.csail.sdg.squander.absstate.ObjAbsState](#)
- class [edu.mit.csail.sdg.squander.absstate.ObjTuple](#)
- class [edu.mit.csail.sdg.squander.absstate.ObjTupleSet](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

7.1.1 Detailed Description

This module is responsible for maintaining the abstract state of objects.

7.2 Annotations

Classes

- interface [edu.mit.csail.sdg.squander.annotations.Fresh](#)
- interface [edu.mit.csail.sdg.squander.annotations.FreshObjects](#)
- interface [edu.mit.csail.sdg.squander.annotations.Options](#)

Packages

- package [edu.mit.csail.sdg.squander.annotations](#)

7.2.1 Detailed Description

This module defines several Squander-specific specification annotations (in addition to existing JFSL annotations).

7.3 Engine

Classes

- class [edu.mit.csail.sdg.squander.engine.ForgeConverter](#)
- class [edu.mit.csail.sdg.squander.engine.ForgeEval](#)
- class [edu.mit.csail.sdg.squander.engine.Heap](#)
- class [edu.mit.csail.sdg.squander.engine.Heap2Bounds](#)
- interface [edu.mit.csail.sdg.squander.engine.ISquander](#)
- interface [edu.mit.csail.sdg.squander.engine.ISquanderResult](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#)
- class [edu.mit.csail.sdg.squander.engine.SquanderEval](#)
- class [edu.mit.csail.sdg.squander.engine.SquanderEval2](#)
- class [edu.mit.csail.sdg.squander.engine.SquanderImpl](#)
- class [edu.mit.csail.sdg.squander.engine.SquanderReporter](#)
- class [edu.mit.csail.sdg.squander.engine.SquanderResult](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)
- package [edu.mit.csail.sdg.squander.engine.kk](#)

7.3.1 Detailed Description

This module contains the core classes responsible for executing specifications

7.4 Logging

Classes

- class [edu.mit.csail.sdg.squander.log.Log](#)

Packages

- package [edu.mit.csail.sdg.squander.log](#)

7.4.1 Detailed Description

Logging module.

7.5 Configuration

Classes

- class [edu.mit.csail.sdg.squander.options.ConfigLoader](#)
- class [edu.mit.csail.sdg.squander.options.GlobalOptions](#)

Packages

- package [edu.mit.csail.sdg.squander.options](#)

7.5.1 Detailed Description

This module is responsible for keeping configuration parameters.

7.6 JFSL Parser

Classes

- class [edu.mit.csail.sdg.squander.parser.JFSLParserException](#)

Packages

- package [edu.mit.csail.sdg.squander.parser](#)

7.6.1 Detailed Description

This module contains classes for parsing JFSL specification and converting them to an AST.

7.7 Serialization

Classes

- class [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#)
- class [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#)
- class [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#)
- interface [edu.mit.csail.sdg.squander.serializer.HeapListener](#)
- interface [edu.mit.csail.sdg.squander.serializer.IHeap](#)
- class [edu.mit.csail.sdg.squander.serializer.Serializer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#)
- interface [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.ListSer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.MapSer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory](#)
- class [edu.mit.csail.sdg.squander.serializer.special.SetSer](#)
- class [edu.mit.csail.sdg.squander.serializer.special.StringSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)
- package [edu.mit.csail.sdg.squander.serializer.special](#)

7.7.1 Detailed Description

This module is in charge of serializing and deserializing objects (i.e. it provides abstraction and concretization functions for several types of classes).

7.8 Specification

Classes

- class `edu.mit.csail.sdg.squander.spec.ArityMismatchException`
- class `edu.mit.csail.sdg.squander.spec.ClassSpec`
- class `edu.mit.csail.sdg.squander.spec.CompositeSpecProvider`
- class `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound`
- class `edu.mit.csail.sdg.squander.spec.constant.ConstRels`
- interface `edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >`
- interface `edu.mit.csail.sdg.squander.spec.ForgeEnv`
- class `edu.mit.csail.sdg.squander.spec.ForgeScene`
- class `edu.mit.csail.sdg.squander.spec.Frame`
- class `edu.mit.csail.sdg.squander.spec.FrameInference`
- class `edu.mit.csail.sdg.squander.spec.IncompatibleTypesException`
- interface `edu.mit.csail.sdg.squander.spec.ISpecProvider`
- class `edu.mit.csail.sdg.squander.spec.JavaScene`
- class `edu.mit.csail.sdg.squander.spec.JField`
- class `edu.mit.csail.sdg.squander.spec.JMethod`
- interface `edu.mit.csail.sdg.squander.spec.JType`
- class `edu.mit.csail.sdg.squander.spec.MethodSpec`
- class `edu.mit.csail.sdg.squander.spec.MyExprEvaluator`
- class `edu.mit.csail.sdg.squander.spec.NameSpace`
- class `edu.mit.csail.sdg.squander.spec.Null`
- class `edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider`
- class `edu.mit.csail.sdg.squander.spec.Source`
- class `edu.mit.csail.sdg.squander.spec.Spec`
- class `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider`
- class `edu.mit.csail.sdg.squander.spec.SqFunc`
- class `edu.mit.csail.sdg.squander.spec.Tr`
- class `edu.mit.csail.sdg.squander.spec.TypeChecker`
- class `edu.mit.csail.sdg.squander.spec.TypeCheckException`
- class `edu.mit.csail.sdg.squander.spec.Visitor< N, M >`

Packages

- package `edu.mit.csail.sdg.squander.spec`
- package `edu.mit.csail.sdg.squander.spec.constant`

Enumerations

- enum `edu::mit::csail::sdg::squander::spec::constant.ConstRel` {

`edu::mit::csail::sdg::squander::spec::constant.IDEN = (JType.Factory.instance.newJType(Object.class,`
`Object.class)),` `edu::mit::csail::sdg::squander::spec::constant.UNIV =`
`(JType.Factory.instance.newJType(Object.class)),` `edu::mit::csail::sdg::squander::spec::constant.NONE =`
`(JType.Factory.instance.newJType(Object.class)),` `edu::mit::csail::sdg::squander::spec::constant.INC =`
`(JType.Factory.instance.newJType(int.class, int.class)),`
`edu::mit::csail::sdg::squander::spec::constant.DEC = (JType.Factory.instance.newJType(int.class,`
`int.class)) }`

7.8.1 Detailed Description

This module contains classes for reading and maintaining specifications and converting them to Forge expressions.

7.8.2 Enumeration Type Documentation

7.8.2.1 enum edu::mit::csail::sdg::squander::spec::constant::ConstRel

Enumerator:

IDEN

UNIV

NONE

INC

DEC

Definition at line 10 of file ConstRel.java.

7.9 API

Classes

- class [edu.mit.csail.sdg.squander.Squander](#)

Packages

- package [edu.mit.csail.sdg.squander](#)

7.9.1 Detailed Description

Public API.

7.10 Utils

Classes

- class [edu.mit.csail.sdg.squander.utils.Counter< T >](#)
- interface [edu.mit.csail.sdg.squander.utils.Predicate< T >](#)
- class [edu.mit.csail.sdg.squander.utils.ReflectionUtils](#)
- class [edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >](#)
- class [edu.mit.csail.sdg.squander.utils.Utils](#)

Packages

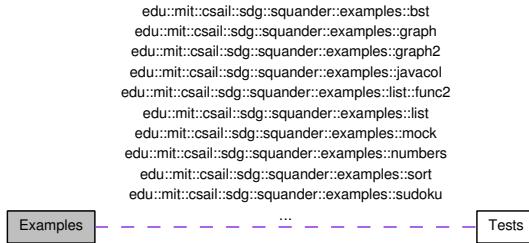
- package [edu.mit.csail.sdg.squander.utils](#)

7.10.1 Detailed Description

This module contains various utility classes.

7.11 Examples

Collaboration diagram for Examples:



Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld](#)
- class [edu.mit.csail.sdg.squander.examples.chess.ChessBoard](#)
- class [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan](#)
- class [edu.mit.csail.sdg.squander.examples.equiv.Node](#)
- class [edu.mit.csail.sdg.squander.examples.func_Utils](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph_2](#)
- class [edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan](#)
- class [edu.mit.csail.sdg.squander.examples.graph2.Graph](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.Collections](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.Str](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx](#)
- class [edu.mit.csail.sdg.squander.examples.list.func.Cons](#)
- class [edu.mit.csail.sdg.squander.examples.list.func.IntList](#)
- class [edu.mit.csail.sdg.squander.examples.list.func2.Cons](#)
- class [edu.mit.csail.sdg.squander.examples.list.func2.IntList](#)
- class [edu.mit.csail.sdg.squander.examples.list.func2.Nil](#)
- class [edu.mit.csail.sdg.squander.examples.list.LinkedList](#)
- class [edu.mit.csail.sdg.squander.examples.list.LinkedList_ind](#)
- interface [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.mock.EmailMessage](#)
- class [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.Arithmetic](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#)
- interface [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#)
- class [edu.mit.csail.sdg.squander.examples.partitioning.Domain](#)
- class [edu.mit.csail.sdg.squander.examples.partitioning.Graph](#)
- class [edu.mit.csail.sdg.squander.examples.partitioning.Literal](#)

- class [edu.mit.csail.sdg.squander.examples.partitioning.Partition](#)
- class [edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree](#)
- class [edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet](#)
- class [edu.mit.csail.sdg.squander.examples.setpoly.IntSet](#)
- class [edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet](#)
- class [edu.mit.csail.sdg.squander.examples.sort.Sort](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5](#)

Packages

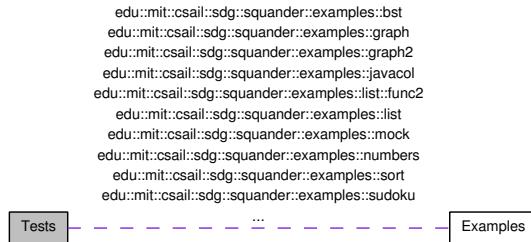
- package [edu.mit.csail.sdg.squander.examples.bst](#)
- package [edu.mit.csail.sdg.squander.examples.chess](#)
- package [edu.mit.csail.sdg.squander.examples.equiv](#)
- package [edu.mit.csail.sdg.squander.examples.func](#)
- package [edu.mit.csail.sdg.squander.examples.graph](#)
- package [edu.mit.csail.sdg.squander.examples.graph2](#)
- package [edu.mit.csail.sdg.squander.examples.javacol](#)
- package [edu.mit.csail.sdg.squander.examples.list.func](#)
- package [edu.mit.csail.sdg.squander.examples.list.func2](#)
- package [edu.mit.csail.sdg.squander.examples.list](#)
- package [edu.mit.csail.sdg.squander.examples.mock](#)
- package [edu.mit.csail.sdg.squander.examples.numbers](#)
- package [edu.mit.csail.sdg.squander.examples.partitioning](#)
- package [edu.mit.csail.sdg.squander.examples.rbt](#)
- package [edu.mit.csail.sdg.squander.examples.setpoly](#)
- package [edu.mit.csail.sdg.squander.examples.sort](#)
- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

7.11.1 Detailed Description

This module contains many examples of usage.

7.12 Tests

Collaboration diagram for Tests:



Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest](#)
- class [edu.mit.csail.sdg.squander.examples.graph.GraphTest](#)
- class [edu.mit.csail.sdg.squander.examples.graph2.GraphTest](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.ListTest](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.MapTest](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.SetTest](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest](#)
- class [edu.mit.csail.sdg.squander.examples.list.func2.ListTest](#)
- class [edu.mit.csail.sdg.squander.examples.list.LinkedListTest](#)
- class [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest](#)
- class [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest](#)
- class [edu.mit.csail.sdg.squander.examples.numbers.SqRootTest](#)
- class [edu.mit.csail.sdg.squander.examples.sort.SortTest](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test](#)
- class [edu.mit.csail.sdg.squander.regressions.Tests](#)
- class [edu.mit.csail.sdg.squander.util.test.TestTools](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)
- package [edu.mit.csail.sdg.squander.examples.graph](#)
- package [edu.mit.csail.sdg.squander.examples.graph2](#)
- package [edu.mit.csail.sdg.squander.examples.javacol](#)
- package [edu.mit.csail.sdg.squander.examples.list.func2](#)
- package [edu.mit.csail.sdg.squander.examples.list](#)
- package [edu.mit.csail.sdg.squander.examples.mock](#)
- package [edu.mit.csail.sdg.squander.examples.numbers](#)
- package [edu.mit.csail.sdg.squander.examples.sort](#)
- package [edu.mit.csail.sdg.squander.examples.sudoku](#)
- package [edu.mit.csail.sdg.squander.regressions](#)
- package [edu.mit.csail.sdg.squander.util.test](#)

7.12.1 Detailed Description

This module contains many JUnit tests.

Chapter 8

Namespace Documentation

8.1 Package edu

Packages

- package [mit](#)

8.2 Package edu.mit

Packages

- package [csail](#)

8.3 Package edu.mit.csail

Packages

- package [sdg](#)

8.4 Package edu.mit.csail.sdg

Packages

- package [annotations](#)
- package [squander](#)

8.5 Package edu.mit.csail.sdg.annotations

Classes

- interface [FuncField](#)

8.6 Package `edu.mit.csail.sdg.squander`

Packages

- package [absstate](#)
- package [annotations](#)
- package [engine](#)
- package [examples](#)
- package [forge_examples](#)
- package [log](#)
- package [options](#)
- package [parser](#)
- package [regressions](#)
- package [serializer](#)
- package [spec](#)
- package [specfile](#)
- package [util](#)
- package [utils](#)

Classes

- class [Squander](#)

8.7 Package edu.mit.csail.sdg.squander.absstate

Classes

- class [AbstractState](#)
- class [FieldValue](#)
- class [ObjAbsState](#)
- class [ObjTuple](#)
- class [ObjTupleSet](#)

8.8 Package edu.mit.csail.sdg.squander.annotations

Classes

- interface [Fresh](#)
- interface [FreshObjects](#)
- interface [Options](#)

8.9 Package edu.mit.csail.sdg.squander.engine

Packages

- package [kk](#)

Classes

- class [ForgeConverter](#)
- class [ForgeEval](#)
- class [Heap](#)
- class [Heap2Bounds](#)
- interface [ISquander](#)
- interface [ISquanderResult](#)
- class [SquanderEval](#)
- class [SquanderEval2](#)
- class [SquanderImpl](#)
- class [SquanderReporter](#)
- class [SquanderResult](#)

8.10 Package edu.mit.csail.sdg.squander.engine.kk

Classes

- class [SquanderKodkod2Impl](#)
- class [SquanderKodkodImpl](#)
- class [SquanderKodkodPart2Impl](#)
- class [SquanderKodkodPartImpl](#)

8.11 Package edu.mit.csail.sdg.squander.examples

Packages

- package [bst](#)
- package [chess](#)
- package [equiv](#)
- package [func](#)
- package [graph](#)
- package [graph2](#)
- package [javacol](#)
- package [list](#)
- package [mock](#)
- package [numbers](#)
- package [partitioning](#)
- package [rbt](#)
- package [setpoly](#)
- package [sort](#)
- package [sudoku](#)

8.12 Package `edu.mit.csail.sdg.squander.examples bst`

Classes

- class [BalancedBST](#)
- class [BinarySearchTree](#)
- class [BST_noParent](#)
- class [BST_noSpecFld](#)
- class [BinarySearchTreeTest](#)
- class [BST_noParentTest](#)
- class [BST_noSpecFldTest](#)

8.13 Package edu.mit.csail.sdg.squander.examples.chess

Classes

- class [ChessBoard](#)
- class [ChessBoardMan](#)

8.14 Package edu.mit.csail.sdg.squander.examples.equiv

Classes

- class [Node](#)

8.15 Package edu.mit.csail.sdg.squander.examples.func

Classes

- class [Utils](#)

8.16 Package edu.mit.csail.sdg.squander.examples.graph

Classes

- class [Graph](#)
- class [Graph_2](#)
- class [HamiltonianMan](#)
- class [GraphTest](#)

8.17 Package edu.mit.csail.sdg.squander.examples.graph2

Classes

- class [Graph](#)
- class [GraphTest](#)

8.18 Package edu.mit.csail.sdg.squander.examples.javacol

Classes

- class [Collections](#)
- class [Str](#)
- class [TypeParamsEx](#)
- class [ListTest](#)
- class [MapTest](#)
- class [SetTest](#)
- class [TypeParamsTest](#)

8.19 Package edu.mit.csail.sdg.squander.examples.list

Packages

- package [func](#)
- package [func2](#)

Classes

- class [LinkedList](#)
- class [LinkedList_ind](#)
- class [LinkedListTest](#)

8.20 Package edu.mit.csail.sdg.squander.examples.list.func

Classes

- class [Cons](#)
- class [IntList](#)

8.21 Package edu.mit.csail.sdg.squander.examples.list.func2

Classes

- class [Cons](#)
- class [IntList](#)
- class [Nil](#)
- class [ListTest](#)

8.22 Package edu.mit.csail.sdg.squander.examples.mock

Classes

- interface [AddressBook](#)
- class [EmailMessage](#)
- class [MockAddressBook](#)
- class [SquanderAddressBook](#)
- class [MockAddressBookTest](#)
- class [TestAddressBook](#)
- class [TestSquanderAddressBook](#)

8.23 Package edu.mit.csail.sdg.squander.examples.numbers

Classes

- class [Arithmetic](#)
- class [DeclarativeSqRoot](#)
- class [ImperativeSqRoot](#)
- interface [ISqRoot](#)
- class [MixedSqRoot](#)
- class [ArithmeticTest](#)
- class [SqRootTest](#)

8.24 Package edu.mit.csail.sdg.squander.examples.partitioning

Classes

- class [Domain](#)
- class [Graph](#)
- class [Literal](#)
- class [Partition](#)

8.25 Package edu.mit.csail.sdg.squander.examples.rbt

Classes

- class [RedBlackTree](#)

8.26 Package edu.mit.csail.sdg.squander.examples.setpoly

Classes

- class [BstIntSet](#)
- class [IntSet](#)
- class [SetIntSet](#)

8.27 Package edu.mit.csail.sdg.squander.examples.sort

Classes

- class [Sort](#)
- class [SortTest](#)

8.28 Package edu.mit.csail.sdg.squander.examples.sudoku

Classes

- class [Sudoku1](#)
- class [Sudoku2](#)
- class [Sudoku3](#)
- class [Sudoku4](#)
- class [Sudoku5](#)
- class [Sudoku1Test](#)

8.29 Package edu.mit.csail.sdg.squander.forge_examples

Classes

- class [BinarySearchTree](#)
- class [TopologicalSort](#)

8.30 Package edu.mit.csail.sdg.squander.log

Classes

- class [Log](#)

8.31 Package edu.mit.csail.sdg.squander.options

Classes

- class [ConfigLoader](#)
- class [GlobalOptions](#)

8.32 Package edu.mit.csail.sdg.squander.parser

Classes

- class [JFSLLexer](#)
- class [JFSLParser](#)
- class [JFSLParserException](#)

8.33 Package edu.mit.csail.sdg.squander.regressions

Classes

- class [Tests](#)

8.34 Package edu.mit.csail.sdg.squander.serializer

Packages

- package [special](#)

Classes

- class [AbstractHeap](#)
- class [AbstractHeapListener](#)
- class [ConsoleHeap](#)
- interface [HeapListener](#)
- interface [IHeap](#)
- class [Serializer](#)

8.35 Package edu.mit.csail.sdg.squander.serializer.special

Classes

- class [ArraySer](#)
- class [DefaultObjSer](#)
- interface [IObjSer](#)
- class [ListSer](#)
- class [MapSer](#)
- class [ObjSerFactory](#)
- class [SetSer](#)
- class [StringSer](#)

8.36 Package edu.mit.csail.sdg.squander.spec

Packages

- package [constant](#)

Classes

- class [ArityMismatchException](#)
- class [ClassSpec](#)
- class [CompositeSpecProvider](#)
- interface [ForgeEnv](#)
- class [ForgeScene](#)
- class [Frame](#)
- class [FrameInference](#)
- class [IncompatibleTypesException](#)
- interface [ISpecProvider](#)
- class [JavaScene](#)
- class [JField](#)
- class [JMethod](#)
- interface [JType](#)
- class [MethodSpec](#)
- class [MyExprEvaluator](#)
- class [NameSpace](#)
- class [Null](#)
- class [ReflectiveSpecProvider](#)
- class [Source](#)
- class [Spec](#)
- class [SpecFileSpecProvider](#)
- class [SqFunc](#)
- class [Tr](#)
- class [TypeChecker](#)
- class [TypeCheckException](#)
- class [Visitor< N, M >](#)

8.37 Package edu.mit.csail.sdg.squander.spec.constant

Classes

- class [ConstRel2Bound](#)
- class [ConstRels](#)
- interface [ConstRelVisitor< E >](#)

Enumerations

```
• enum ConstRel {  
    IDEN      =      (JType.Factory.instance.newJType(Object.class,          Object.class)),  
    UNIV      =      (JType.Factory.instance.newJType(Object.class)),      NONE      =  
    (JType.Factory.instance.newJType(Object.class)), INC = (JType.Factory.instance.newJType(int.class,  
    int.class)),  
    DEC = (JType.Factory.instance.newJType(int.class, int.class)) }
```

8.38 Package `edu.mit.csail.sdg.squander.specfile`

Packages

- package [parser](#)

8.39 Package edu.mit.csail.sdg.squander.specfile.parser

Classes

- class [SpecFileLexer](#)
- class [SpecFileParser](#)
- class [SpecFileParserException](#)
- class [SpecFileVisitor< N >](#)

8.40 Package `edu.mit.csail.sdg.squander.util`

Packages

- package [test](#)

8.41 Package edu.mit.csail.sdg.squander.util.test

Classes

- class [TestUtils](#)

8.42 Package edu.mit.csail.sdg.squander.utils

Classes

- class [Counter< T >](#)
- interface [Predicate< T >](#)
- class [ReflectionUtils](#)
- class [TwoWayMap< K, V >](#)
- class [Utils](#)

Chapter 9

Class Documentation

9.1 edu.mit.csail.sdg.annotations.FuncField Interface Reference

Package Functions

- String[] [value \(\)](#)

9.1.1 Detailed Description

Definition at line 12 of file FuncField.java.

9.1.2 Member Function Documentation

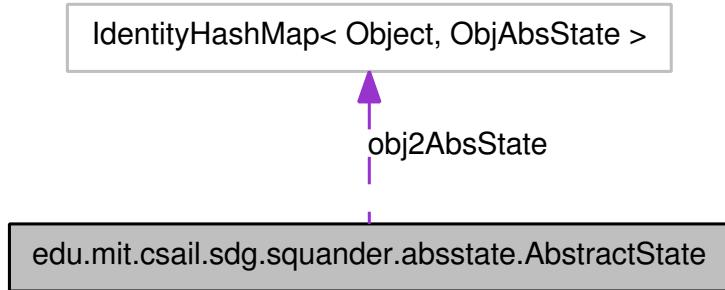
9.1.2.1 String [] [edu.mit.csail.sdg.annotations.FuncField.value \(\)](#) [package]

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/annotations/FuncField.java](#)

9.2 edu.mit.csail.sdg.squander.absstate.AbstractState Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.absstate.AbstractState:



Public Member Functions

- Collection< Object > [getAllObjects \(\)](#)
- [ObjAbsState getObjState \(Object obj\)](#)
- [ObjAbsState getOrAddObjState \(Object obj\)](#)
- void [setObjState \(Object obj, ObjAbsState objState\)](#)
- void [clear \(\)](#)
- Set< Entry< Object, ObjAbsState > > [getEntries \(\)](#)
- String [toString \(\)](#)
- Collection< ObjAbsState > [getAllObjStates \(\)](#)

Private Attributes

- IdentityHashMap< Object, ObjAbsState > [obj2AbsState](#) = new IdentityHashMap<Object, ObjAbsState>()

9.2.1 Detailed Description

Used to store the abstract state (values of spec fields) of all heap objects.

Author:

Aleksandar Milicevic

Definition at line 17 of file AbstractState.java.

9.2.2 Member Function Documentation

9.2.2.1 void edu.mit.csail.sdg.squander.absstate.AbstractState.clear ()

Definition at line 43 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.[obj2AbsState](#).

9.2.2.2 Collection<Object> edu.mit.csail.sdg.squander.absstate.AbstractState.getAllObjects ()

Definition at line 24 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

**9.2.2.3 Collection<ObjAbsState>
edu.mit.csail.sdg.squander.absstate.AbstractState.getAllObjStates
()**

Definition at line 60 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

**9.2.2.4 Set<Entry<Object, ObjAbsState>>
edu.mit.csail.sdg.squander.absstate.AbstractState.getEntries
()**

Definition at line 47 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

9.2.2.5 ObjAbsState edu.mit.csail.sdg.squander.absstate.AbstractState.getObjState (Object *obj*)

Definition at line 26 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), and
edu.mit.csail.sdg.squander.absstate.AbstractState.getOrAddObjState().

**9.2.2.6 ObjAbsState edu.mit.csail.sdg.squander.absstate.AbstractState.getOrAddObjState (Object
obj)**

Definition at line 30 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.getObjState(), and
edu.mit.csail.sdg.squander.absstate.AbstractState.setObjState().

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc().

**9.2.2.7 void edu.mit.csail.sdg.squander.absstate.AbstractState.setObjState (Object *obj*,
ObjAbsState *objState*)**

Definition at line 39 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

Referenced by edu.mit.csail.sdg.squander.absstate.AbstractState.getOrAddObjState().

9.2.2.8 String edu.mit.csail.sdg.squander.absstate.AbstractState.toString ()

Definition at line 52 of file AbstractState.java.

References edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState.

9.2.3 Member Data Documentation

9.2.3.1 `IdentityHashMap<Object, ObjAbsState>`
`edu.mit.csail.sdg.squander.absstate.AbstractState.obj2AbsState = new
IdentityHashMap<Object, ObjAbsState>() [private]`

Keeps abstract states of different heap objects.

Definition at line 22 of file AbstractState.java.

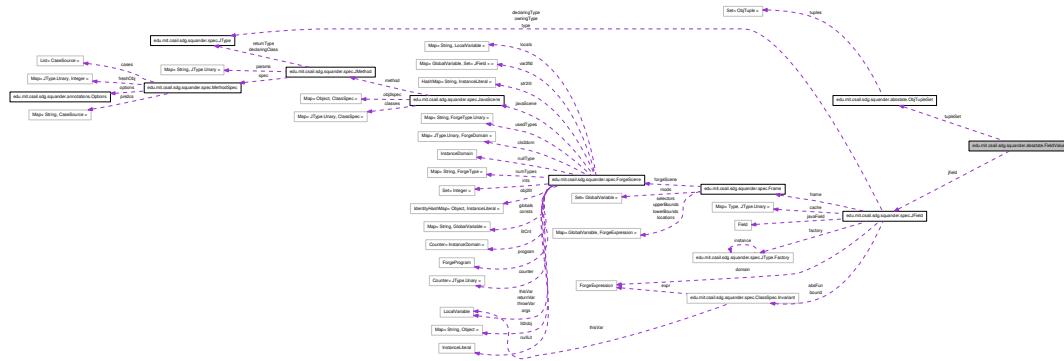
Referenced by `edu.mit.csail.sdg.squander.absstate.AbstractState.clear()`,
`edu.mit.csail.sdg.squander.absstate.AbstractState.getAllObjects()`, `edu.mit.csail.sdg.squander.absstate.AbstractState.getAllObjS()`,
`edu.mit.csail.sdg.squander.absstate.AbstractState.getEntries()`, `edu.mit.csail.sdg.squander.absstate.AbstractState.getObjState()`,
`edu.mit.csail.sdg.squander.absstate.AbstractState.setObjState()`, and `edu.mit.csail.sdg.squander.absstate.AbstractState.toString()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/absstate/AbstractState.java`

9.3 edu.mit.csail.sdg.squander.absstate.FieldValue Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.absstate.FieldValue



Public Member Functions

- `FieldValue (JField jfield, int arity)`
 - `JField jfield ()`
 - `ObjTupleSet tupleSet ()`
 - `void addTuple (ObjTuple tuple)`
 - `void addAllTuples (ObjTupleSet value)`
 - `String toString ()`

Private Attributes

- final JField jfield
 - final ObjTupleSet tupleSet

9.3.1 Detailed Description

Used to represent the value of a spec field. It consists of a field definition and its value (which is a set of tuples).

Author:

Aleksandar Milicevic

Definition at line 15 of file FieldValue.java.

9.3.2 Constructor & Destructor Documentation

9.3.2.1 edu.mit.csail.sdg.squander.absstate.FieldValue.FieldValue (JField *jfield*, int *arity*)

Definition at line 22 of file FieldValue.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet().

9.3.3 Member Function Documentation

9.3.3.1 void edu.mit.csail.sdg.squander.absstate.FieldValue.addAllTuples (ObjTupleSet *value*)

Definition at line 38 of file FieldValue.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap().

9.3.3.2 void edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple (ObjTuple *tuple*)

Definition at line 34 of file FieldValue.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), and
edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet().

Referenced by edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc(),
edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.ListSer.absFunc(),
edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc(),
and edu.mit.csail.sdg.squander.absstate.FieldValue.addAllTuples().

9.3.3.3 JField edu.mit.csail.sdg.squander.absstate.FieldValue.jfield ()

Definition at line 28 of file FieldValue.java.

Referenced by edu.mit.csail.sdg.squander.absstate.FieldValue.toString().

9.3.3.4 String edu.mit.csail.sdg.squander.absstate.FieldValue.toString ()

Definition at line 44 of file FieldValue.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.jfield(), edu.mit.csail.sdg.squander.spec.JField.name,
and edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet().

9.3.3.5 ObjTupleSet edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet ()

Definition at line 30 of file FieldValue.java.

Referenced by edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple(),
edu.mit.csail.sdg.squander.absstate.FieldValue.FieldValue(), and edu.mit.csail.sdg.squander.absstate.FieldValue.toString().

9.3.4 Member Data Documentation

9.3.4.1 final JField edu.mit.csail.sdg.squander.absstate.FieldValue.jfield [private]

Field definition

Definition at line 18 of file FieldValue.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(),
edu.mit.csail.sdg.squander.absstate.ObjAbsState.add(), edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc(),
edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc(), edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc(),
edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc(), and
edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc().

9.3.4.2 final ObjTupleSet edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet [private]

Field value (set of tuples of Java objects)

Definition at line 20 of file `FieldValue.java`.

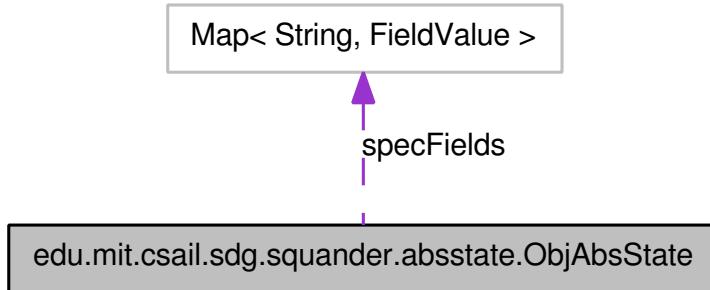
Referenced by `edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc()`, and `edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreElems()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/absstate/FieldValue.java`

9.4 edu.mit.csail.sdg.squander.absstate.ObjAbsState Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.absstate.ObjAbsState:



Public Member Functions

- [ObjAbsState \(Object obj\)](#)
- [Object getObj \(\)](#)
- [Iterator< FieldValue > iterator \(\)](#)
- [void add \(FieldValue e\)](#)
- [FieldValue getSpecField \(String name\)](#)
- [FieldValue getOrAddSpecField \(JField jf, int arity\)](#)
- [String toString \(\)](#)

Private Attributes

- final Object [obj](#)
- Map< String, FieldValue > [specFields](#) = new HashMap<String, FieldValue>()

9.4.1 Detailed Description

The abstract state of an object consists of [FieldValues](#).

Author:

Aleksandar Milicevic

Definition at line 19 of file ObjAbsState.java.

9.4.2 Constructor & Destructor Documentation

9.4.2.1 edu.mit.csail.sdg.squander.absstate.ObjAbsState.ObjAbsState (Object obj)

Definition at line 26 of file ObjAbsState.java.

9.4.3 Member Function Documentation

9.4.3.1 void edu.mit.csail.sdg.squander.absstate.ObjAbsState.add (FieldValue *e*)

Definition at line 39 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.jfield, edu.mit.csail.sdg.squander.spec.JField.name, and edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc().

9.4.3.2 Object edu.mit.csail.sdg.squander.absstate.ObjAbsState.getObj ()

Definition at line 30 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.ObjAbsState.obj.

9.4.3.3 FieldValue edu.mit.csail.sdg.squander.absstate.ObjAbsState.getOrAddSpecField (JField *jf*, int *arity*)

Definition at line 47 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.ObjAbsState.getSpecField(), edu.mit.csail.sdg.squander.spec.JField.name, and edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields.

9.4.3.4 FieldValue edu.mit.csail.sdg.squander.absstate.ObjAbsState.getSpecField (String *name*)

Definition at line 43 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), and edu.mit.csail.sdg.squander.absstate.ObjAbsState.getOrAddSpecField().

9.4.3.5 Iterator<FieldValue> edu.mit.csail.sdg.squander.absstate.ObjAbsState.iterator ()

Definition at line 35 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields.

9.4.3.6 String edu.mit.csail.sdg.squander.absstate.ObjAbsState.toString ()

Definition at line 58 of file ObjAbsState.java.

References edu.mit.csail.sdg.squander.absstate.ObjAbsState.obj, and edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields.

9.4.4 Member Data Documentation

9.4.4.1 final Object edu.mit.csail.sdg.squander.absstate.ObjAbsState.obj [private]

Definition at line 21 of file ObjAbsState.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjAbsState.getObj(), and edu.mit.csail.sdg.squander.absstate.ObjAbsState.toString().

9.4.4.2 `Map<String, FieldValue> edu.mit.csail.sdg.squander.absstate.ObjAbsState.specFields = new HashMap<String, FieldValue>() [private]`

Values of spec fields

Definition at line 24 of file ObjAbsState.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjAbsState.add(), edu.mit.csail.sdg.squander.absstate.ObjAbsState.getOrAdd(),
edu.mit.csail.sdg.squander.absstate.ObjAbsState.getSpecField(), edu.mit.csail.sdg.squander.absstate.ObjAbsState.iterator(),
and edu.mit.csail.sdg.squander.absstate.ObjAbsState.toString().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/absstate/[ObjAbsState.java](#)

9.5 edu.mit.csail.sdg.squander.absstate.ObjTuple Class Reference

Public Member Functions

- [ObjTuple](#) (Object...tuple)
- [ObjTuple](#) (List< Object > tuple)
- int [arity](#) ()
- Object[] [atoms](#) ()
- [ObjTuple projection](#) (int startCol, int endCol)
- Object [get](#) (int index)
- Object[] [tuple](#) ()
- Iterator< Object > [iterator](#) ()
- [ObjTuple product](#) (ObjTuple t)
- int [hashCode](#) ()
- boolean [equals](#) (Object obj)
- String [toString](#) ()

Static Public Member Functions

- static [ObjTuple product](#) (ObjTuple tuple, Object atom)
- static [ObjTuple product](#) (ObjTuple t1, ObjTuple t2)

Static Private Member Functions

- static boolean [arrayEquals](#) (Object[] a1, Object[] a2)
- static boolean [objLiteralsEquals](#) (Object o1, Object o2)

Private Attributes

- final int [arity](#)
- final Object[] [tuple](#)

9.5.1 Detailed Description

A tuple of objects. An array of objects is used as a representation.

Author:

Aleksandar Milicevic

Definition at line 18 of file ObjTuple.java.

9.5.2 Constructor & Destructor Documentation

9.5.2.1 edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple (Object... tuple)

Definition at line 23 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.arity(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTuple.product(), and
edu.mit.csail.sdg.squander.absstate.ObjTuple.projection().

9.5.2.2 edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple (List< Object > *tuple*)

Definition at line 28 of file ObjTuple.java.

9.5.3 Member Function Documentation**9.5.3.1 int edu.mit.csail.sdg.squander.absstate.ObjTuple.arity ()**

Definition at line 32 of file ObjTuple.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTuple.equals(), edu.mit.csail.sdg.squander.absstate.ObjTuple.hashCode(),
edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.product().

**9.5.3.2 static boolean edu.mit.csail.sdg.squander.absstate.ObjTuple.arrayEquals (Object[] *a1*,
Object[] *a2*) [static, private]**

Definition at line 98 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.objLiteralsEquals().

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTuple.equals().

9.5.3.3 Object [] edu.mit.csail.sdg.squander.absstate.ObjTuple.atoms ()

Definition at line 33 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTuple.product().

9.5.3.4 boolean edu.mit.csail.sdg.squander.absstate.ObjTuple.equals (Object *obj*)

Definition at line 66 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.arity(), edu.mit.csail.sdg.squander.absstate.ObjTuple.arrayEquals(),
and edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

9.5.3.5 Object edu.mit.csail.sdg.squander.absstate.ObjTuple.get (int *index*)

Definition at line 41 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

9.5.3.6 int edu.mit.csail.sdg.squander.absstate.ObjTuple.hashCode ()

Definition at line 57 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.arity(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

9.5.3.7 Iterator<Object> edu.mit.csail.sdg.squander.absstate.ObjTuple.iterator ()

Definition at line 48 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

9.5.3.8 static boolean edu.mit.csail.sdg.squander.absstate.ObjTuple.objLiteralsEquals (Object o1, Object o2) [static, private]

Definition at line 112 of file ObjTuple.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTuple.arrayEquals().

9.5.3.9 static ObjTuple edu.mit.csail.sdg.squander.absstate.ObjTuple.product (ObjTuple t1, ObjTuple t2) [static]

Definition at line 90 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.arity(), edu.mit.csail.sdg.squander.absstate.ObjTuple.atoms(), edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

9.5.3.10 static ObjTuple edu.mit.csail.sdg.squander.absstate.ObjTuple.product (ObjTuple tuple, Object atom) [static]

Definition at line 86 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple(), and
edu.mit.csail.sdg.squander.absstate.ObjTuple.product().

9.5.3.11 ObjTuple edu.mit.csail.sdg.squander.absstate.ObjTuple.product (ObjTuple t)

Definition at line 52 of file ObjTuple.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.product().

9.5.3.12 ObjTuple edu.mit.csail.sdg.squander.absstate.ObjTuple.projection (int startCol, int endCol)

Definition at line 35 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple(), and
edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

9.5.3.13 String edu.mit.csail.sdg.squander.absstate.ObjTuple.toString ()

Definition at line 82 of file ObjTuple.java.

References edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple().

9.5.3.14 Object [] edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple ()

Definition at line 45 of file ObjTuple.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTuple.atoms(), edu.mit.csail.sdg.squander.absstate.ObjTuple.equals(), edu.mit.csail.sdg.squander.absstate.ObjTuple.get(), edu.mit.csail.sdg.squander.absstate.ObjTuple.hashCode(), edu.mit.csail.sdg.squander.absstate.ObjTuple.iterator(), edu.mit.csail.sdg.squander.absstate.ObjTuple.ObjTuple(), edu.mit.csail.sdg.squander.absstate.ObjTuple.projection(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.toString().

9.5.4 Member Data Documentation

9.5.4.1 final int edu.mit.csail.sdg.squander.absstate.ObjTuple.arity [private]

Definition at line 20 of file ObjTuple.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound(), edu.mit.csail.sdg.squander.absstate.ObjTuple.equals(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.Kodkod(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.product().

9.5.4.2 final Object [] edu.mit.csail.sdg.squander.absstate.ObjTuple.tuple [private]

Definition at line 21 of file ObjTuple.java.

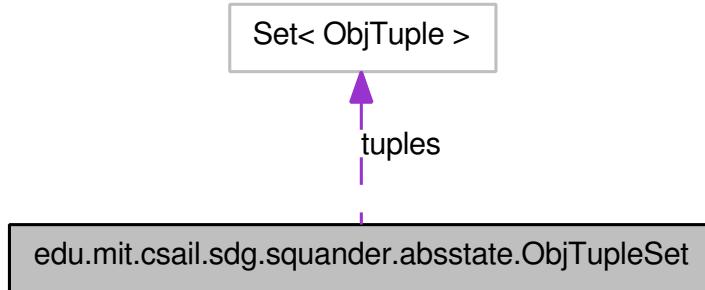
Referenced by edu.mit.csail.sdg.squander.absstate.ObjTuple.equals() and edu.mit.csail.sdg.squander.absstate.ObjTuple.product().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/absstate/ObjTuple.java

9.6 edu.mit.csail.sdg.squander.absstate.ObjTupleSet Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.absstate.ObjTupleSet:



Public Member Functions

- `ObjTupleSet (int arity)`
- `ObjTupleSet (ObjTuple val)`
- `int arity ()`
- `boolean isEmpty ()`
- `boolean isTuple ()`
- `boolean isUnary ()`
- `boolean add (ObjTuple e)`
- `boolean contains (Object o)`
- `boolean remove (Object o)`
- `int size ()`
- `Set< ObjTuple > tuples ()`
- `Iterator< ObjTuple > iterator ()`
- `String toString ()`
- `ObjTupleSet join (ObjTupleSet ots)`
- `ObjTupleSet product (ObjTupleSet ots)`
- `ObjTupleSet union (ObjTupleSet ots)`
- `ObjTupleSet union (ObjTuple val)`
- `ObjTupleSet diff (ObjTupleSet ots)`
- `boolean subsetOf (ObjTupleSet rhs)`
- `ObjTupleSet intersection (ObjTupleSet ots)`
- `int hashCode ()`
- `boolean equals (Object obj)`

Static Public Member Functions

- static `ObjTupleSet singleTuple (Object...tuple)`
- static `ObjTupleSet filter (ObjTupleSet otset, int i, Object obj)`
- static `ObjTupleSet join (ObjTupleSet lhs, ObjTupleSet rhs)`
- static `ObjTupleSet product (ObjTupleSet lhs, ObjTupleSet rhs)`
- static `ObjTupleSet convertFrom (ForgeConstant val, ForgeConverter fconv)`
- static `ObjTupleSet union (ObjTupleSet lhs, ObjTupleSet rhs)`
- static `ObjTupleSet diff (ObjTupleSet lhs, ObjTupleSet rhs)`
- static `ObjTupleSet intersection (ObjTupleSet lhs, ObjTupleSet rhs)`

Static Private Member Functions

- static [ObjTuple convertToObjTuple](#) (Tuple t, [ForgeConverter](#) fconv)

Private Attributes

- final int [arity](#)
- final Set< [ObjTuple](#) > [tuples](#) = new HashSet<[ObjTuple](#)>()

9.6.1 Detailed Description

A set of tuples of objects ([ObjTuple](#))

Author:

Aleksandar Milicevic

Definition at line 23 of file ObjTupleSet.java.

9.6.2 Constructor & Destructor Documentation

9.6.2.1 [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet \(int arity\)](#)

Definition at line 28 of file ObjTupleSet.java.

Referenced by [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertFrom\(\)](#),
[edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff\(\)](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.filter\(\)](#),
[edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection\(\)](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join\(\)](#),
[edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product\(\)](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.singleTuple\(\)](#),
and [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union\(\)](#).

9.6.2.2 [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet \(ObjTuple val\)](#)

Definition at line 32 of file ObjTupleSet.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTuple.arity](#), and [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples\(\)](#).

9.6.3 Member Function Documentation

9.6.3.1 [boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add \(ObjTuple e\)](#)

Definition at line 42 of file ObjTupleSet.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTuple.arity](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity\(\)](#), and [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound\(\)](#),
[edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom\(\)](#),
[edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertFrom\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.extent\(\)](#),
[edu.mit.csail.sdg.squander.absstate.ObjTupleSet.filter\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExtent\(\)](#),
[edu.mit.csail.sdg.squander.engine.SquanderEval2.intAtom\(\)](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection\(\)](#),
[edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodPartImpl](#).

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.objAtom(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.singleTuple(), edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visit()
and edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitInc().

9.6.3.2 int edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity ()

Definition at line 37 of file ObjTupleSet.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals()
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.hashCode(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isUnary(),
and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product().

9.6.3.3 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.contains (Object o)

Definition at line 47 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

9.6.3.4 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertFrom (ForgeConstant val, ForgeConverter fconv) [static]

Converts the given Forge constant to a tuple set

Definition at line 158 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertToC
and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet().

9.6.3.5 static ObjTuple edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertToObjTuple (Tuple t, ForgeConverter fconv) [static, private]

Converts the given Forge tuple to [ObjTuple](#)

Definition at line 170 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj().

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertFrom().

9.6.3.6 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff (ObjTupleSet lhs, ObjTupleSet rhs) [static]

Returns the set difference of the two given tuple sets

Definition at line 193 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSe
and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

9.6.3.7 ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff (ObjTupleSet ots)

Performs set difference and returns the result as a new tuple set

Definition at line 64 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff().

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff(), and
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitDiff().

9.6.3.8 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals (Object *obj*)

Definition at line 80 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity(), and
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visitEquals().

9.6.3.9 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.filter (ObjTupleSet *otset*, int *i*, Object *obj*) [static]

Returns a new tuple set containing the tuples from *otset* which contain object *obj* at position *i*.

Definition at line 111 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity,
and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet().

9.6.3.10 int edu.mit.csail.sdg.squander.absstate.ObjTupleSet.hashCode ()

Definition at line 71 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity(), and
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

9.6.3.11 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection (ObjTupleSet *lhs*, ObjTupleSet *rhs*) [static]

Returns the set intersection of the two given tuple sets

Definition at line 204 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity,
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

9.6.3.12 ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection (ObjTupleSet *ots*)

Performs set intersection and returns the result as a new tuple set

Definition at line 68 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection().

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection(), and
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntersection().

9.6.3.13 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isEmpty ()

Definition at line 38 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(),
edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap(), and
edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.6.3.14 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isTuple ()

Definition at line 39 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.6.3.15 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isUnary ()

Definition at line 40 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity().

9.6.3.16 Iterator<ObjTuple> edu.mit.csail.sdg.squander.absstate.ObjTupleSet.iterator ()

Definition at line 52 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

9.6.3.17 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join (ObjTupleSet lhs, ObjTupleSet rhs) [static]

Performs relational join of the given two tuple sets and returns the result as a new tuple set.

Definition at line 124 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet().

9.6.3.18 ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join (ObjTupleSet ots)

Performs relational join and returns the result as a new tuple set

Definition at line 56 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join(), and
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitJoin().

**9.6.3.19 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product
(ObjTupleSet *lhs*, ObjTupleSet *rhs*) [static]**

Performs relational product of the given two tuple sets and returns the result as a new tuple set.

Definition at line 146 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet(), edu.mit.csail.sdg.squander.absstate.ObjTuple.product(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

9.6.3.20 ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product (ObjTupleSet *ots*)

Performs relational product and returns the result as a new tuple set

Definition at line 58 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExtent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.visitProduct(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitProduct()

9.6.3.21 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.remove (Object *o*)

Definition at line 48 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

**9.6.3.22 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.singleTuple (Object...
tuple) [static]**

Returns a new tuple set containing only the given tuple

Definition at line 101 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet().

9.6.3.23 int edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size ()

Definition at line 49 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderResult.convertForgeSetToJavaArray(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion().

9.6.3.24 boolean edu.mit.csail.sdg.squander.absstate.ObjTupleSet.subsetOf (ObjTupleSet *rhs*)

Returns whether this tuple set is a subset of the given tuple set

Definition at line 66 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visitSubset().

9.6.3.25 String edu.mit.csail.sdg.squander.absstate.ObjTupleSet.toString ()

Definition at line 53 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

9.6.3.26 Set<ObjTuple> edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples ()

Definition at line 50 of file ObjTupleSet.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.contains(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.hashCode(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isEmpty(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isTuple(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.iterator(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.remove(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.subsetOf(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.toString().

9.6.3.27 static ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union (ObjTupleSet *lhs*, ObjTupleSet *rhs*) [static]

Returns the set union of the two given tuple sets.

Definition at line 182 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet(), and
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

9.6.3.28 ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union (ObjTuple *val*)

Returns the union of this tuple set and the given tuple

Definition at line 62 of file ObjTupleSet.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.ObjTupleSet().

9.6.3.29 ObjTupleSet edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union (ObjTupleSet *ots*)

Returns the union of this tuple set and the given tuple set

Definition at line 60 of file ObjTupleSet.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visitClosure(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitRelUnion(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitU

9.6.4 Member Data Documentation

9.6.4.1 final int edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity [private]

Definition at line 25 of file ObjTupleSet.java.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(), edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.conc

edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2fc(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.filter(), edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection(), edu.mit.csail.sdg.squander.engine.SquanderEval2.intValue(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product(),
edu.mit.csail.sdg.squander.serializer.special.SetSer.restoreElems(), edu.mit.csail.sdg.squander.serializer.special.MapSer.restore(),
edu.mit.csail.sdg.squander.serializer.special.ListSer.restoreElems(), edu.mit.csail.sdg.squander.serializer.special.ArraySer.restore(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitClosure(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion().

9.6.4.2 final Set<ObjTuple> edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples = new HashSet<ObjTuple>() [private]

Definition at line 26 of file ObjTupleSet.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(),
edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(),
edu.mit.csail.sdg.squander.engine.SquanderResult.convertForgeSetToJavaArray(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(),
edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection(), edu.mit.csail.sdg.squander.engine.SquanderEval2.intValue(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.printObjSet(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product(),
edu.mit.csail.sdg.squander.serializer.special.ListSer.restoreElems(), edu.mit.csail.sdg.squander.serializer.special.ArraySer.restore(),
edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.subsetOrEqual(),
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitClosure(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists(),
and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/absstate/[ObjTupleSet.java](#)

9.7 edu.mit.csail.sdg.squander.annotations.Fresh Interface Reference

Package Functions

- [FreshObjects\[\] value \(\)](#)

9.7.1 Detailed Description

Specifies creation of new objects.

Author:

Aleksandar Milicevic

Definition at line 21 of file Fresh.java.

9.7.2 Member Function Documentation

9.7.2.1 FreshObjects [] edu.mit.csail.sdg.squander.annotations.Fresh.value () [package]

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/annotations/Fresh.java](#)

9.8 edu.mit.csail.sdg.squander.annotations.FreshObjects Interface Reference

Public Member Functions

- Class<?>[] [typeParams](#) () default
- int [num](#) () default 1

Package Functions

- Class<?> [cls](#) ()

9.8.1 Detailed Description

Specifies creation of new objects of a given class.

Author:

Aleksandar Milicevic

Definition at line 18 of file FreshObjects.java.

9.8.2 Member Function Documentation

9.8.2.1 Class<?> [edu.mit.csail.sdg.squander.annotations.FreshObjects.cls](#) () [package]

class of the object to be created

Referenced by [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive\(\)](#).

9.8.2.2 int [edu.mit.csail.sdg.squander.annotations.FreshObjects.num](#) ()

number of instances to be created

Referenced by [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive\(\)](#).

9.8.2.3 Class<?> [] [edu.mit.csail.sdg.squander.annotations.FreshObjects.typeParams](#) ()

type parameters of [cls](#) (if any)

Definition at line 23 of file FreshObjects.java.

Referenced by [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive\(\)](#).

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/annotations/FreshObjects.java](#)

9.9 edu.mit.csail.sdg.squander.annotations.Options Interface Reference

Public Member Functions

- boolean [ensureAllInts \(\)](#) default false
- boolean [solveAll \(\)](#) default false

Package Functions

- int [bitwidth \(\)](#) default 4

9.9.1 Detailed Description

Specification specific options.

Author:

Aleksandar Milicevic

Definition at line 21 of file Options.java.

9.9.2 Member Function Documentation

9.9.2.1 int edu.mit.csail.sdg.squander.annotations.Options.bitwidth () [package]

min integer bitwidth to be used

9.9.2.2 boolean edu.mit.csail.sdg.squander.annotations.Options.ensureAllInts ()

whether an atom should be created for all ints (within the bitwidth) when translating to Kodkod

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.9.2.3 boolean edu.mit.csail.sdg.squander.annotations.Options.solveAll ()

whether to search for all solutions (one at a time, of course)

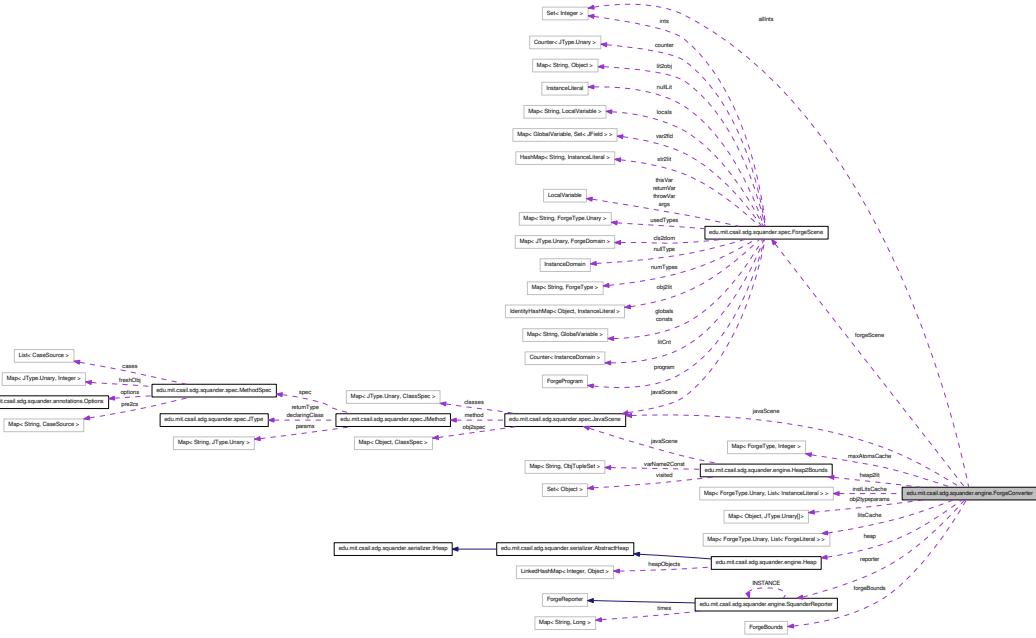
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

The documentation for this interface was generated from the following file:

- src/edu/mit/csail/sdg/squander/annotations/[Options.java](#)

9.10 edu.mit.csail.sdg.squander.engine.ForgeConverter Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.engine.ForgeConverter:



Public Member Functions

- `ForgeConverter` (`SquanderReporter reporter`, `Object...heapRootObjects`)
 - void `setCallContext` (`Object caller`, `JMethod m`, `Object[] methodArgs`)
 - void `boundSpecFields` (`IEvaluator eval`)
 - `JavaScene javaScene` ()
 - `ForgeScene forgeScene` ()
 - `Heap2Bounds heap2Lit` ()
 - `ForgeBounds forgeBounds` ()
 - String `printBounds` ()
 - `ForgeProcedure proc` ()
 - `Spec getSpec` ()
 - `SolveOptions forgeOptions` ()
 - `Iterable< Integer > allInts` ()
 - `List< InstanceLiteral > findInstLiteralsForType` (`ForgeType.Unary colType`)
 - `List< ForgeLiteral > findLiteralsForType` (`ForgeType.Unary colType`)
 - `ObjTupleSet extent` (`ForgeType t`)
 - Object `atom2obj` (`ForgeAtom atom`)
 - Object `lit2obj` (`ForgeLiteral lit`)
 - int `minInt` ()
 - int `maxInt` ()
 - `ForgeConstant conv2fc` (`ObjTupleSet objTupleSet`, `ForgeBounds bounds`)
 - `ForgeAtom obj2atom` (`Object obj`, `ForgeBounds bounds`)

Static Public Member Functions

- static Object [mapToBoolean](#) (final ForgeAtom atom)
- static int [mapToInt](#) (final ForgeAtom atom)

Private Member Functions

- void [finish](#) ()
- void [createFreshObjects](#) ([MethodSpec](#) ms)
- int [getMaxAtomsForType](#) ([ForgeType](#) ft)
- int [maxSize](#) ([ForgeDomain](#) d)
- String [printObjSet](#) ([ObjTupleSet](#) objSet)
- void [initJavaScene](#) ()
- void [boundOtherStuff](#) ()
- [ForgeBounds](#) [makeForgeBounds](#) ([Heap2Bounds](#) heap2lit)
- String [printUniverseStats](#) ()

Private Attributes

- final [SquanderReporter](#) reporter
- final [Heap](#) heap
- final [JavaScene](#) javaScene
- [ForgeScene](#) forgeScene
- [Heap2Bounds](#) heap2lit
- [ForgeBounds](#) forgeBounds
- boolean [finished](#) = false
- Map< Object, JType.Unary[]> [obj2typeparams](#) = new IdentityHashMap<Object, Unary[]>()
- Map< [ForgeType](#), Integer > [maxAtomsCache](#) = new HashMap<[ForgeType](#), Integer>()
- Set< Integer > [allInts](#) = null
- Map< [ForgeType.Unary](#), List< [InstanceLiteral](#) > > [instLitsCache](#) = new HashMap<[ForgeType.Unary](#), List<[InstanceLiteral](#)>>()
- Map< [ForgeType.Unary](#), List< [ForgeLiteral](#) > > [litsCache](#) = new HashMap<[ForgeType.Unary](#), List<[ForgeLiteral](#)>>()

9.10.1 Detailed Description

This class handles conversion of the heap (heap) and specs (embodied inside javaScene) to Forge domains, literals, and bounds (embodied inside forgeScene).

Author:

Aleksandar Milicevic

Definition at line 74 of file ForgeConverter.java.

9.10.2 Constructor & Destructor Documentation

9.10.2.1 edu.mit.csail.sdg.squander.engine.ForgeConverter.ForgeConverter (SquanderReporter reporter, Object... heapRootObjects)

Parameters:

heapRootObjects heap root objects

Definition at line 89 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.heap, and edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene().

9.10.3 Member Function Documentation

9.10.3.1 Iterable<Integer> edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts ()

Definition at line 302 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.ints, edu.mit.csail.sdg.squander.spec.ForgeScene.isEnsureAllInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt(). Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType().

9.10.3.2 Object edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj (ForgeAtom atom)

Converts the given Forge atom back to Java object

Definition at line 383 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.mapToBoolean(), edu.mit.csail.sdg.squander.engine.ForgeConverter.mapToInt(), and edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit(). Referenced by edu.mit.csail.sdg.squander.absstate.ObjTupleSet.convertToObjTuple().

9.10.3.3 void edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff () [private]

Definition at line 489 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound(), edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.spec.JavaScene.caller, edu.mit.csail.sdg.squander.spec.ForgeScene.consts, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit, edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), edu.mit.csail.sdg.squander.spec.JavaScene.methodArgs, and edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar. Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.10.3.4 void edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields (IEvaluator eval)

Call this method after executing the precondition spec and before executing the postcondition spec to bound the values of spec fields in the pre-state.

Definition at line 118 of file ForgeConverter.java.

References [edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound\(\)](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2fc\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds\(\)](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.forgescene\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.global\(\)](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene\(\)](#),
and [edu.mit.csail.sdg.squander.spec.JavaScene.specFields\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod\(\)](#).

9.10.3.5 ForgeConstant [edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2fc \(ObjTupleSet objTupleSet, ForgeBounds bounds\)](#)

Converts a given tuple set to Forge constant

Definition at line 434 of file ForgeConverter.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity](#), and [edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2at](#)

Referenced by [edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper\(\)](#), and
[edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds\(\)](#).

9.10.3.6 void [edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects \(MethodSpec ms\) \[private\]](#)

Definition at line 190 of file ForgeConverter.java.

References [edu.mit.csail.sdg.squander.engine.Heap.addObject\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingF](#)
[edu.mit.csail.sdg.squander.spec.MethodSpec.freshObjects\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.heap](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2typeparams](#), and [edu.mit.csail.sdg.squander.engine.ForgeConverter.repor](#)

Referenced by [edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext\(\)](#).

9.10.3.7 ObjTupleSet [edu.mit.csail.sdg.squander.engine.ForgeConverter.extent \(ForgeType t\)](#)

Definition at line 359 of file ForgeConverter.java.

References [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.findLitera](#)
[edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj\(\)](#), and [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderEval2.visit\(\)](#),
[edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists\(\)](#),
and [edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion\(\)](#).

9.10.3.8 List<InstanceLiteral> [edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLiteralsForType \(ForgeType.Unary colType\)](#)

Definition at line 320 of file ForgeConverter.java.

References [edu.mit.csail.sdg.squander.engine.ForgeConverter.finished](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forge](#)
[edu.mit.csail.sdg.squander.engine.ForgeConverter.instLitsCache](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.program](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations\(\)](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits\(\)](#).

9.10.3.9 List<ForgeLiteral>

**edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType
(ForgeType.Unary *colType*)**

Returns all Forge literals of the given unary Forge type

Definition at line 338 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findIn edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.litsCache, and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExt
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.nextAtomForLiteral(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processFirst(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext(),
edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartI
and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

9.10.3.10 void edu.mit.csail.sdg.squander.engine.ForgeConverter.finish () [private]

Definition at line 140 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(),
edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(), edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod
edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateIn
edu.mit.csail.sdg.squander.annotations.Options.ensureAllInts(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts,
edu.mit.csail.sdg.squander.spec.ForgeScene.ensureInt(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finished,
edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.Heap.getHeapObjects(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.getMaxAtomsForType(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.heap, edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit,
edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), edu.mit.csail.sdg.squander.spec.JavaScene.method,
edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec(), edu.mit.csail.sdg.squander.spec.ForgeScene.numTypes,
edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2typeparams, edu.mit.csail.sdg.squander.spec.MethodSpec.options,
edu.mit.csail.sdg.squander.engine.ForgeConverter.printUniverseStats(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.reachab
edu.mit.csail.sdg.squander.engine.ForgeConverter.reporter, edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingSpecs(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.traver
and edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.10.3.11 ForgeBounds edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds ()

Definition at line 133 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2
and edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields().

9.10.3.12 SolveOptions edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeOptions ()

Definition at line 292 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, and
edu.mit.csail.sdg.squander.engine.ForgeConverter.reporter.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec().

9.10.3.13 ForgeScene edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene ()

Definition at line 131 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj(), edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherSt
edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findIn
edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.fin
edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec(), edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.max
edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2atom(), edu.mit.csail.sdg.squander.engine.ForgeConverter.printObjSet(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.printUniverseStats(), edu.mit.csail.sdg.squander.engine.ForgeConverter.proc
and edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

**9.10.3.14 int edu.mit.csail.sdg.squander.engine.ForgeConverter.getMaxAtomsForType (ForgeType
ft) [private]**

Definition at line 207 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.maxAtomsCache, and
edu.mit.csail.sdg.squander.engine.ForgeConverter maxSize().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.10.3.15 Spec edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec ()

Definition at line 284 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.spec.Spec.addCase(), edu.mit.csail.sdg.squander.spec.MethodSpec.cases,
edu.mit.csail.sdg.squander.engine.ForgeConverter.forgescene(), edu.mit.csail.sdg.squander.spec.MethodSpec.isHelper(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), and edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getSpec().

9.10.3.16 Heap2Bounds edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit ()

Definition at line 132 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, and
edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.eval(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodR
and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds().

9.10.3.17 void edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene () [private]

Definition at line 462 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap(), edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.reporter, and edu.mit.csail.sdg.squander.serializer.AbstractHeap.serialize().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.10.3.18 JavaScene edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene ()

Definition at line 130 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(), edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finished(), edu.mit.csail.sdg.squander.engine.ForgeConverter.ForgeConverter(), edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec(), edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.proc(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.10.3.19 Object edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj (ForgeLiteral *lit*)

Converts the given Forge literal back to Java object

Definition at line 398 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExtent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visit()

9.10.3.20 ForgeBounds edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds (Heap2Bounds *heap2lit*) [private]

Definition at line 514 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2lit(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingBounds(), edu.mit.csail.sdg.squander.spec.ForgeScene.domains(), edu.mit.csail.sdg.squander.spec.ForgeScene.findVar(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.engine.ForgeConverter.reporter.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.forgBounds().

9.10.3.21 static Object edu.mit.csail.sdg.squander.engine.ForgeConverter.mapToBoolean (final ForgeAtom *atom*) [static]

Definition at line 410 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj().

9.10.3.22 static int edu.mit.csail.sdg.squander.engine.ForgeConverter.mapToInt (final ForgeAtom atom) [static]

Definition at line 414 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj().

9.10.3.23 int edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt ()

Returns the min int within the bounds

Definition at line 425 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Bounds(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW().

Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.create().

9.10.3.24 int edu.mit.csail.sdg.squander.engine.ForgeConverter.maxSize (ForgeDomain d) [private]

Definition at line 225 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.forgescene(), edu.mit.csail.sdg.squander.spec.Forgescene.ints(), edu.mit.csail.sdg.squander.spec.Forgescene.isensureallints(), and edu.mit.csail.sdg.squander.spec.Forgescene.numliteralsfor().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.getMaxAtomsForType().

9.10.3.25 int edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt ()

Returns the min int within the bounds

Definition at line 419 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Bounds(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW().

Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.create().

9.10.3.26 ForgeAtom edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2atom (Object obj, ForgeBounds bounds)

Returns the Forge atom corresponding to the given Java object

Definition at line 448 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.forgescene(), edu.mit.csail.sdg.squander.spec.Forgescene.instlitforobj(), and edu.mit.csail.sdg.squander.spec.Forgescene.nulllit().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2fc().

9.10.3.27 String edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds ()

Definition at line 239 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Bounds() and edu.mit.csail.sdg.squander.engine.ForgeConverter.printObjSet().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.checkPre(), and edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost().

9.10.3.28 String edu.mit.csail.sdg.squander.engine.ForgeConverter.printObjSet (ObjTupleSet objSet) [private]

Definition at line 247 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.forgelitForObj(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds().

9.10.3.29 String edu.mit.csail.sdg.squander.engine.ForgeConverter.printUniverseStats () [private]

Definition at line 539 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.10.3.30 ForgeProcedure edu.mit.csail.sdg.squander.engine.ForgeConverter.proc ()

Definition at line 267 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), edu.mit.csail.sdg.squander.spec.JavaScene.method, edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec(), edu.mit.csail.sdg.squander.spec.JMethod.name(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, and edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec().

9.10.3.31 void edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext (Object caller, JMethod m, Object[] methodArgs)

Use this method to set the specification of a method to be executed

Definition at line 98 of file ForgeConverter.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), edu.mit.csail.sdg.squander.spec.JavaScene.finish(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finished, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2typeparams, edu.mit.csail.sdg.squander.spec.JMethod.paramTypes(), edu.mit.csail.sdg.squander.spec.JavaScene.setArgs(), edu.mit.csail.sdg.squander.spec.JavaScene.setCaller(), edu.mit.csail.sdg.squander.spec.JavaScene.setMethod(), and edu.mit.csail.sdg.squander.spec.JMethod.spec.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

9.10.4 Member Data Documentation

9.10.4.1 Set<Integer> edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts = null [private]

Definition at line 301 of file ForgeConverter.java.

9.10.4.2 boolean edu.mit.csail.sdg.squander.engine.ForgeConverter.finished = false [private]

Definition at line 84 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findOptimizableLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeOptimizableLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit(), edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene(), edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt(), edu.mit.csail.sdg.squander.engine.ForgeConverter.minLength(), edu.mit.csail.sdg.squander.engine.ForgeConverter.proc(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.10.4.3 ForgeBounds edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds [private]

Definition at line 82 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxInt(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonnegs().

9.10.4.4 ForgeScene edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene [private]

Definition at line 79 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.SquanderImpl.getMemorySize(), edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(), edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecification(), edu.mit.csail.sdg.squander.engine.SquanderResult.program(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmptyMemory(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap(), edu.mit.csail.sdg.squander.engine.SquanderResult.returnNonnegativeIntegers(), and edu.mit.csail.sdg.squander.engine.SquanderResult.self().

9.10.4.5 final Heap edu.mit.csail.sdg.squander.engine.ForgeConverter.heap [private]

Definition at line 77 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), edu.mit.csail.sdg.squander.engine.ForgeConverter.ForgeConverter(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

and edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene().

9.10.4.6 Heap2Bounds edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2lit [private]

Definition at line 81 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.Heap2Bounds(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt(),
 and edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds().

9.10.4.7 Map<ForgeType.Unary, List<InstanceLiteral>> edu.mit.csail.sdg.squander.engine.ForgeConverter.instLitsCache = new HashMap<ForgeType.Unary, List<InstanceLiteral>>() [private]

Definition at line 319 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLiteralsForType().

9.10.4.8 final JavaScene edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene [private]

Definition at line 78 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), and
 edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue().

9.10.4.9 Map<ForgeType.Unary, List<ForgeLiteral>> edu.mit.csail.sdg.squander.engine.ForgeConverter.litsCache = new HashMap<ForgeType.Unary, List<ForgeLiteral>>() [private]

Definition at line 336 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType().

9.10.4.10 Map<ForgeType, Integer> edu.mit.csail.sdg.squander.engine.ForgeConverter.maxAtomsCache = new HashMap<ForgeType, Integer>() [private]

Definition at line 205 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.getMaxAtomsForType().

9.10.4.11 Map<Object, JType.Unary[]> edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2typeparams = new IdentityHashMap<Object, Unary[]>() [private]

Definition at line 188 of file ForgeConverter.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), and
 edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

**9.10.4.12 final SquanderReporter edu.mit.csail.sdg.squander.engine.ForgeConverter.reporter
[private]**

Definition at line 76 of file ForgeConverter.java.

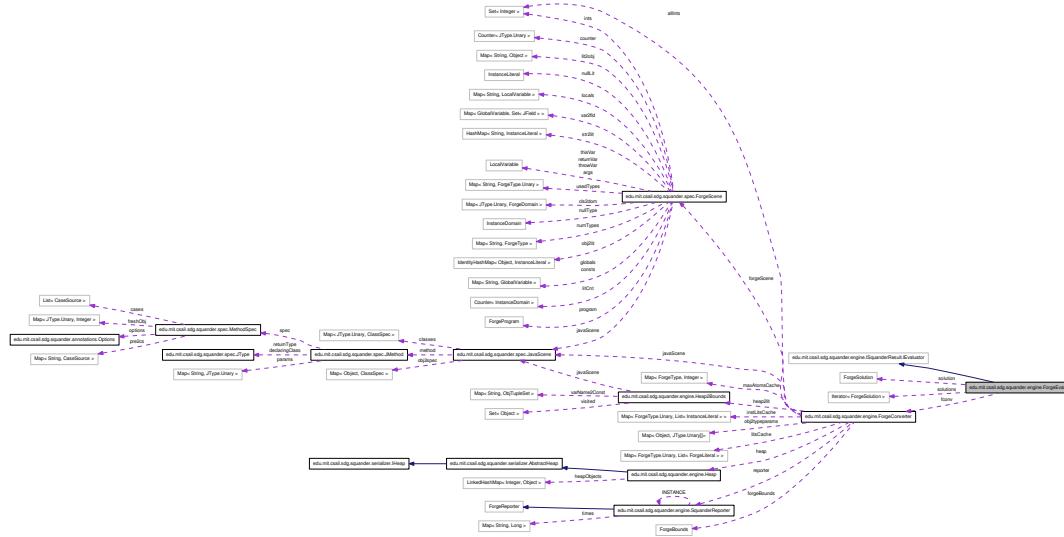
Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeOptions(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.make

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/[ForgeConverter.java](#)

9.11 edu.mit.csail.sdg.squander.engine.ForgeEval Class Reference

Inherits `edu::mit::csail::sdg::squander::engine::ISquanderResult::IEvaluator.Collaboration` diagram for `edu.mit.csail.sdg.squander.engine.ForgeEval`:



Public Member Functions

- `ForgeEval (Iterator< ForgeSolution > solutions, ForgeConverter fconv)`
- `ObjTupleSet evaluate (ForgeVariable var)`
- `ObjTupleSet evaluateExpr (ForgeExpression expr)`
- boolean `hasSolution ()`
- `IEvaluator nextSolution ()`
- String `unsatCore ()`
- String `trace ()`
- String `stats ()`

Private Attributes

- `Iterator< ForgeSolution > solutions`
- `ForgeSolution solution`
- `ForgeConverter fconv`

9.11.1 Detailed Description

Evaluator based on the `ForgeSolution` class.

Author:

Aleksandar Milicevic (`aleks@csail.mit.edu`)

Definition at line 21 of file `ForgeEval.java`.

9.11.2 Constructor & Destructor Documentation

9.11.2.1 edu.mit.csail.sdg.squander.engine.ForgeEval.ForgeEval (*Iterator<ForgeSolution> solutions, ForgeConverter fconv*)

Definition at line 26 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.solution.

9.11.3 Member Function Documentation

9.11.3.1 ObjTupleSet edu.mit.csail.sdg.squander.engine.ForgeEval.evaluate (*ForgeVariable var*)

Definition at line 33 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.evaluateExpr().

9.11.3.2 ObjTupleSet edu.mit.csail.sdg.squander.engine.ForgeEval.evaluateExpr (*ForgeExpression expr*)

Definition at line 37 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.fconv, and edu.mit.csail.sdg.squander.engine.ForgeEval.solution.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeEval.evaluate().

9.11.3.3 boolean edu.mit.csail.sdg.squander.engine.ForgeEval.hasSolution ()

Definition at line 43 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.solution.

9.11.3.4 IEvaluator edu.mit.csail.sdg.squander.engine.ForgeEval.nextSolution ()

Definition at line 48 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.solution, and edu.mit.csail.sdg.squander.engine.ForgeEval.solutions.

9.11.3.5 String edu.mit.csail.sdg.squander.engine.ForgeEval.stats ()

Definition at line 67 of file ForgeEval.java.

9.11.3.6 String edu.mit.csail.sdg.squander.engine.ForgeEval.trace ()

Definition at line 62 of file ForgeEval.java.

References edu.mit.csail.sdg.squander.engine.ForgeEval.solution.

9.11.3.7 String edu.mit.csail.sdg.squander.engine.ForgeEval.unsatCore ()

Definition at line 57 of file ForgeEval.java.

9.11.4 Member Data Documentation

9.11.4.1 ForgeConverter edu.mit.csail.sdg.squander.engine.ForgeEval.fconv [private]

Definition at line 24 of file ForgeEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeEval.evaluateExpr().

9.11.4.2 ForgeSolution edu.mit.csail.sdg.squander.engine.ForgeEval.solution [private]

Definition at line 23 of file ForgeEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeEval.evaluateExpr(),
edu.mit.csail.sdg.squander.engine.ForgeEval.ForgeEval(), edu.mit.csail.sdg.squander.engine.ForgeEval.hasSolution(),
edu.mit.csail.sdg.squander.engine.ForgeEval.nextSolution(), and edu.mit.csail.sdg.squander.engine.ForgeEval.trace().

9.11.4.3 Iterator<ForgeSolution> edu.mit.csail.sdg.squander.engine.ForgeEval.solutions [private]

Definition at line 22 of file ForgeEval.java.

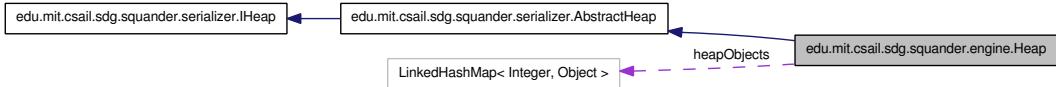
Referenced by edu.mit.csail.sdg.squander.engine.ForgeEval.nextSolution().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/[ForgeEval.java](#)

9.12 edu.mit.csail.sdg.squander.engine.Heap Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::AbstractHeap.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.engine.Heap](#):



Public Member Functions

- [Heap \(Object\[\] objects\)](#)
- [void addObjects \(Iterable< Object > objects\)](#)
- [void addObject \(Object obj\)](#)

Protected Member Functions

- [List< Object > getHeapObjects \(\)](#)

Private Attributes

- final `LinkedHashMap< Integer, Object > heapObjects`

9.12.1 Detailed Description

Concrete representation of the heap. The heap in this case consists of the caller object (`callerObj`) and method arguments (`methodArgs`).

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 22 of file `Heap.java`.

9.12.2 Constructor & Destructor Documentation

9.12.2.1 edu.mit.csail.sdg.squander.engine.Heap.Heap (Object[] *objects*)

Definition at line 31 of file `Heap.java`.

References `edu.mit.csail.sdg.squander.engine.Heap.addObject()`, and `edu.mit.csail.sdg.squander.engine.Heap.heapObjects`.

9.12.3 Member Function Documentation

9.12.3.1 void edu.mit.csail.sdg.squander.engine.Heap.addObject (Object *obj*)

Definition at line 44 of file `Heap.java`.

References edu.mit.csail.sdg.squander.engine.Heap.heapObjects.

Referenced by edu.mit.csail.sdg.squander.engine.Heap.addObject(), edu.mit.csail.sdg.squander.engine.ForgeConverter.createForge() and edu.mit.csail.sdg.squander.engine.Heap.Heap().

9.12.3.2 void edu.mit.csail.sdg.squander.engine.Heap.addObject (Iterable< Object > objects)

Definition at line 38 of file Heap.java.

References edu.mit.csail.sdg.squander.engine.Heap.addObject().

9.12.3.3 List<Object> edu.mit.csail.sdg.squander.engine.Heap.getHeapObjects () [protected, virtual]

Returns all object on this heap.

Implements [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#).

Definition at line 54 of file Heap.java.

References edu.mit.csail.sdg.squander.engine.Heap.heapObjects.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.12.4 Member Data Documentation

9.12.4.1 final LinkedHashMap<Integer, Object> edu.mit.csail.sdg.squander.engine.Heap.heapObjects [private]

Maps obj.hashCode -> obj. For all objects except for strings, System.identityHashCode is used, whereas for strings String.hashCode is used.

Definition at line 29 of file Heap.java.

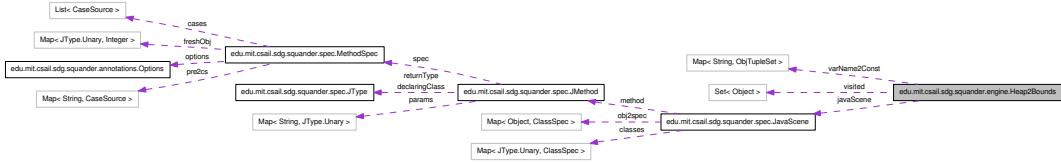
Referenced by edu.mit.csail.sdg.squander.engine.Heap.addObject(), edu.mit.csail.sdg.squander.engine.Heap.getHeapObjects(), and edu.mit.csail.sdg.squander.engine.Heap.Heap().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/[Heap.java](#)

9.13 edu.mit.csail.sdg.squander.engine.Heap2Bounds Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.engine.Heap2Bounds:



Classes

- class **Pair**

Public Member Functions

- [Heap2Bounds \(JavaScene javaScene\)](#)
- int [minBW \(\)](#)
- Map< String, ObjTupleSet > [bounds \(\)](#)
- [ObjTupleSet getBound \(ForgeVariable var\)](#)
- Set< Object > [reachableObjects \(\)](#)
- void [ensureAdequateIntBitWidth \(int x\)](#)
- void [traverse \(List< Pair > rootObjects\)](#)

Package Functions

- void [addBound \(String varName, ObjTuple value\)](#)
- void [addBound \(String varName, ObjTupleSet value\)](#)

Private Member Functions

- void [newObject \(Object object, Unary\[\] actualTypeParams\)](#)
- void [visitPrimitive \(Object obj\)](#)
- void [ensureAdequateBitWidth \(final Object obj\)](#)

Private Attributes

- final [JavaScene javaScene](#)
- final Set< Object > [visited](#) = new IdentityHashSet< Object >()
- Map< String, ObjTupleSet > [varName2Const](#) = new HashMap< String, ObjTupleSet >()
- int [rbw](#) = GlobalOptions.INSTANCE.min_bitwidth

9.13.1 Detailed Description

Used to convert the heap to bounds for fields, that are going to be used later for solving.

Author:

Aleksandar Milicevic

Definition at line 39 of file Heap2Bounds.java.

9.13.2 Constructor & Destructor Documentation

9.13.2.1 edu.mit.csail.sdg.squander.engine.Heap2Bounds.Heap2Bounds (*JavaScene javaScene*)

Definition at line 84 of file Heap2Bounds.java.

9.13.3 Member Function Documentation

9.13.3.1 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound (*String varName, ObjTupleSet value*) [package]

Definition at line 142 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, and edu.mit.csail.sdg.squander.engine.Heap2Bounds.varName2Const.

9.13.3.2 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound (*String varName, ObjTuple value*) [package]

Definition at line 136 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), and edu.mit.csail.sdg.squander.absstate.ObjTuple.arity.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(), edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse().

9.13.3.3 Map<String, ObjTupleSet> edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds ()

Returns the exact bounds for all fields (field names, that is)

Definition at line 91 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.varName2Const.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds().

9.13.3.4 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateBitWidth (final Object *obj*) [private]

Definition at line 174 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateIntBitWidth().

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject().

9.13.3.5 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateIntBitWidth (int *x*)

Makes sure that the bitwidth is big enough to represent the given integer value

Definition at line 98 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.rbw.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateBitWidth(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.visitPrimitive()

9.13.3.6 ObjTupleSet edu.mit.csail.sdg.squander.engine.Heap2Bounds.getBound (ForgeVariable *var*)

Returns the exact bounds for the field represented with the given Forge variable

Definition at line 93 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.varName2Const.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visitVariable().

9.13.3.7 int edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW ()

Returns min required bit width, based on the content of the heap

Definition at line 89 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.rbw.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds(), edu.mit.csail.sdg.squander.engine.ForgeConverter.max()
and edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt().

9.13.3.8 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject (Object *object*, Unary[] *actualTypeParams*) [private]

Definition at line 156 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.addObj2spec(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateBitWidth(),
edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.javaScene,
and edu.mit.csail.sdg.squander.engine.Heap2Bounds.visitPrimitive().

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse().

9.13.3.9 Set<Object> edu.mit.csail.sdg.squander.engine.Heap2Bounds.reachableObjects ()

Returns all reachable objects found on the heap

Definition at line 95 of file Heap2Bounds.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.visited.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.13.3.10 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse (List< Pair > *rootObjects*)

Traverses the heap starting from the given root objects (*rootObjects*). It uses [IObjSer](#) to serialize objects (i.e. break the apart). During the traversal it collects the bounds for fields.

Definition at line 108 of file Heap2Bounds.java.

References [edu.mit.csail.sdg.squander.serializer.special.IObjSer.absFunc\(\)](#),
[edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound\(\)](#), [edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSe](#)
[edu.mit.csail.sdg.squander.engine.Heap2Bounds.javaScene](#), [edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject\(\)](#),
and [edu.mit.csail.sdg.squander.engine.Heap2Bounds.visited](#).

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.13.3.11 void edu.mit.csail.sdg.squander.engine.Heap2Bounds.visitPrimitive (Object *obj*) [private]

Definition at line 167 of file Heap2Bounds.java.

References [edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateIntBitWidth\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject\(\)](#).

9.13.4 Member Data Documentation

9.13.4.1 final JavaScene edu.mit.csail.sdg.squander.engine.Heap2Bounds.javaScene [private]

Definition at line 78 of file Heap2Bounds.java.

Referenced by [edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject\(\)](#), and
[edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse\(\)](#).

9.13.4.2 int edu.mit.csail.sdg.squander.engine.Heap2Bounds.rbw = GlobalOptions.INSTANCE.min_bitwidth [private]

Definition at line 82 of file Heap2Bounds.java.

Referenced by [edu.mit.csail.sdg.squander.engine.Heap2Bounds.ensureAdequateIntBitWidth\(\)](#), and
[edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW\(\)](#).

9.13.4.3 Map<String, ObjTupleSet> edu.mit.csail.sdg.squander.engine.Heap2Bounds.varName2Const = new HashMap<String, ObjTupleSet>() [private]

Definition at line 81 of file Heap2Bounds.java.

Referenced by [edu.mit.csail.sdg.squander.engine.Heap2Bounds.addBound\(\)](#),
[edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds\(\)](#), and [edu.mit.csail.sdg.squander.engine.Heap2Bounds.getBound\(\)](#).

9.13.4.4 final Set<Object> edu.mit.csail.sdg.squander.engine.Heap2Bounds.visited = new IdentityHashSet<Object>() [private]

Definition at line 79 of file Heap2Bounds.java.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.reachableObjects(), and edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/[Heap2Bounds.java](#)

9.14 edu.mit.csail.sdg.squander.engine.ISquander Interface Reference

Inherited by [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Public Member Functions

- < R > R [magic](#) (Object caller, Method method, Object[] methodArgs)
- < R > R [magic](#) (Object caller, JMethod method, Object[] methodArgs)
- [ISquanderResult getLastResult \(\)](#)

Package Functions

- < R > R [magic](#) (Object caller, String clsName, String methodName, Class<?>[] methodParamTypes, Object[] methodArgs)

9.14.1 Detailed Description

Interface to the most essential Squander functions.

Author:

Aleksandar Milicevic

Definition at line 16 of file ISquander.java.

9.14.2 Member Function Documentation

9.14.2.1 [ISquanderResult edu.mit.csail.sdg.squander.engine.ISquander.getLastResult \(\)](#)

Returns the result of the last execution.

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Referenced by [edu.mit.csail.sdg.squander.Squander.getLastResult\(\)](#).

9.14.2.2 <R> R [edu.mit.csail.sdg.squander.engine.ISquander.magic \(Object caller, JMethod method, Object\[\] methodArgs\)](#)

Executes the specification of the given JMethod

Parameters:

<R> - the return type

caller - the caller instance (`null` if the method is static)

method - Squander's internal representation of a method (which includes method's spec). This can be used to execute specs that are not necessarily given as annotations on a Java method

methodArgs - actual method arguments

Returns:

- the result of the method's execution (or nothing if the type is `void`)

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

9.14.2.3 <R> R edu.mit.csail.sdg.squander.engine.ISquander.magic (Object caller, Method method, Object[] methodArgs)

Executes the specification of the given Java method

Parameters:

- <R>* - the return type
- caller* - the caller instance (`null` if the method is static)
- method* - Java method
- methodArgs* - actual method arguments

Returns:

- the result of the method's execution (or nothing if the type is `void`)

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

9.14.2.4 <R> R edu.mit.csail.sdg.squander.engine.ISquander.magic (Object caller, String clsName, String methodName, Class<?>[] methodParamTypes, Object[] methodArgs [package])

Executes the specification for the given method.

Parameters:

- <R>* - the return type
- caller* - the caller instance (`null` if the method is static)
- clsName* - name of the declaring class
- methodName* - method name
- methodParamTypes* - method parameter types
- methodArgs* - actual method arguments

Returns:

- the result of the method's execution (or nothing if the type is `void`)

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Referenced by [edu.mit.csail.sdg.squander.Squander.exe\(\)](#).

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/ISquander.java](#)

9.15 edu.mit.csail.sdg.squander.engine.ISquanderResult Interface Reference

Inherited by [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Classes

- interface [IEvaluator](#)

Public Member Functions

- boolean [hasSolution \(\)](#)
- String [getTrace \(\)](#)
- String [getStats \(\)](#)
- public< R > R [getReturnValue \(\)](#)
- void [restoreJavaHeap \(\)](#)
- String [unsatCore \(\)](#)
- boolean [findNext \(\)](#)
- Iterator< Object > [getSpecField](#) (String specFieldName)

9.15.1 Detailed Description

Represents the result of executing a specification. The result must also know how to update the Java heap to reflect the solution represented by that result.

Author:

Aleksandar Milicevic

Definition at line 19 of file ISquanderResult.java.

9.15.2 Member Function Documentation

9.15.2.1 boolean edu.mit.csail.sdg.squander.engine.ISquanderResult.findNext ()

Finds a different solution and updates the heap if the solution is found. Returns whether a solution was found or not.

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by [edu.mit.csail.sdg.squander.examples.partitioning.Graph.main\(\)](#).

9.15.2.2 public< R > R edu.mit.csail.sdg.squander.engine.ISquanderResult.getReturnValue ()

Returns the Java object that is the return value of the method under [Squander](#) analysis. If the method under [Squander](#) analysis has void return type, `null` is returned.

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

**9.15.2.3 Iterator<Object> edu.mit.csail.sdg.squander.engine.ISquanderResult.getSpecField
(String specFieldName)**

Returns the value of the spec field with the given name as a sequence of objects. This works only for unary spec fields, so it shouldn't be used.

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

9.15.2.4 String edu.mit.csail.sdg.squander.engine.ISquanderResult.getStats ()

Optional statistics about the solving

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

9.15.2.5 String edu.mit.csail.sdg.squander.engine.ISquanderResult.getTrace ()

Optional string representation of the solution. Used for debugging purposes

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

9.15.2.6 boolean edu.mit.csail.sdg.squander.engine.ISquanderResult.hasSolution ()

Weather or not a solution was found

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#), and [edu.mit.csail.sdg.squander.examples.partitioning.Graph.main\(\)](#).

9.15.2.7 void edu.mit.csail.sdg.squander.engine.ISquanderResult.restoreJavaHeap ()

Restores the Java heap space from the given `Results` that must contain valid solution. If the solution for this problem wasn't found, a runtime exception is thrown.

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

9.15.2.8 String edu.mit.csail.sdg.squander.engine.ISquanderResult.unsatCore ()

Returns a string representation of the unsat core if a solution wasn't found (if known)

Implemented in [edu.mit.csail.sdg.squander.engine.SquanderResult](#).

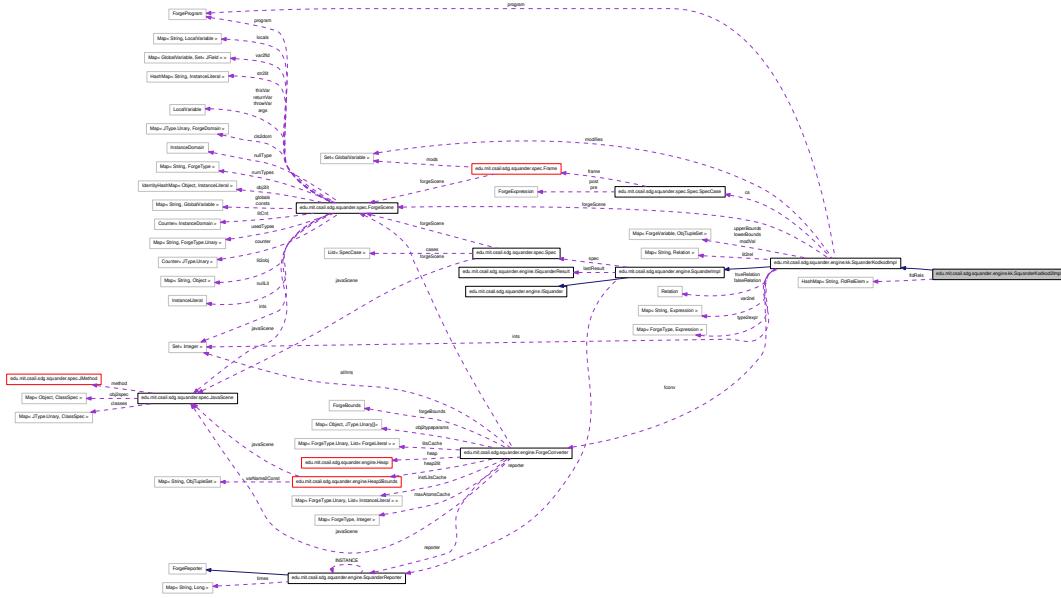
Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/ISquanderResult.java](#)

9.16 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl Class Reference

Inherits [edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl](#).
Collaboration diagram for [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#):



Classes

- class **FldRelElem**

Public Member Functions

- `SquanderKodkod2Impl ()`

Protected Member Functions

- `Set< GlobalVariable > getModsForPostState (ForgeConverter fconv, SpecCase sc)`
- `ForgeExpression getPreSpec (SpecCase cs)`
- `ForgeExpression getPostSpec (SpecCase cs, ForgeConverter fconv)`
- `Formula convertSpec (ForgeExpression spec)`
- `IEvaluator getEval (Iterator< Solution > solutions)`
- `void init ()`
- `void createRelations ()`
- `void addRelForVar (ForgeVariable var, String name)`
- `Bounds createBounds ()`
- `void boundLocalVar (LocalVariable var, TupleFactory f, Bounds b)`

Private Member Functions

- Formula [wellformed \(\)](#)
- Formula [one \(Expression rel\)](#)
- Formula [arrLenConstr \(FldRelElem fre\)](#)
- Formula [arrElemsConstr \(FldRelElem fre\)](#)
- Expression [intsExpr \(\)](#)
- List< InstanceLiteral > [getModLits \(GlobalVariable g, ForgeExpression expr\)](#)
- void [addRelForVar \(String name, Expression expr\)](#)
- void [addFldRel \(InstanceLiteral l, GlobalVariable g, List< InstanceLiteral > modLits\)](#)
- List< FldRelElem > [findFldRelsForVar \(GlobalVariable var\)](#)
- [ObjTupleSet\[\] getBounds \(ForgeVariable var\)](#)
- [ObjTupleSet getExtent \(ForgeVariable var\)](#)

Private Attributes

- HashMap< String, FldRelElem > [fldRels](#)

9.16.1 Detailed Description

An alternative implementation of the [ISquander](#) interface that uses a different translation to Kodkod.

Author:

Aleksandar Milicevic

Definition at line 49 of file SquanderKodkod2Impl.java.

9.16.2 Constructor & Destructor Documentation

9.16.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.SquanderKodkod2Impl ()

Definition at line 74 of file SquanderKodkod2Impl.java.

9.16.3 Member Function Documentation

9.16.3.1 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel (InstanceLiteral l, GlobalVariable g, List< InstanceLiteral > modLits) [private]

Definition at line 254 of file SquanderKodkod2Impl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addRelForVar\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations\(\)](#).

9.16.3.2 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addRelForVar (String name, Expression expr) [private]

Definition at line 245 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

9.16.3.3 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addRelForVar (ForgeVariable var, String name) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 241 of file SquanderKodkod2Impl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations().

9.16.3.4 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrElemsConstr (FldRelElem fre) [private]

Definition at line 143 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.intsExpr(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.one().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.16.3.5 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrLenConstr (FldRelElem fre) [private]

Definition at line 138 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.one().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.16.3.6 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.boundLocalVar (LocalVariable var, TupleFactory f, Bounds b) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 325 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds().

9.16.3.7 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.convertSpec (ForgeExpression spec) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 96 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.16.3.8 Bounds edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds () [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 278 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.bound, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExtent(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.
 edu.mit.csail.sdg.squander.spec.ForgeScene.isConst(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.
 edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar,
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

9.16.3.9 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations () [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 161 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addRelForVar(),
 edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.spec.ForgeScene.consts,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.cs, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fals,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLi
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits(),
 edu.mit.csail.sdg.squander.spec.ForgeScene.isConst(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodIm
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName(), edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar,
 edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation,
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr.

9.16.3.10 List<FldRelElem> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.findFldRelsForVar (GlobalVariable var) [private]

Definition at line 268 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds().

9.16.3.11 `ObjTupleSet [] edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds(ForgeVariable var) [private]`

Definition at line 335 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.boundLocalVar(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds().

9.16.3.12 `IEvaluator edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getEval(Iterator<Solution> solutions) [protected]`

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 103 of file SquanderKodkod2Impl.java.

9.16.3.13 `ObjTupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getExtent(ForgeVariable var) [private]`

Definition at line 352 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.literal2String() and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds().

9.16.3.14 `List<InstanceLiteral> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits(GlobalVariable g, ForgeExpression expr) [private]`

Definition at line 218 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.eval(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getModLits(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLiteralsForType(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.spec.ForgeScene.instLitFor and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations().

9.16.3.15 `Set<GlobalVariable> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModsForPostState(ForgeConverter fconv, SpecCase sc) [protected]`

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 77 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame.

9.16.3.16 ForgeExpression

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPostSpec (SpecCase *cs*,
ForgeConverter *fconv*) [protected]**

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 88 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.funcConstraint(),
edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post, and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec().

9.16.3.17 ForgeExpression

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPreSpec (SpecCase *cs*)
[protected]**

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 82 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre,
and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec().

**9.16.3.18 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.init ()
[protected]**

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 108 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels.

**9.16.3.19 Expression edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.intsExpr ()
[private]**

Definition at line 156 of file SquanderKodkod2Impl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrElemsConstr().

**9.16.3.20 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.one (Expression
rel) [private]**

Definition at line 134 of file SquanderKodkod2Impl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrElemsConstr(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrLenConstr(), and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

**9.16.3.21 Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed ()
[private]**

Definition at line 113 of file SquanderKodkod2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrElemsConstr(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrLenConstr(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.fldRels, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodIm

edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifie
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.one(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl
edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.convertSpec().

9.16.4 Member Data Documentation

9.16.4.1 HashMap<String, FldRelElem>

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl fldRels
[private]

Definition at line 72 of file SquanderKodkod2Impl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.arrElemsConstr(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.findFldRelsForVar(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.init(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.var2rel().

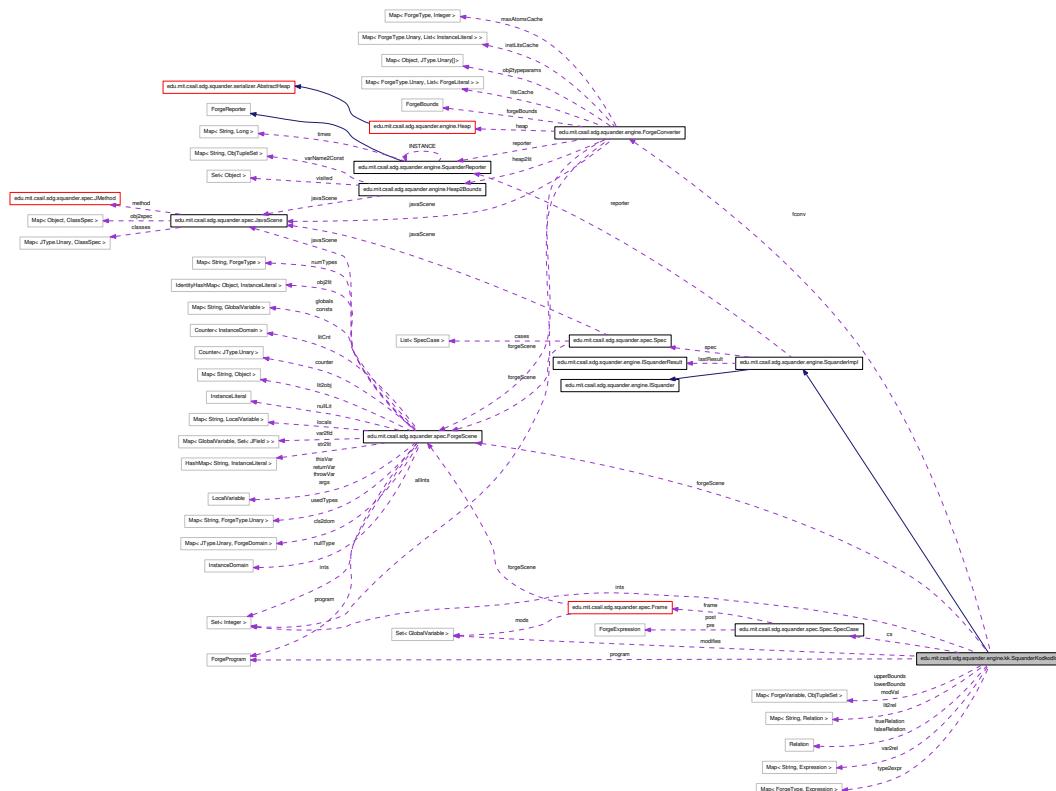
The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/kk/[SquanderKodkod2Impl.java](#)

9.17 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl Class Reference

Inherits [edu::mit::csail::sdg::squander::engine::SquanderImpl](#)

Inherited by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.Collaboration](#) diagram and for [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#):



Classes

- class **DiscoverHigherOrderQuant**
 - class **KodkodEval**
 - class **Tr2KK**

Public Member Functions

- SquanderKodkodImpl ()

Protected Member Functions

- Set< GlobalVariable > `getModsForPostState` (ForgeConverter fconv, SpecCase sc)
 - ForgeExpression `getPreSpec` (SpecCase cs)
 - ForgeExpression `getPostSpec` (SpecCase cs, ForgeConverter fconv)

- IEvaluator `exeSpec` (ForgeExpression `spec`, Set< GlobalVariable > `modifies`, ForgeConverter `fconv`)
- IEvaluator `getEval` (Iterator< Solution > `solution`)
- void `init` ()
- Formula `convertSpec` (ForgeExpression `spec`)
- void `createRelations` ()
- Bounds `createBounds` ()
- ForgeConstant `getPostLower` (GlobalVariable `g`, ForgeConstant `initialBound`)
- ForgeConstant `getPostUpper` (GlobalVariable `var`, ForgeConstant `postLower`)
- Universe `createUniverse` ()
- Formula `node2form` (Node `node`)
- IntExpression `node2int` (Node `node`)
- Expression `node2expr` (Node `node`)
- Expression `form2expr` (Formula `form`)
- ForgeConstant `getExtent` (GlobalVariable `var`, ForgeConstant `lower`)
- int `findMaxArrayLength` (GlobalVariable `var`)
- ForgeConstant.Unary `nonnegs` ()
- ForgeConstant.Unary `nonnegs` (int `upperBound`)
- void `boundLocalVar` (LocalVariable `var`, TupleFactory `f`, Bounds `b`)
- void `addRelForVar` (ForgeVariable `var`, String `name`)
- String `relName` (ForgeVariable `var`)
- TupleSet `conv2tuples` (ForgeConstant `fc`, TupleFactory `f`)
- Object `convAtom` (ForgeAtom `a`)
- TupleSet `conv2tuples` (ObjTupleSet `fc`, TupleFactory `f`)

Protected Attributes

- Set< GlobalVariable > `modifies`
- ForgeConverter `fconv`
- ForgeScene `forgeScene`
- ForgeProgram `program`
- Map< String, Relation > `lit2rel`
- Map< ForgeType, Expression > `type2expr`
- Map< String, Expression > `var2rel`
- Map< ForgeVariable, ObjTupleSet > `modVal`
- Map< ForgeVariable, ObjTupleSet > `lowerBounds`
- Map< ForgeVariable, ObjTupleSet > `upperBounds`
- Set< Integer > `ints`
- Relation `trueRelation`
- Relation `falseRelation`
- SpecCase `cs`

Private Member Functions

- String `printBoundsSummary` (Bounds `bounds`)
- ForgeAtom `lit2atom` (ForgeLiteral `lit`, ForgeBounds `forgeBounds`)

9.17.1 Detailed Description

An implementation of the [ISquander](#) interface that uses Kodkod as the back-end.

Author:

Aleksandar Milicevic

Definition at line 94 of file SquanderKodkodImpl.java.

9.17.2 Constructor & Destructor Documentation

9.17.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.SquanderKodkodImpl ()

Definition at line 688 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lowerBounds](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modVal](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBounds](#).

9.17.3 Member Function Documentation

9.17.3.1 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.addRelForVar (ForgeVariable var, String name) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 1150 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations\(\)](#).

9.17.3.2 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar (LocalVariable var, TupleFactory f, Bounds b) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#).

Definition at line 1139 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBou](#)
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds\(\)](#).

9.17.3.3 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples (ObjTupleSet fc, TupleFactory f) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#).

Definition at line 1192 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, edu.mit.csail.sdg.squander.spec.ForgeScene.forgeLitForObj(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene,
 and
 edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

9.17.3.4 TupleSet **edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples** (**ForgeConstant** *fc*, **TupleFactory** *f*) [protected]

Definition at line 1162 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convAtom().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
 and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds().

9.17.3.5 Object **edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convAtom** (**ForgeAtom** *a*) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#).

Definition at line 1182 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples().

9.17.3.6 Formula **edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convertSpec** (**ForgeExpression** *spec*) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 839 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

9.17.3.7 Bounds **edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds()** [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#), and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#).

Definition at line 885 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds(),
 edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteral(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(),

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints, edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.
 edu.mit.csail.sdg.squander.engine.SquanderImpl.reporter, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar,
 edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr,
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

9.17.3.8 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations () [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 844 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.addRelForVar(),
 edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.falseRelation,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName(), edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar,
 edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation,
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

9.17.3.9 Universe edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse () [protected]

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#).

Definition at line 995 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.spec.ForgeScene.ints,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints, edu.mit.csail.sdg.squander.spec.ForgeScene.isEnsureAllInts(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt(), edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt(),
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds().

9.17.3.10 IEvaluator edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec (ForgeExpression spec, Set<GlobalVariable> modifies, ForgeConverter fconv) [protected]

Executes the given forge expression.

Reimplemented from [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Definition at line 757 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convertSpec(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forg
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getEval(), edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init(), edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene
 edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.minBW(),
 edu.mit.csail.sdg.squander.spec.MethodSpec.options, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.printBounds()
 edu.mit.csail.sdg.squander.spec.ForgeScene.program, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program,
 and edu.mit.csail.sdg.squander.annotations.Options.solveAll().

9.17.3.11 int edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxArrayLength (GlobalVariable *var*) [protected]

Definition at line 1108 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv,
 edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.foo
 edu.mit.csail.sdg.squander.spec.ForgeScene.global(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent().

9.17.3.12 Expression edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.form2expr (Formula *form*) [protected]

converts a Kodkod formula to a Kodkod expressoin

Definition at line 1069 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.falseRelation, and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr().

9.17.3.13 IEvaluator edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getEval (Iterator< Solution > *solution*) [protected]

Reimplemented in edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl, and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.

Definition at line 826 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

9.17.3.14 ForgeConstant edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent (GlobalVariable *var*, ForgeConstant *lower*) [protected]

Definition at line 1075 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxArrayLength(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.foo
 edu.mit.csail.sdg.squander.spec.ForgeScene.isOneField(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.non

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper().

9.17.3.15 Set<GlobalVariable>

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getModsForPostState
(ForgeConverter *fconv*, SpecCase *sc*) [protected]**

Reimplemented from [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 695 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame](#).

9.17.3.16 ForgeConstant

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower
(GlobalVariable *g*, ForgeConstant *initialBound*) [protected]**

Definition at line 949 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.instLitFor](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2atom\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.tuples](#),
and [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds\(\)](#).

9.17.3.17 ForgeExpression

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec (SpecCase *cs*,
ForgeConverter *fconv*) [protected]**

Reimplemented from [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 707 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderEval2.eval\(\)](#),
[edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene](#), [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame](#),
[edu.mit.csail.sdg.squander.spec.Spec.funcConstraint\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lowerBound](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modVal](#), [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post](#),
[edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.program](#),
[edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBound](#),
and [edu.mit.csail.sdg.squander.spec.Spec.wellformedPost\(\)](#).

9.17.3.18 ForgeConstant

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper
(GlobalVariable *var*, ForgeConstant *postLower*) [protected]**

Definition at line 983 of file SquanderKodkodImpl.java.

References [edu.mit.csail.sdg.squander.engine.ForgeConverter.conv2fc\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBound](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBounds](#),
and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBounds](#).

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds().

9.17.3.19 **ForgeExpression**

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPreSpec
(SpecCase cs) [protected]**

Reimplemented from [edu.mit.csail.sdg.squander.engine.SquanderImpl](#).

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 700 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre, and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec().

9.17.3.20 **void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init () [protected]**

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#).

Definition at line 831 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

9.17.3.21 **ForgeAtom edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2atom (ForgeLiteral lit, ForgeBounds forgeBounds) [private]**

Definition at line 972 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower().

9.17.3.22 **Expression edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr (Node node) [protected]**

converts a Kodkod node to a Kodkod expression.

Definition at line 1056 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.form2expr().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

9.17.3.23 **Formula edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form (Node node) [protected]**

converts a Kodkod node to a Kodkod formula.

Definition at line 1027 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.falseRelation, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convertSpec(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2().

9.17.3.24 IntExpression edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2int (Node node) [protected]

converts a Kodkod expression to a Kodkod integer.

Definition at line 1045 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2().

9.17.3.25 ForgeConstant.Unary edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonnegs (int upperBound) [protected]

Definition at line 1128 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv,
 edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.

9.17.3.26 ForgeConstant.Unary edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonnegs () [protected]

Definition at line 1124 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, and
 edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonnegs().

9.17.3.27 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.printBoundsSummary (Bounds bounds) [private]

Definition at line 806 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec().

9.17.3.28 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName (ForgeVariable var) [protected]

Definition at line 1155 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.getRelForVarAndCheck(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.17.4 Member Data Documentation

9.17.4.1 SpecCase `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.cs` [protected]

Definition at line 686 of file SquanderKodkodImpl.java.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations()`.

9.17.4.2 Relation `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.falseRelation` [protected]

Definition at line 685 of file SquanderKodkodImpl.java.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.form2expr()`, and
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form()`.

9.17.4.3 ForgeConverter `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv` [protected]

Definition at line 672 of file SquanderKodkodImpl.java.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxArrayLength()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getBounds()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getNext()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getModLits()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.nextAtomForLiteral()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.nonnegs()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.processFirst()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.sort()`, and
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit()`.

9.17.4.4 ForgeScene edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene [protected]

Definition at line 673 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getModLits(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains(), and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.17.4.5 Set<Integer> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints [protected]

Definition at line 683 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.convAtom(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.

9.17.4.6 Map<String, Relation> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel [protected]

Definition at line 676 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.

9.17.4.7 Map<ForgeVariable, ObjTupleSet>

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lowerBounds
[protected]**

Definition at line 680 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.SquanderKodkodImpl().

9.17.4.8 Set<GlobalVariable>

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies
[protected]**

Definition at line 671 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addFldRel(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxArrayLength(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.17.4.9 Map<ForgeVariable, ObjTupleSet>

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modVal
[protected]**

Definition at line 679 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.SquanderKodkodImpl().

9.17.4.10 ForgeProgram edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program

[protected]

Definition at line 674 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.partitionDomains(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().

9.17.4.11 Relation edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation [protected]

Definition at line 684 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.form2expr(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.visit(),
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

9.17.4.12 Map<ForgeType, Expression> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr [protected]

Definition at line 677 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.visitForgeType(),
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

9.17.4.13 Map<ForgeVariable, ObjTupleSet> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBounds [protected]

Definition at line 681 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.SquanderKodkodImpl().

9.17.4.14 Map<String, Expression> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel [protected]

Definition at line 678 of file SquanderKodkodImpl.java.

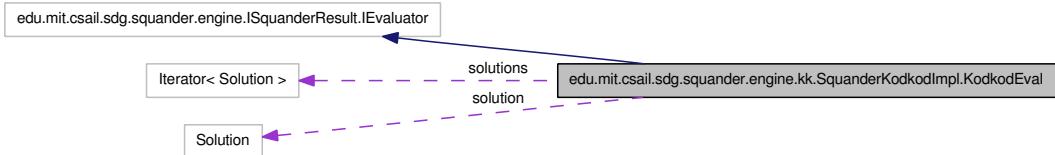
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.addRelForVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.addRelForVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.boundLocalVar(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.getRelForVarAndCheck(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.init(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.visit(),
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodImpl.java](#)

9.18 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval Class Reference

Inherits edu::mit::csail::sdg::squander::engine::ISquanderResult::IEvaluator.Collaboration diagram for edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval:



Public Member Functions

- `KodkodEval (Iterator< Solution > solutions)`
- `String unsatCore ()`
- `ObjTupleSet evaluate (ForgeVariable var)`
- `ObjTupleSet evaluateExpr (ForgeExpression expr)`
- `boolean hasSolution ()`
- `IEvaluator nextSolution ()`
- `String trace ()`
- `String stats ()`

Protected Member Functions

- `ObjTupleSet makeConst (TupleSet ts)`

Protected Attributes

- `final Iterator< Solution > solutions`
- `Solution solution`

9.18.1 Detailed Description

An implementation of the `IEvaluator` interface that wraps a Kodkod solution.

Definition at line 132 of file SquanderKodkodImpl.java.

9.18.2 Constructor & Destructor Documentation

9.18.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.KodkodEval (Iterator< Solution > **solutions**)

Definition at line 137 of file SquanderKodkodImpl.java.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution`.

9.18.3 Member Function Documentation

9.18.3.1 ObjTupleSet

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluate
(ForgeVariable *var*)**

Definition at line 159 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluateExpr().

9.18.3.2 ObjTupleSet

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluateExpr
(ForgeExpression *expr*)**

Definition at line 163 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst(), and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluate().

9.18.3.3 boolean

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.hasSolution ()

Definition at line 206 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution.

9.18.3.4 ObjTupleSet

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.makeConst
(TupleSet *ts*) [protected]**

Definition at line 180 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add(),
edu.mit.csail.sdg.squander.absstate.ObjTuple.arity,
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit
and edu.mit.csail.sdg.squander.absstate.ObjTuple.product().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluateExpr().

9.18.3.5 IEvaluator

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.nextSolution ()

Definition at line 211 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution, and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solutions.

9.18.3.6 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.stats ()

Definition at line 226 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution.

9.18.3.7 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.trace ()

Definition at line 221 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution.

**9.18.3.8 String
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.unsatCore ()**

Definition at line 143 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution.

9.18.4 Member Data Documentation

9.18.4.1 Solution

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solution
[protected]**

Definition at line 135 of file SquanderKodkodImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.evaluateExpr(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.hasSolution(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.KodkodEval(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.nextSolution(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.stats(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.trace(),
and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.unsatCore().

9.18.4.2 final Iterator<Solution>

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.solutions
[protected]**

Definition at line 134 of file SquanderKodkodImpl.java.

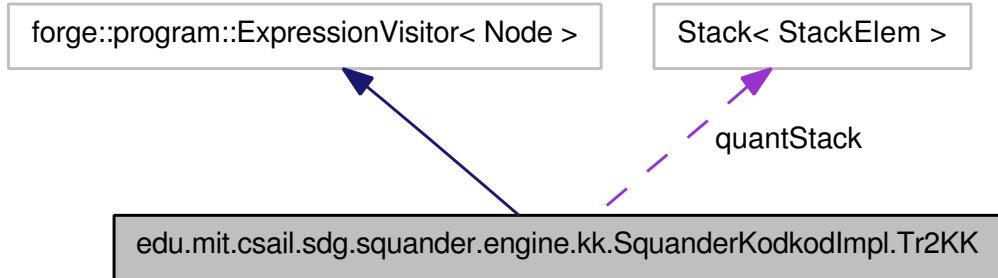
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval.nextSolution().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/kk/[SquanderKodkodImpl.java](#)

9.19 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK Class Reference

Inherits forge::program::ExpressionVisitor< Node >.Collaboration diagram for edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK:



Classes

- class [StackElem](#)

Protected Member Functions

- Expression [visit](#) (ForgeType ftype)
- Node [visit](#) (ForgeLiteral lit)
- Expression [visit](#) (ForgeVariable var)
- Node [visit](#) (UnaryExpression expr)
- Node [visit](#) (BinaryExpression expr)
- Node [visit](#) (ConditionalExpression expr)
- Node [visit](#) (ProjectionExpression expr)
- Node [visit](#) (QuantifyExpression expr)
- Node [visit2](#) (QuantifyExpression expr)
- Expression [visit](#) (OldExpression expr)

Private Member Functions

- Expression [visitForgeType](#) (ForgeType ftype)
- Node [fix](#) (Formula quantFormula)
- Expression [getRelForVarAndCheck](#) (ForgeVariable var)
- [StackElem searchStack](#) (String varName)

Private Attributes

- final Stack< StackElem > [quantStack](#) = new Stack<StackElem>()

9.19.1 Detailed Description

Translates Forge expressions to Kodkod expressions/formulas

Definition at line 239 of file SquanderKodkodImpl.java.

9.19.2 Member Function Documentation

9.19.2.1 Node `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.fix (Formula quantFormula)` [private]

Definition at line 615 of file SquanderKodkodImpl.java.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2()`.

9.19.2.2 Expression

`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.getRelForVarAndCheck (ForgeVariable var)` [private]

Definition at line 652 of file SquanderKodkodImpl.java.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit()`.

9.19.2.3 StackElem

`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.searchStack (String varName)` [private]

Definition at line 658 of file SquanderKodkodImpl.java.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.name`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.quantStack`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit()`.

9.19.2.4 Expression `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit (OldExpression expr)` [protected]

Definition at line 643 of file SquanderKodkodImpl.java.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.getRelForVarAndCheck()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName()`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel`.

9.19.2.5 Node `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit (QuantifyExpression expr)` [protected]

Definition at line 482 of file SquanderKodkodImpl.java.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.trueRelation`, and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2()`.

**9.19.2.6 Node edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit
(ProjectionExpression *expr*) [protected]**

Definition at line 471 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr().

**9.19.2.7 Node edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit
(ConditionalExpression *expr*) [protected]**

Definition at line 463 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr(), and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form().

**9.19.2.8 Node edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit
(BinaryExpression *expr*) [protected]**

Definition at line 360 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form(), and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2int().

**9.19.2.9 Node edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit
(UnaryExpression *expr*) [protected]**

Definition at line 309 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2expr(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form(), and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2int().

**9.19.2.10 Expression edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit
(ForgeVariable *var*) [protected]**

Definition at line 294 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.getRelForVarAndCheck(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.searchStack(), and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.var.

**9.19.2.11 Node edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit
(ForgeLiteral *lit*) [protected]**

Definition at line 285 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel.

**9.19.2.12 Expression edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit
(ForgeType *ftype*) [protected]**

Definition at line 254 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr, and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visitForgeType().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2().

9.19.2.13 Node edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2 (QuantifyExpression *expr*) [protected]

Definition at line 556 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.fix(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.node2form(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.quantStack, and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

9.19.2.14 Expression

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visitForgeType (ForgeType *ftype*) [private]

Definition at line 263 of file SquanderKodkodImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

9.19.3 Member Data Documentation

9.19.3.1 final Stack<StackElem> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.quantStack = new Stack<StackElem>() [private]

Definition at line 251 of file SquanderKodkodImpl.java.

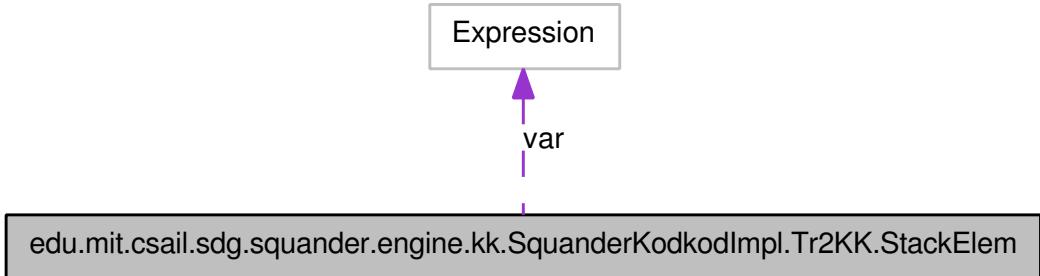
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.searchStack(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit(), and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit2().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/kk/[SquanderKodkodImpl.java](#)

9.20 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem:



Package Functions

- `StackElem (String name, Expression var)`

Package Attributes

- final String `name`
- final Expression `var`

9.20.1 Detailed Description

Definition at line 241 of file SquanderKodkodImpl.java.

9.20.2 Constructor & Destructor Documentation

9.20.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.StackElem (String name, Expression var) [package]

Definition at line 245 of file SquanderKodkodImpl.java.

9.20.3 Member Data Documentation

9.20.3.1 final String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.name [package]

Definition at line 242 of file SquanderKodkodImpl.java.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.searchStack()`.

9.20.3.2 final Expression

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem.var
[package]

Definition at line 243 of file SquanderKodkodImpl.java.

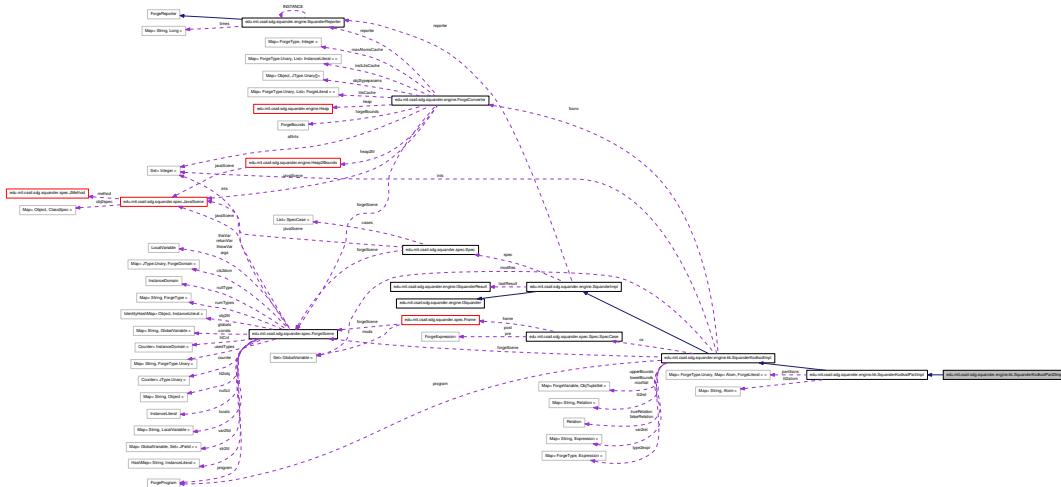
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.visit().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/kk/[SquanderKodkodImpl.java](#)

9.21 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl Class Reference

Inherits [edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodPartImpl](#). Collaboration diagram for [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#):



Public Member Functions

- SquanderKodkodPart2Impl()

Protected Member Functions

- Bounds `createBounds ()`
 - TupleSet `getPostLower` (GlobalVariable g, TupleSet initialBound, TupleFactory f)
 - TupleSet `getPostUpper` (GlobalVariable var, TupleSet postLower, TupleFactory f)
 - void `boundLocalVar` (LocalVariable var, TupleFactory f, Bounds b)
 - TupleSet `conv2tuples` (`ObjTupleSet` fc, TupleFactory f)

Private Member Functions

- TupleSet[] [getPostLowerUpper](#) (GlobalVariable var, TupleSet lowerInitial, TupleFactory f)
 - TupleSet [join](#) (TupleSet ts1, TupleSet ts2, TupleFactory f)
 - TupleSet[] [getBounds](#) (ForgeVariable var, TupleFactory f)
 - TupleSet [getExtent](#) (ForgeVariable var, TupleFactory f)
 - String [getLitNameForObject](#) (Object obj)

9.21.1 Detailed Description

An implementation of the [ISquander](#) interface that uses *KodkodPart* translation to Kodkod that doesn't use ForgeBounds.

Author:

Aleksandar Milicevic

Definition at line 37 of file SquanderKodkodPart2Impl.java.

9.21.2 Constructor & Destructor Documentation

9.21.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.SquanderKodkodPart2Impl()

Definition at line 39 of file SquanderKodkodPart2Impl.java.

9.21.3 Member Function Documentation

9.21.3.1 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.boundLocalVar(LocalVariable var, TupleFactory f, Bounds b) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 162 of file SquanderKodkodPart2Impl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.relName\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds\(\)](#).

9.21.3.2 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.conv2tuples(ObjTupleSet fc, TupleFactory f) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 209 of file SquanderKodkodPart2Impl.java.

References [edu.mit.csail.sdg.absstate.ObjTupleSet.arity](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom](#), and
[edu.mit.csail.sdg.absstate.ObjTupleSet.tuples](#).

Referenced by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds\(\)](#), and
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper\(\)](#).

9.21.3.3 Bounds edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds() [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#).

Definition at line 42 of file SquanderKodkodPart2Impl.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.args](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createUniverse\(\)](#),
[edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds\(\)](#),
[edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse\(\)](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteral](#),
[edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#),

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLowerUpper(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.lit2rel, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.program, edu.mit.csail.sdg.squander.engine.SquanderImpl.reporter
 edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar,
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr, and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

9.21.3.4 TupleSet [] edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds (ForgeVariable var, TupleFactory f) [private]

Definition at line 170 of file SquanderKodkodPart2Impl.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.bounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl
 and edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.boundLocalVar(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds().

9.21.3.5 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getExtent (ForgeVariable var, TupleFactory f) [private]

Definition at line 187 of file SquanderKodkodPart2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getBounds(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper().

9.21.3.6 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getLitNameForObject (Object obj) [private]

Definition at line 229 of file SquanderKodkodPart2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, and
 edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.conv2tuples().

9.21.3.7 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower (GlobalVariable g, TupleSet initialBound, TupleFactory f) [protected]

Definition at line 110 of file SquanderKodkodPart2Impl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv,
 edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl
 edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.j
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.j
 and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLowerUpper().

9.21.3.8 TupleSet []

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLowerUpper
(GlobalVariable *var*, TupleSet *lowerInitial*, TupleFactory *f*) [private]**

Definition at line 104 of file SquanderKodkodPart2Impl.java.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower()`, and
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper()`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds()`.

9.21.3.9 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper

(GlobalVariable *var*, TupleSet *postLower*, TupleFactory *f*) [protected]

Definition at line 133 of file SquanderKodkodPart2Impl.java.

References `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.conv2tuples()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getExtent()`,
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.join()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.upperBounds()`,
and `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.upperBounds()`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLowerUpper()`.

9.21.3.10 TupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.join

(TupleSet *ts1*, TupleSet *ts2*, TupleFactory *f*) [private]

Definition at line 147 of file SquanderKodkodPart2Impl.java.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower()`, and
`edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostUpper()`.

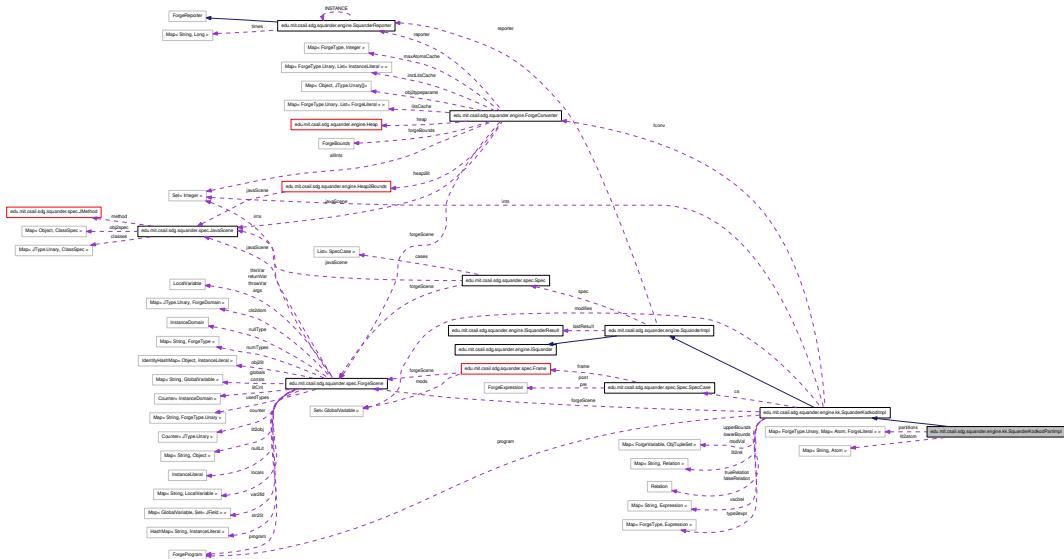
The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPart2Impl.java`

9.22 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl Class Reference

Inherits [edu::mit::csail::sdg::squander::engine::kk::SquanderKodkodImpl](#).

Inherited by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#). Collaboration diagram for [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#):



Classes

- class **Atom**
- class **KodkodIntEval**

Public Member Functions

- **SquanderKodkodPartImpl ()**

Protected Member Functions

- void **partitionDomains ()**
- Atom **nextAtomForLiteral** (Unary partition, ForgeDomain litType, Map< ForgeDomain, Set< ForgeDomain >> deps, Set< Atom > availAtoms)
- Universe **createUniverse ()**
- Bounds **createBounds ()**
- IEvaluator **getEval** (Iterator< Solution > solutions)
- Object **convAtom** (ForgeAtom a)

Protected Attributes

- Map< ForgeType.Unary, Map< Atom, ForgeLiteral >> **partitions**
- Map< String, Atom > **lit2atom**

Private Member Functions

- void [sort](#) (List<ForgeType.Unary> types)
- void [processNext](#) (ForgeType.Unary t, Map<ForgeDomain, Set<ForgeDomain>> deps, Set<Atom> allAtoms)
- Set<Atom> [processFirst](#) (ForgeType.Unary t)
- Map<ForgeDomain, Set<ForgeDomain>> [createDependencies](#) (List<ForgeType.Unary> types)
- String [printPartitions](#) ()

9.22.1 Detailed Description

An implementation of the [ISquander](#) interface that uses *KodkodPart* translation to Kodkod in order to minimize the number of atoms in the universe.

Author:

Aleksandar Milicevic

Definition at line 53 of file SquanderKodkodPartImpl.java.

9.22.2 Constructor & Destructor Documentation

9.22.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.SquanderKodkodPartImpl()

Definition at line 146 of file SquanderKodkodPartImpl.java.

9.22.3 Member Function Documentation

9.22.3.1 Object edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.convAtom (ForgeAtom a) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 482 of file SquanderKodkodPartImpl.java.

References [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom](#).

9.22.3.2 Bounds edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds() [protected]

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#).

Definition at line 410 of file SquanderKodkodPartImpl.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.args](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.bound](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples\(\)](#), [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse\(\)](#),

edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.forge, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.forgeScene, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostUpper(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.ints, edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.modifies, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.reporter, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar, edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.type2expr, and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.var2rel.

9.22.3.3 Map<ForgeDomain, Set<ForgeDomain> > **edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createDependencies (List< ForgeType.Unary > types) [private]**

Definition at line 225 of file SquanderKodkodPartImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().

9.22.3.4 Universe **edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse 0 [protected]**

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 366 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.printPartitions().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds().

9.22.3.5 IEvaluator **edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.getEval (Iterator< Solution > solutions) [protected]**

Reimplemented from [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 477 of file SquanderKodkodPartImpl.java.

9.22.3.6 Atom

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.nextAtomForLiteral (Unary partition, ForgeDomain litType, Map< ForgeDomain, Set< ForgeDomain >> deps, Set< Atom > availAtoms) [protected]

Definition at line 241 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext().

9.22.3.7 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains () [protected]

Definition at line 159 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createDependencies(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.findLitera
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fo
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodP
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.p
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.p
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.p
 and edu.mit.csail.sdg.squander.spec.ForgeScene.usedTypes.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse().

9.22.3.8 String edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.printPartitions () [private]

Definition at line 378 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse().

9.22.3.9 Set<Atom> edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processFirst (ForgeType.Unary *t*) [private]

Definition at line 211 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv,
 edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().

9.22.3.10 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext (ForgeType.Unary *t*, Map<ForgeDomain, Set<ForgeDomain>> *deps*, Set<Atom> *allAtoms*) [private]

Definition at line 180 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv,
 edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.nextAtomForLiteral(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().

9.22.3.11 void edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.sort (List<ForgeType.Unary > *types*) [private]

Definition at line 148 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, and
 edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().

9.22.4 Member Data Documentation

9.22.4.1 Map<String, Atom>

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.lit2atom
[protected]

Definition at line 144 of file SquanderKodkodPartImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.conv2tuples(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.convAtom(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createUniverse(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.nextAtomForLiteral(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processFirst(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext().

9.22.4.2 Map<ForgeType.Unary, Map<Atom, ForgeLiteral> >

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions
[protected]

Definition at line 143 of file SquanderKodkodPartImpl.java.

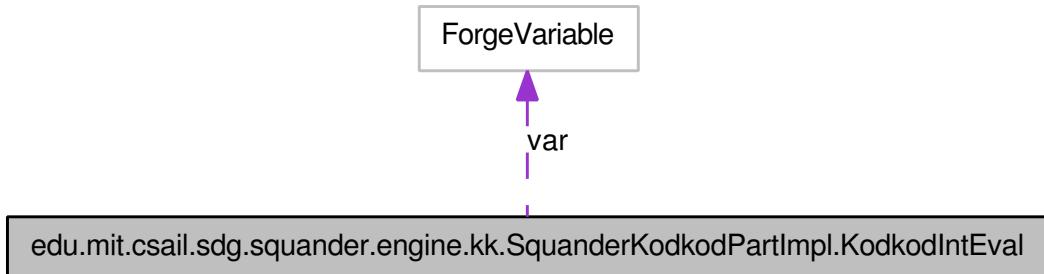
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getExtent(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.printPartitions(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processFirst(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.processNext().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/kk/[SquanderKodkodPartImpl.java](#)

9.23 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval:



Public Member Functions

- [KodkodIntEval](#) (Iterator< Solution > solutions)
- [ObjTupleSet evaluate](#) (ForgeVariable var)
- [ObjTupleSet evaluateExpr](#) (ForgeExpression expr)

Protected Member Functions

- [ObjTupleSet makeConst](#) (TupleSet ts)

Private Attributes

- ForgeVariable [var](#)

9.23.1 Detailed Description

Definition at line 59 of file SquanderKodkodPartImpl.java.

9.23.2 Constructor & Destructor Documentation

9.23.2.1 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.KodkodIntEval (Iterator< Solution > *solutions*)

Definition at line 63 of file SquanderKodkodPartImpl.java.

9.23.3 Member Function Documentation

9.23.3.1 ObjTupleSet edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.evaluate (ForgeVariable *var*)

Definition at line 68 of file SquanderKodkodPartImpl.java.

9.23.3.2 ObjTupleSet

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.evaluateExpr
(ForgeExpression expr)**

Definition at line 74 of file SquanderKodkodPartImpl.java.

9.23.3.3 ObjTupleSet

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst
(TupleSet ts) [protected]**

Definition at line 79 of file SquanderKodkodPartImpl.java.

References edu.mit.csail.sdg.absstate.ObjTupleSet.add(), edu.mit.csail.sdg.absstate.ObjTuple.arity, edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitions, edu.mit.csail.sdg.squander.absstate.ObjTuple.product(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.evaluateExpr().

9.23.4 Member Data Documentation

9.23.4.1 ForgeVariable

**edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.var
[private]**

Definition at line 61 of file SquanderKodkodPartImpl.java.

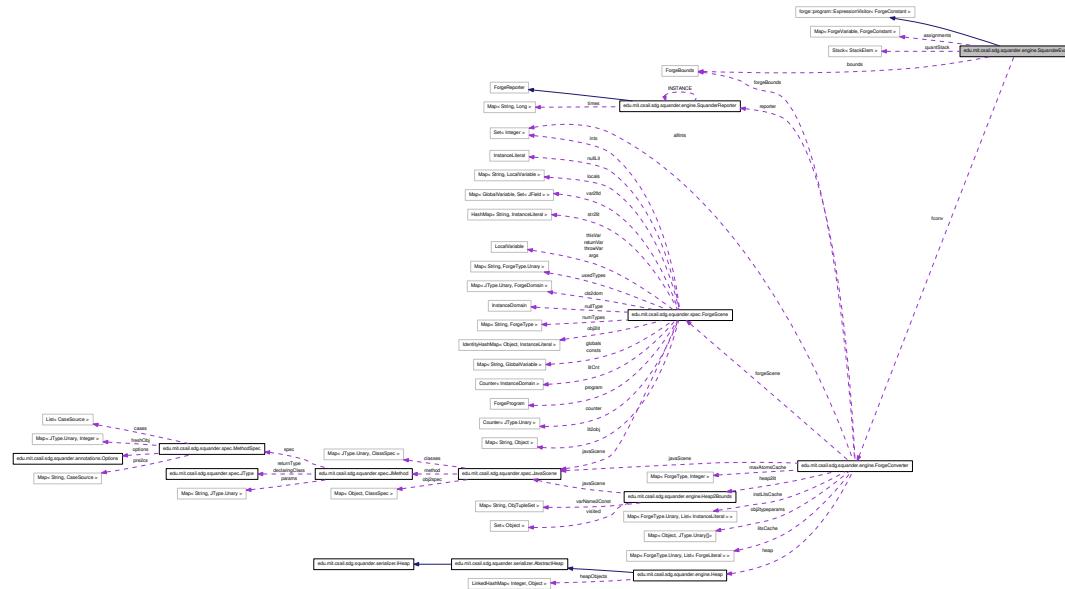
Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval.makeConst().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/kk/[SquanderKodkodPartImpl.java](#)

9.24 edu.mit.csail.sdg.squander.engine.SquanderEval Class Reference

Inherits forge::program::ExpressionVisitor< ForgeConstant >.Collaboration diagram for
edu.mit.csail.sdg.squander.engine.SquanderEval:



Classes

- interface **BinFunc**< R, T >
 - class **StackElem**

Public Member Functions

- Map< ForgeVariable, ForgeConstant > [getAssignments \(\)](#)
 - ISquanderResult.IEvaluator [getEvaluator \(\)](#)
 - ForgeConstant [eval \(ForgeExpression expr, ForgeBounds bounds, ForgeConverter fconv\)](#)

Protected Member Functions

- ForgeConstant `visit` (BinaryExpression expr)
 - ForgeConstant `visit` (ConditionalExpression expr)
 - ForgeConstant `visit` (ForgeLiteral expr)
 - ForgeConstant `visit` (ForgeType expr)
 - ForgeConstant `visit` (ForgeVariable expr)
 - ForgeConstant `visit` (OldExpression expr)
 - ForgeConstant `visit` (ProjectionExpression expr)
 - ForgeConstant `visit` (QuantifyExpression expr)
 - ForgeConstant `visit` (UnaryExpression expr)

Package Functions

- private< R > ForgeConstant [visitIntBinExpr](#) (BinaryExpression expr, BinFunc< R, Integer > f)

Private Member Functions

- ForgeConstant [visitVariable](#) (ForgeVariable var)
- ForgeConstant [visitLocalVariable](#) (LocalVariable var)
- StackElem [searchStack](#) (LocalVariable var)
- ForgeConstant [visitAssignment](#) (BinaryExpression expr)
- ForgeConstant [visitEquals](#) (BinaryExpression expr)
- ForgeConstant [visitJoin](#) (BinaryExpression expr)
- ForgeConstant [visitProduct](#) (BinaryExpression expr)
- ForgeConstant [visitRelUnion](#) (BinaryExpression expr)
- ForgeConstant [visitDiff](#) (BinaryExpression expr)
- ForgeConstant [visitSubset](#) (BinaryExpression expr)
- ForgeConstant [visitIntersection](#) (BinaryExpression expr)
- ForgeConstant [visitClosure](#) (ForgeConstant res)
- ForgeConstant [visitBoolBinExpr](#) (BinaryExpression expr, BinFunc< Boolean, Boolean > f)
- ForgeConstant [visitUnion](#) (QuantifyExpression expr)
- ForgeConstant [visitAll](#) (QuantifyExpression expr)
- ForgeConstant [visitExists](#) (QuantifyExpression expr)

Private Attributes

- ForgeBounds bounds
- [ForgeConverter](#) fconv
- boolean hasSolution = false
- Stack< StackElem > quantStack = new Stack<StackElem>()
- Map< ForgeVariable, ForgeConstant > assignments = new HashMap<ForgeVariable, ForgeConstant>()

9.24.1 Detailed Description

Used to evaluate relational Forge expressions against the heap.

Author:

Aleksandar Milicevic

Definition at line 42 of file SquanderEval.java.

9.24.2 Member Function Documentation

9.24.2.1 **ForgeConstant** [edu.mit.csail.sdg.squander.engine.SquanderEval.eval](#) (**ForgeExpression** expr, **ForgeBounds** bounds, **ForgeConverter** fconv)

Evaluates the given Forge expression against the given bounds (which represent the heap) and returns a Forge constant as the result of the evaluation.

Definition at line 115 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.hasSolution, and edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack.

9.24.2.2 Map<ForgeVariable, ForgeConstant>
edu.mit.csail.sdg.squander.engine.SquanderEval.getAssignments
0

Definition at line 71 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.assignments.

9.24.2.3 ISquanderResult.IEvaluator
edu.mit.csail.sdg.squander.engine.SquanderEval.getEvaluator
0

Definition at line 75 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.assignments, edu.mit.csail.sdg.squander.engine.SquanderEval.fconv, and edu.mit.csail.sdg.squander.engine.SquanderEval.hasSolution.

9.24.2.4 StackElem edu.mit.csail.sdg.squander.engine.SquanderEval.searchStack (LocalVariable var) [private]

Definition at line 283 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visitLocalVariable().

9.24.2.5 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (UnaryExpression expr) [protected]

Definition at line 232 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds, and edu.mit.csail.sdg.squander.engine.SquanderEval.visitClosure().

9.24.2.6 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (QuantifyExpression expr) [protected]

Definition at line 218 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitEx and edu.mit.csail.sdg.squander.engine.SquanderEval.visitUnion().

9.24.2.7 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (ProjectionExpression expr) [protected]

Definition at line 212 of file SquanderEval.java.

9.24.2.8 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (OldExpression expr) [protected]

Definition at line 207 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.9 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (ForgeVariable expr) [protected]

Definition at line 199 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.visitLocalVariable(), and edu.mit.csail.sdg.squander.engine.SquanderEval.visitVariable().

9.24.2.10 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (ForgeType expr) [protected]

Definition at line 194 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

9.24.2.11 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (ForgeLiteral expr) [protected]

Definition at line 185 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

9.24.2.12 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (ConditionalExpression expr) [protected]

Definition at line 175 of file SquanderEval.java.

9.24.2.13 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visit (BinaryExpression expr) [protected]

Definition at line 125 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.visitBoolBinExpr(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitDiff(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitEquals(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitIntBinExpr(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitIntersection(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitJoin(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitProduct(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitRelUnion(), and edu.mit.csail.sdg.squander.engine.SquanderEval.visitSubstitution().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.14 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitAll (QuantifyExpression expr) [private]

Definition at line 413 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds, and
edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.15 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitAssignment (BinaryExpression *expr*) [private]

Definition at line 293 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.assignments, and
edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

9.24.2.16 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitBoolBinExpr (BinaryExpression *expr*, BinFunc< Boolean, Boolean >*f*) [private]

Definition at line 359 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.17 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitClosure (ForgeConstant *res*) [private]

Definition at line 345 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.18 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitDiff (BinaryExpression *expr*) [private]

Definition at line 326 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.19 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitEquals (BinaryExpression *expr*) [private]

Definition at line 301 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.20 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitExists (QuantifyExpression *expr*) [private]

Definition at line 428 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds, and
edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

**9.24.2.21 private<R> ForgeConstant
edu.mit.csail.sdg.squander.engine.SquanderEval.visitIntBinExpr
(BinaryExpression *expr*, BinFunc< R, Integer >*f*) [package]**

Definition at line 370 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

**9.24.2.22 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitIntersection
(BinaryExpression *expr*) [private]**

Definition at line 339 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

**9.24.2.23 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitJoin
(BinaryExpression *expr*) [private]**

Definition at line 308 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

**9.24.2.24 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitLocalVariable
(LocalVariable *var*) [private]**

Definition at line 275 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.searchStack(), and
edu.mit.csail.sdg.squander.engine.SquanderEval.visitVariable().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

**9.24.2.25 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitProduct
(BinaryExpression *expr*) [private]**

Definition at line 314 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

**9.24.2.26 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitRelUnion
(BinaryExpression *expr*) [private]**

Definition at line 320 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

**9.24.2.27 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitSubset
(BinaryExpression *expr*) [private]**

Definition at line 333 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.28 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitUnion (QuantifyExpression *expr*) [private]

Definition at line 396 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds, and
edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit().

9.24.2.29 ForgeConstant edu.mit.csail.sdg.squander.engine.SquanderEval.visitVariable (ForgeVariable *var*) [private]

Definition at line 268 of file SquanderEval.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval.bounds.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit(), and
edu.mit.csail.sdg.squander.engine.SquanderEval.visitLocalVariable().

9.24.3 Member Data Documentation

9.24.3.1 Map<ForgeVariable, ForgeConstant> edu.mit.csail.sdg.squander.engine.SquanderEval.assignments = new HashMap<ForgeVariable, ForgeConstant>() [private]

Definition at line 69 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.getAssignments(),
edu.mit.csail.sdg.squander.engine.SquanderEval.getEvaluator(), and
edu.mit.csail.sdg.squander.engine.SquanderEval.visitAssignment().

9.24.3.2 ForgeBounds edu.mit.csail.sdg.squander.engine.SquanderEval.bounds [private]

Definition at line 65 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.visit(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitAll(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitAssignment(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitBoolBinExpr(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitEqBinExpr(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitExists(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitIntBinExpr(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitSubset(),
edu.mit.csail.sdg.squander.engine.SquanderEval.visitUnion(),
and edu.mit.csail.sdg.squander.engine.SquanderEval.visitVariable().

9.24.3.3 ForgeConverter edu.mit.csail.sdg.squander.engine.SquanderEval.fconv [private]

Definition at line 66 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.getEvaluator().

**9.24.3.4 boolean edu.mit.csail.sdg.squander.engine.SquanderEval.hasSolution = false
[private]**

Definition at line 67 of file SquanderEval.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.eval(), and edu.mit.csail.sdg.squander.engine.SquanderEval.getEvaluator().

**9.24.3.5 Stack<StackElem> edu.mit.csail.sdg.squander.engine.SquanderEval.quantStack = new
Stack<StackElem>() [private]**

Definition at line 68 of file SquanderEval.java.

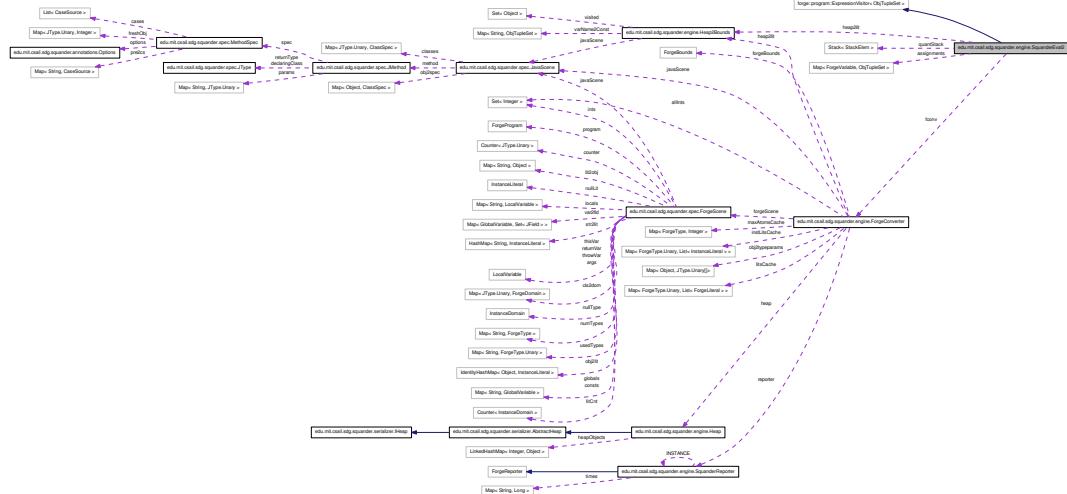
Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval.eval(), edu.mit.csail.sdg.squander.engine.SquanderEval.searchStack(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval.visitExists(), and edu.mit.csail.sdg.squander.engine.SquanderEval.visitUnion()

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/[SquanderEval.java](#)

9.25 edu.mit.csail.sdg.squander.engine.SquanderEval2 Class Reference

Inherits forge::program::ExpressionVisitor< ObjTupleSet >.Collaboration diagram for edu.mit.csail.sdg.squander.engine.SquanderEval2:



Classes

- interface **BinFunc< R, T >**
 - class **StackElem**

Public Member Functions

- Map< ForgeVariable, ObjTupleSet > getAssignments ()
 - ISquanderResult.IEvaluator getEvaluator ()
 - ObjTupleSet eval (ForgeExpression expr, ForgeConverter fconv)

Protected Member Functions

- `ObjTupleSet visit (BinaryExpression expr)`
 - `ObjTupleSet visit (ConditionalExpression expr)`
 - `ObjTupleSet visit (ForgeLiteral expr)`
 - `ObjTupleSet visit (ForgeType expr)`
 - `ObjTupleSet visit (ForgeVariable expr)`
 - `ObjTupleSet visit (OldExpression expr)`
 - `ObjTupleSet visit (ProjectionExpression expr)`
 - `ObjTupleSet visit (QuantifyExpression expr)`
 - `ObjTupleSet visit (UnaryExpression expr)`

Package Functions

- `private< R > ObjTupleSet visitIntBinExpr (BinaryExpression expr, BinFunc< R, Integer > f)`

Private Member Functions

- `ObjTupleSet visitVariable` (`ForgeVariable var`)
- `ObjTupleSet visitLocalVariable` (`LocalVariable var`)
- `StackElem searchStack` (`LocalVariable var`)
- `ObjTupleSet visitAssignment` (`BinaryExpression expr`)
- `ObjTupleSet visitEquals` (`BinaryExpression expr`)
- `ObjTupleSet visitJoin` (`BinaryExpression expr`)
- `ObjTupleSet visitProduct` (`BinaryExpression expr`)
- `ObjTupleSet visitRelUnion` (`BinaryExpression expr`)
- `ObjTupleSet visitDiff` (`BinaryExpression expr`)
- `ObjTupleSet visitSubset` (`BinaryExpression expr`)
- `ObjTupleSet visitIntersection` (`BinaryExpression expr`)
- `ObjTupleSet visitClosure` (`ObjTupleSet res`)
- `ObjTupleSet visitBoolBinExpr` (`BinaryExpression expr, BinFunc< Boolean, Boolean > f`)
- `ObjTupleSet visitUnion` (`QuantifyExpression expr`)
- `ObjTupleSet visitAll` (`QuantifyExpression expr`)
- `ObjTupleSet visitExists` (`QuantifyExpression expr`)

Static Private Member Functions

- static `ObjTupleSet boolAtom` (`boolean val`)
- static `ObjTupleSet intAtom` (`int val`)
- static `ObjTupleSet objAtom` (`Object obj`)
- static boolean `boolValue` (`ObjTupleSet condEval`)
- static int `intValue` (`ObjTupleSet condEval`)

Private Attributes

- `ForgeConverter fconv`
- `Heap2Bounds heap2lit`
- boolean `hasSolution` = `false`
- `Stack< StackElem >` `quantStack` = `new Stack<StackElem>()`
- `Map< ForgeVariable, ObjTupleSet >` `assignments` = `new HashMap<ForgeVariable, ObjTupleSet>()`

9.25.1 Detailed Description

Used to evaluate relational Forge expressions against the heap. It uses `ObjTupleSet` instead of `Forge-Bounds`.

Definition at line 35 of file SquanderEval2.java.

9.25.2 Member Function Documentation

9.25.2.1 static ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom (boolean val) [static, private]

Definition at line 431 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit(),
 edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAssignment(),
 edu.mit.csail.sdg.squander.engine.SquanderEval2.visitBoolBinExpr(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists(),
 edu.mit.csail.sdg.squander.engine.SquanderEval2.visitSubset(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntBinExpr().

9.25.2.2 static boolean edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue (ObjTupleSet condEval) [static, private]

Definition at line 449 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isEmpty(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit(),
 edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitBoolBinExpr(),
 edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion().

9.25.2.3 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.eval (ForgeExpression expr, ForgeConverter fconv)

Evaluates the given Forge expression against the given bounds (which represent the heap) and returns an [ObjTupleSet](#) as the result of the evaluation.

Definition at line 108 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.hasSolution(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.heap2Lit(), edu.mit.csail.sdg.squander.engine.SquanderEval2.heap2lit(), and
 edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec().

9.25.2.4 Map<ForgeVariable, ObjTupleSet> edu.mit.csail.sdg.squander.engine.SquanderEval2.getAssignments()

Definition at line 65 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.assignments.

9.25.2.5 ISquanderResult.IEvaluator edu.mit.csail.sdg.squander.engine.SquanderEval2.getEvaluator()

Definition at line 69 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.assignments, and edu.mit.csail.sdg.squander.engine.SquanderEval2.hasSolution.

9.25.2.6 static ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.intAtom (int val) [static, private]

Definition at line 437 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntBinExpr().

9.25.2.7 static int edu.mit.csail.sdg.squander.engine.SquanderEval2.intValue (ObjTupleSet condEval) [static, private]

Definition at line 457 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntBinExpr().

9.25.2.8 static ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.objAtom (Object obj) [static, private]

Definition at line 443 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.9 StackElem edu.mit.csail.sdg.squander.engine.SquanderEval2.searchStack (LocalVariable var) [private]

Definition at line 271 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visitLocalVariable().

9.25.2.10 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (UnaryExpression expr) [protected]

Definition at line 221 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(), edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isEmpty(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isTuple(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitClosure()

9.25.2.11 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (QuantifyExpression expr) [protected]

Definition at line 207 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visit() and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion().

**9.25.2.12 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit
(ProjectionExpression *expr*) [protected]**

Definition at line 201 of file SquanderEval2.java.

**9.25.2.13 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (OldExpression
expr) [protected]**

Definition at line 196 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

**9.25.2.14 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (ForgeVariable
expr) [protected]**

Definition at line 188 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.visitLocalVariable(), and
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitVariable().

**9.25.2.15 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (ForgeType *expr*)
[protected]**

Definition at line 183 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(), and
edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv.

**9.25.2.16 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (ForgeLiteral *expr*)
[protected]**

Definition at line 178 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj()
and edu.mit.csail.sdg.squander.engine.SquanderEval2.objAtom().

**9.25.2.17 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit
(ConditionalExpression *expr*) [protected]**

Definition at line 168 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue().

**9.25.2.18 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visit (BinaryExpression
expr) [protected]**

Definition at line 118 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.visitBoolBinExpr(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitDiff(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitEquals(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntBinExpr(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitInt()
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitJoin(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitProduct(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitRelUnion(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitS()

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.19 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll (QuantifyExpression *expr*) [private]

Definition at line 401 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(), edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv, edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack,
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.20 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAssignment (BinaryExpression *expr*) [private]

Definition at line 281 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.assignments, and
edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom().

9.25.2.21 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitBoolBinExpr (BinaryExpression *expr*, BinFunc< Boolean, Boolean >*f*) [private]

Definition at line 347 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(), and
edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.22 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitClosure (ObjTupleSet *res*) [private]

Definition at line 333 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples,
and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.23 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitDiff (BinaryExpression *expr*) [private]

Definition at line 314 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.diff().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

**9.25.2.24 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitEquals
(BinaryExpression *expr*) [private]**

Definition at line 289 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.equals().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

**9.25.2.25 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists
(QuantifyExpression *expr*) [private]**

Definition at line 416 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(), edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(), edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(), edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv, edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack, edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

**9.25.2.26 private<R> ObjTupleSet
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntBinExpr
(BinaryExpression *expr*, BinFunc<R, Integer >*f*) [package]**

Definition at line 358 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(), edu.mit.csail.sdg.squander.engine.SquanderEval2.intAtom(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.intValue().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

**9.25.2.27 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitIntersection
(BinaryExpression *expr*) [private]**

Definition at line 327 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.intersection().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

**9.25.2.28 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitJoin
(BinaryExpression *expr*) [private]**

Definition at line 296 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

**9.25.2.29 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitLocalVariable
(LocalVariable *var*) [private]**

Definition at line 263 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.searchStack(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitVariable().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.30 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitProduct (BinaryExpression *expr*) [private]

Definition at line 302 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.product().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.31 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitRelUnion (BinaryExpression *expr*) [private]

Definition at line 308 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.32 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitSubset (BinaryExpression *expr*) [private]

Definition at line 321 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.SquanderEval2.boolAtom(), and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.subsetOf().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.33 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion (QuantifyExpression *expr*) [private]

Definition at line 384 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, edu.mit.csail.sdg.squander.engine.SquanderEval2.boolValue(), edu.mit.csail.sdg.squander.engine.ForgeConverter.extent(), edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv, edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack, edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size(), edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples, and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.union().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit().

9.25.2.34 ObjTupleSet edu.mit.csail.sdg.squander.engine.SquanderEval2.visitVariable (ForgeVariable *var*) [private]

Definition at line 257 of file SquanderEval2.java.

References edu.mit.csail.sdg.squander.engine.Heap2Bounds.getBound(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.heap2lit.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitLocalVariable().

9.25.3 Member Data Documentation

9.25.3.1 Map<ForgeVariable, ObjTupleSet>

```
edu.mit.csail.sdg.squander.engine.SquanderEval2.assignments = new  
HashMap<ForgeVariable, ObjTupleSet>() [private]
```

Definition at line 63 of file SquanderEval2.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.getAssignments(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.getEvaluator(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAs

9.25.3.2 ForgeConverter edu.mit.csail.sdg.squander.engine.SquanderEval2.fconv [private]

Definition at line 58 of file SquanderEval2.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.visit(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists(),
and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion().

9.25.3.3 boolean edu.mit.csail.sdg.squander.engine.SquanderEval2.hasSolution = false [private]

Definition at line 61 of file SquanderEval2.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.eval(), and
edu.mit.csail.sdg.squander.engine.SquanderEval2.getEvaluator().

9.25.3.4 Heap2Bounds edu.mit.csail.sdg.squander.engine.SquanderEval2.heap2lit [private]

Definition at line 59 of file SquanderEval2.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.eval(), and
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitVariable().

9.25.3.5 Stack<StackElem> edu.mit.csail.sdg.squander.engine.SquanderEval2.quantStack = new Stack<StackElem>() [private]

Definition at line 62 of file SquanderEval2.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderEval2.eval(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.searchStack(), edu.mit.csail.sdg.squander.engine.SquanderEval2.visitAll(),
edu.mit.csail.sdg.squander.engine.SquanderEval2.visitExists(), and edu.mit.csail.sdg.squander.engine.SquanderEval2.visitUnion()

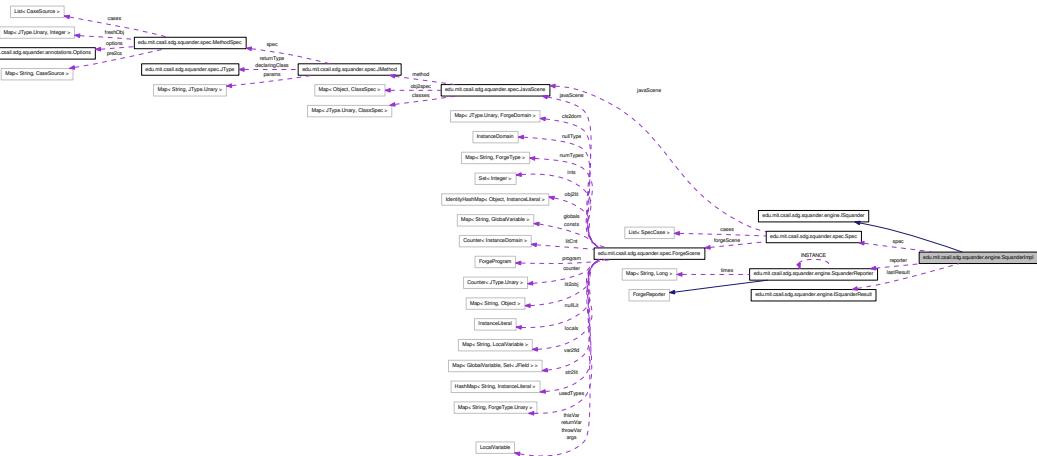
The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/[SquanderEval2.java](#)

9.26 edu.mit.csail.sdg.squander.engine.SquanderImpl Class Reference

Inherits `edu::mit::csail::sdg::squander::engine::ISquander`.

Inherited by [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).Collaboration diagram for [edu.mit.csail.sdg.squander.engine.SquanderImpl](#):



Public Member Functions

- SquanderImpl ()
 - ISquanderResult getLastResult ()

Protected Member Functions

- **JMethod convToJMethod** (Object caller, String clsName, String methodName, Class<?>[] methodParams)
 - Iterator<?extends ISquanderResult> **exeMethod** (SquanderReporter reporter, Object caller, JMethod m, Object[] methodArgs)
 - final IEvaluator **checkPre** (SpecCase cs, ForgeConverter fconv)
 - final Iterator<?extends ISquanderResult> **ensurePost** (SpecCase cs, ForgeConverter fconv)
 - Set<GlobalVariable> **getModsForPostState** (ForgeConverter fconv, SpecCase sc)
 - ForgeExpression **getPreSpec** (SpecCase cs)
 - ForgeExpression **getPostSpec** (SpecCase cs, ForgeConverter fconv)
 - **Spec getSpec** (ForgeConverter fconv)
 - IEvaluator **exeSpec** (ForgeExpression spec, Set<GlobalVariable> modifies, ForgeConverter fconv)

Protected Attributes

- SquanderReporter reporter

Package Functions

- public< R > R [magic](#) (Object caller, String clsName, String methodName, Class<?>[] methodParams, Object[] methodArgs)
- public< R > R [magic](#) (Object caller, Method method, Object[] methodArgs)
- public< R > R [magic](#) (Object caller, [JMethod](#) method, Object[] methodArgs)

Private Attributes

- [ISquanderResult](#) lastResult
- Spec spec

9.26.1 Detailed Description

An implementation of the [ISquander](#) interface that uses Forge as the back-end.

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 33 of file SquanderImpl.java.

9.26.2 Constructor & Destructor Documentation

9.26.2.1 edu.mit.csail.sdg.squander.engine.SquanderImpl.SquanderImpl ()

Definition at line 40 of file SquanderImpl.java.

9.26.3 Member Function Documentation

9.26.3.1 final IEvaluator edu.mit.csail.sdg.squander.engine.SquanderImpl.checkPre (SpecCase cs, ForgeConverter fconv) [protected]

Check pre-conditions in the specification case.

all values of concrete fields are in bounds all values of spec fields are in bounds

Parameters:

cs
options

Returns:

non-null if the pre-condition is satisfied

Definition at line 192 of file SquanderImpl.java.

References edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.SquanderImpl.getPre and edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

9.26.3.2 JMethod edu.mit.csail.sdg.squander.engine.SquanderImpl.convToJMethod (Object *caller*, String *clsName*, String *methodName*, Class<?>[] *methodParams*) [protected]

Definition at line 126 of file SquanderImpl.java.

References edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

9.26.3.3 final Iterator<? extends ISquanderResult> edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost (SpecCase *cs*, ForgeConverter *fconv*) [protected]

Modifies the heap to ensure the post-condition of the specification case.

that only relations in modifies clause can be changed that new instances should have their relations mentioned in frame that specification fields are bounded to literals according to their abstraction function

Parameters:

cs

options

Returns:

Definition at line 219 of file SquanderImpl.java.

References edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame, edu.mit.csail.sdg.squander.engine.SquanderImpl.getModsForPostState(), edu.mit.csail.sdg.squander.engine.SquanderImpl.getBounds() and edu.mit.csail.sdg.squander.engine.ForgeConverter.printBounds().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

9.26.3.4 Iterator<? extends ISquanderResult> edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod (SquanderReporter *reporter*, Object *caller*, JMethod *m*, Object[] *methodArgs*) [protected]

reporter != null; classPath != null; className != null; methodName != null;

Definition at line 148 of file SquanderImpl.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(), edu.mit.csail.sdg.squander.spec.Spec.cases, edu.mit.csail.sdg.squander.engine.SquanderImpl.checkPre(), edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost(), edu.mit.csail.sdg.squander.engine.SquanderImpl.getSpec(), edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringSpecFields(), edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext(), and edu.mit.csail.sdg.squander.engine.SquanderImpl.spec.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

9.26.3.5 IEvaluator edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec (ForgeExpression *spec*, Set<GlobalVariable> *modifies*, ForgeConverter *fconv*) [protected]

Executes the given forge expression.

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 274 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeBounds](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeOptions\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene](#), [edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec\(\)](#), [edu.mit.csail.sdg.squander.spec.MethodSpec.options](#), and [edu.mit.csail.sdg.squander.engine.ForgeConverter.proc\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.checkPre\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost\(\)](#).

9.26.3.6 ISquanderResult [edu.mit.csail.sdg.squander.engine.SquanderImpl.getLastResult \(\)](#)

Returns the result of the last execution.

Implements [edu.mit.csail.sdg.squander.engine.ISquander](#).

Definition at line 118 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.SquanderImpl.lastResult](#).

9.26.3.7 Set<GlobalVariable>

**edu.mit.csail.sdg.squander.engine.SquanderImpl.getModsForPostState
(ForgeConverter *fconv*, SpecCase *sc*) [protected]**

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 241 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.program](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost\(\)](#).

9.26.3.8 ForgeExpression [edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec \(SpecCase *cs*, ForgeConverter *fconv*\) \[protected\]](#)

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 253 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeS](#), [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame](#), [edu.mit.csail.sdg.squander.spec.Spec.funcConstraint\(\)](#), [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.program](#), [edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec\(\)](#), and [edu.mit.csail.sdg.squander.spec.Spec.wellformedPost\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost\(\)](#).

9.26.3.9 ForgeExpression [edu.mit.csail.sdg.squander.engine.SquanderImpl.getPreSpec \(SpecCase *cs*\) \[protected\]](#)

Reimplemented in [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#), and [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#).

Definition at line 249 of file SquanderImpl.java.

References edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre, and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.checkPre().

9.26.3.10 Spec edu.mit.csail.sdg.squander.engine.SquanderImpl.getSpec (ForgeConverter *fconv*) [protected]

Definition at line 264 of file SquanderImpl.java.

References edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec(), and edu.mit.csail.sdg.squander.engine.SquanderImpl.spec.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

9.26.3.11 public<R> R edu.mit.csail.sdg.squander.engine.SquanderImpl.magic (Object *caller*, JMethod *method*, Object[] *methodArgs*) [package]

Executes the specification of the given JMethod

Parameters:

<R> - the return type

caller - the caller instance (`null` if the method is static)

method - Squander's internal representation of a method (which includes method's spec). This can be used to execute specs that are not necessarily given as annotations on a Java method

methodArgs - actual method arguments

Returns:

- the result of the method's execution (or nothing if the type is `void`)

Implements [edu.mit.csail.sdg.squander.engine.ISquander](#).

Definition at line 78 of file SquanderImpl.java.

References edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod(), edu.mit.csail.sdg.squander.engine.SquanderReporter.finishedAnalysis(), edu.mit.csail.sdg.squander.engine.ISquanderResult.getTrace(), edu.mit.csail.sdg.squander.engine.ISquanderResult.getTrace(), edu.mit.csail.sdg.squander.engine.ISquanderResult.hasSolution(), edu.mit.csail.sdg.squander.engine.SquanderReporter.INSTANCE, edu.mit.csail.sdg.squander.engine.SquanderImpl.lastResult, edu.mit.csail.sdg.squander.engine.SquanderImpl.reporter, edu.mit.csail.sdg.squander.engine.ISquanderResult.restoreJavaHeap(), edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringJavaHeap(), and edu.mit.csail.sdg.squander.engine.ISquanderResult.unsatCore().

9.26.3.12 public<R> R edu.mit.csail.sdg.squander.engine.SquanderImpl.magic (Object *caller*, Method *method*, Object[] *methodArgs*) [package]

Executes the specification of the given Java method

Parameters:

<R> - the return type

caller - the caller instance (`null` if the method is static)

method - Java method

methodArgs - actual method arguments

Returns:

- the result of the method's execution (or nothing if the type is `void`)

Implements [edu.mit.csail.sdg.squander.engine.ISquander](#).

Definition at line 72 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

9.26.3.13 public<R> R edu.mit.csail.sdg.squander.engine.SquanderImpl.magic (Object caller, String clsName, String methodName, Class<?>[] methodParams, Object[] methodArgs) [package]

Most general form

Parameters:

- <R>* • return type
- caller* • the object the method is being invoked on; null if the method is static
- clsName* • name of the class of the method (explicitly needed if *caller* is null, otherwise must be equal to *caller.getClass().getName()*)
- methodName* • name of the method
- methodParams* • types of method parameters
- methodArgs* • actual method arguments

Returns:

Implements [edu.mit.csail.sdg.squander.engine.ISquander](#).

Definition at line 67 of file SquanderImpl.java.

References [edu.mit.csail.sdg.squander.engine.SquanderImpl.convToJMethod\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

9.26.4 Member Data Documentation

9.26.4.1 ISquanderResult edu.mit.csail.sdg.squander.engine.SquanderImpl.lastResult [private]

Definition at line 35 of file SquanderImpl.java.

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.getLastResult\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderImpl.magic\(\)](#).

9.26.4.2 SquanderReporter edu.mit.csail.sdg.squander.engine.SquanderImpl.reporter [protected]

Definition at line 38 of file SquanderImpl.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), and
edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

9.26.4.3 Spec edu.mit.csail.sdg.squander.engine.SquanderImpl.spec [private]

Definition at line 36 of file SquanderImpl.java.

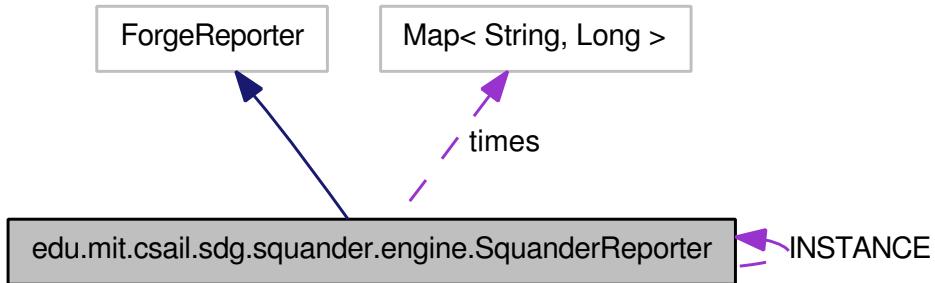
Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod(), and
edu.mit.csail.sdg.squander.engine.SquanderImpl.getSpec().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/[SquanderImpl.java](#)

9.27 edu.mit.csail.sdg.squander.engine.SquanderReporter Class Reference

Inherits forge::solve::ForgeReporter.Collaboration diagram for edu.mit.csail.sdg.squander.engine.SquanderReporter:



Public Member Functions

- void [end\(\)](#)
- kodkod.engine.config.Reporter [kkReporter\(\)](#)
- void [loadingJavaScene\(\)](#)
- void [convertingMethod\(\)](#)
- void [creatingFreshObjects\(\)](#)
- void [traversingHeap\(\)](#)
- void [creatingBounds\(\)](#)
- void [translatingSpecs\(\)](#)
- void [creatingKodkodUniverse\(\)](#)
- void [creatingKodkodBounds\(\)](#)
- void [restoringJavaHeap\(\)](#)
- void [restoringSpecFields\(\)](#)
- void [startedAnalysis\(\)](#)
- void [packagingAnalysis\(\)](#)
- void [translatingForge\(\)](#)
- void [buildingAnalysis\(\)](#)
- void [finishedAnalysis\(\)](#)
- void [detectedSymmetries\(Set<?> parts\)](#)
- void [detectingSymmetries\(Object bounds\)](#)
- void [flattening\(Object circuit\)](#)
- void [generatingSBP\(\)](#)
- void [optimizingBoundsAndFormula\(\)](#)
- void [skolemizing\(Object decl, Object skolem, List<?> context\)](#)
- void [solvingAnalysis\(\)](#)
- void [solvingCNF\(int primaryVars, int vars, int clauses\)](#)
- void [transformingProcedure\(\)](#)
- void [translatingToBoolean\(Object formula, Object bounds\)](#)
- void [translatingToCNF\(Object circuit\)](#)
- void [translatingToKodkod\(\)](#)
- long [getTaskTime\(String task\)](#)
- String [toString\(\)](#)

Static Public Attributes

- static final String `BUILDING_ANALYSIS` = "buildingAnalysis"
- static final String `TRANSLATING_FORGE` = "translatingForge"
- static final String `PACKAGIN_ANALYSIS` = "packaginAnalysis"
- static final String `LOADING_JIMPLE` = "loadingJimple"
- static final String `ANALYSIS` = "analysis"
- static final String `TRANSLATING_SPECS` = "translatingSpecs"
- static final String `CREATING_BOUNDS` = "creatingBounds"
- static final String `CREATING_KK_BOUNDS` = "creatingKKBounds"
- static final String `RESTORING_HEAP` = "restoringHeap"
- static final String `RESTORING_SF` = "restoringSpecFields"
- static final String `TRAVERSING_HEAP` = "traversingHeap"
- static final String `CREATING_KK_UNIV` = "creatingKKUniverse"
- static final String `CREATING_FRESH_OBJECTS` = "creatingFreshObjects"
- static final String `CONVERTING_METHOD` = "convertingMethod"
- static final String `LOADING_JAVA_SCENE` = "loadingJavaScene"
- static final String `TRANSLATING_TO_KODKOD` = "translatingToKodkod"
- static final String `TRANSLATING_TO_CNF` = "translatingToCNF"
- static final String `TRANSLATING_TO_BOOLEAN` = "translatingToBoolean"
- static final String `TRANSOFMING_PROCEDURE` = "transofmingProcedure"
- static final String `SOLVING_CNF` = "solvingCNF"
- static final String `SOLVING_ANALYSIS` = "solvingAnalysis"
- static final String `SCOLEMIZING` = "scolemizing"
- static final String `OPTIMIZING_BOUNDS_AND_FORMULA` = "optimizingBoundsAndFormula"
- static final String `GENERATING_SBP` = "generatingSBP"
- static final String `FLATTENING` = "flattening"
- static final String `DETECTING_SYMMETRIES` = "detectingSymmetries"
- static final String `DETECTED_SYMMETRIES` = "detectedSymmetries"
- static final `SquanderReporter` INSTANCE = new `SquanderReporter()`

Private Member Functions

- void `start` (String `task`)
- `SquanderReporter` ()

Private Attributes

- Map< String, Long > `times` = new LinkedHashMap<String, Long>()
- long `sTime`
- String `task`
- boolean `busy`
- kodkod.engine.config.Reporter `kkRep`

9.27.1 Detailed Description

Provides various callback methods for the [Squander](#) engine to invoke at certain points. It is primarily used for logging and timing purposes.

Author:

Aleksandar Milicevic

Definition at line 23 of file SquanderReporter.java.

9.27.2 Constructor & Destructor Documentation

9.27.2.1 edu.mit.csail.sdg.squander.engine.SquanderReporter.SquanderReporter () [private]

Definition at line 189 of file SquanderReporter.java.

9.27.3 Member Function Documentation

9.27.3.1 void edu.mit.csail.sdg.squander.engine.SquanderReporter.buildingAnalysis ()

Definition at line 99 of file SquanderReporter.java.

References [edu.mit.csail.sdg.squander.engine.SquanderReporter.BUILDING_ANALYSIS\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.end\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderReporter.start\(\)](#).

9.27.3.2 void edu.mit.csail.sdg.squander.engine.SquanderReporter.convertingMethod ()

Definition at line 87 of file SquanderReporter.java.

References [edu.mit.csail.sdg.squander.engine.SquanderReporter.CONVERTING_METHOD\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.end\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderReporter.start\(\)](#).

9.27.3.3 void edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingBounds ()

Definition at line 90 of file SquanderReporter.java.

References [edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_BOUNDS\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.end\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderReporter.start\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds\(\)](#).

9.27.3.4 void edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingFreshObjects ()

Definition at line 88 of file SquanderReporter.java.

References [edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_FRESH_OBJECTS\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderReporter.end\(\)](#), and [edu.mit.csail.sdg.squander.engine.SquanderReporter.start\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects\(\)](#).

9.27.3.5 void edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds ()

Definition at line 93 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_KK_BOUNDS, edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds().

9.27.3.6 void edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse ()

Definition at line 92 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_KK_UNIV, edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds().

9.27.3.7 void edu.mit.csail.sdg.squander.engine.SquanderReporter.detectedSymmetries (Set<?> parts)

Definition at line 103 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.DETECTED_SYMMETRIES, edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.8 void edu.mit.csail.sdg.squander.engine.SquanderReporter.detectingSymmetries (Object bounds)

Definition at line 109 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.DETECTING_SYMMETRIES, edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.9 void edu.mit.csail.sdg.squander.engine.SquanderReporter.end ()

Definition at line 69 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.busy, edu.mit.csail.sdg.squander.engine.SquanderReporter.sTime, edu.mit.csail.sdg.squander.engine.SquanderReporter.task, and edu.mit.csail.sdg.squander.engine.SquanderReporter.times.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.buildingAnalysis(), edu.mit.csail.sdg.squander.engine.SquanderReporter.convertingMethod(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingBounds(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse(),

edu.mit.csail.sdg.squander.engine.SquanderReporter.detectedSymmetries(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.detectingSymmetries(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), edu.mit.csail.sdg.squander.engine.SquanderReporter.finishedAnalysis()
edu.mit.csail.sdg.squander.engine.SquanderReporter.flattening(), edu.mit.csail.sdg.squander.engine.SquanderReporter.generatingSBP()
edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaScene(), edu.mit.csail.sdg.squander.engine.SquanderReporter.lovingCNF()
edu.mit.csail.sdg.squander.engine.SquanderReporter.packagingAnalysis(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringJavaHeap(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringSpecFields(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.skolemizing(), edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF()
edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF(), edu.mit.csail.sdg.squander.engine.SquanderReporter.startingProcedure()
edu.mit.csail.sdg.squander.engine.SquanderReporter.transformingProcedure(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingForge(), edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToBoolean()
edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToCNF(), edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap()
and edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap().

9.27.3.10 void edu.mit.csail.sdg.squander.engine.SquanderReporter.finishedAnalysis ()

Definition at line 100 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

9.27.3.11 void edu.mit.csail.sdg.squander.engine.SquanderReporter.flattening (Object circuit)

Definition at line 115 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.FL() and
edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.12 void edu.mit.csail.sdg.squander.engine.SquanderReporter.generatingSBP ()

Definition at line 121 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.GE() and
edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.13 long edu.mit.csail.sdg.squander.engine.SquanderReporter.getTaskTime (String task)

Definition at line 174 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.times().

9.27.3.14 kodkod.engine.config.Reporter

edu.mit.csail.sdg.squander.engine.SquanderReporter.kkReporter
()

Definition at line 78 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.kkRep().

9.27.3.15 void edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaScene ()

Definition at line 86 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.LC_JAVA_SCENE, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene().

**9.27.3.16 void
edu.mit.csail.sdg.squander.engine.SquanderReporter.optimizingBoundsAndFormula ()**

Definition at line 127 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.OPT_BOUNDS_AND_FORMULA, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.17 void edu.mit.csail.sdg.squander.engine.SquanderReporter.packagingAnalysis ()

Definition at line 97 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.PA_ANALYSIS, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.18 void edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringJavaHeap ()

Definition at line 94 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.RE_HEAP, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

9.27.3.19 void edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringSpecFields ()

Definition at line 95 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.RE_SF, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

**9.27.3.20 void edu.mit.csail.sdg.squander.engine.SquanderReporter.skolemizing (Object *decl*,
Object *skolem*, List<?> *context*)**

Definition at line 133 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.SO and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.21 void edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingAnalysis ()

Definition at line 139 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.SO ANALYSIS, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.22 void edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF (int *primaryVars*, int *vars*, int *clauses*)

Definition at line 145 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.SO CNF, and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.23 void edu.mit.csail.sdg.squander.engine.SquanderReporter.start (String *task*) [private]

Definition at line 62 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.busy, and
edu.mit.csail.sdg.squander.engine.SquanderReporter.sTime.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.buildingAnalysis(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.convertingMethod(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingBounds(), edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.detectedSymmetries(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.detectingSymmetries(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.flattening(), edu.mit.csail.sdg.squander.engine.SquanderReporter.generating(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaScene(), edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingScene(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.packagingAnalysis(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringJavaHeap(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringSpecFields(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.skolemizing(), edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF(), edu.mit.csail.sdg.squander.engine.SquanderReporter.startedAnalysis(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.transformingProcedure(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingForge(), edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToBoolean(),
edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToCNF(), edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToCNF(),
and edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap().

9.27.3.24 void edu.mit.csail.sdg.squander.engine.SquanderReporter.startedAnalysis ()

Definition at line 96 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.ANALYSIS, and
edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.3.25 String edu.mit.csail.sdg.squander.engine.SquanderReporter.toString ()

Definition at line 179 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.task, and
edu.mit.csail.sdg.squander.engine.SquanderReporter.times.

9.27.3.26 void edu.mit.csail.sdg.squander.engine.SquanderReporter.transformingProcedure ()

Definition at line 151 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.start() and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSFORMING_PROCEDURE.

9.27.3.27 void edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingForge ()

Definition at line 98 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.start() and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_FORGE.

9.27.3.28 void edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingSpecs ()

Definition at line 91 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.start() and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_SPECS.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.27.3.29 void edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToBoolean (Object formula, Object bounds)

Definition at line 157 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.start() and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_TO_BOOLEAN.

9.27.3.30 void edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToCNF (Object circuit)

Definition at line 163 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.start() and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_TO_CNF.

9.27.3.31 void edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToKodkod ()

Definition at line 169 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.start() and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_TO_KODKOD.

9.27.3.32 void edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap ()

Definition at line 89 of file SquanderReporter.java.

References edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.start() and edu.mit.csail.sdg.squander.engine.SquanderReporter.TRAVERSING_HEAP.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.27.4 Member Data Documentation

9.27.4.1 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.ANALYSIS = "analysis" [static]

Definition at line 29 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.startedAnalysis().

9.27.4.2 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.BUILDING_ANALYSIS = "buildingAnalysis" [static]

Definition at line 25 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.buildingAnalysis().

9.27.4.3 boolean edu.mit.csail.sdg.squander.engine.SquanderReporter.busy [private]

Definition at line 60 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and
edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.4.4 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.CONVERTING_METHOD = "convertingMethod" [static]

Definition at line 38 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.convertingMethod().

9.27.4.5 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_BOUNDS = "creatingBounds" [static]

Definition at line 31 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingBounds().

9.27.4.6 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_FRESH_OBJECTS = "creatingFreshObjects" [static]

Definition at line 37 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingFreshObjects().

9.27.4.7 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_KK_BOUNDS = "creatingKKBounds" [static]

Definition at line 32 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodBounds().

9.27.4.8 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.CREATING_KK_UNIV = "creatingKKUniverse" [static]

Definition at line 36 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.creatingKodkodUniverse().

9.27.4.9 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.DETECTED_SYMMETRIES = "detectedSymmetries" [static]

Definition at line 52 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.detectedSymmetries().

9.27.4.10 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.DETECTING_SYMMETRIES = "detectingSymmetries" [static]

Definition at line 51 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.detectingSymmetries().

9.27.4.11 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.FLATTENING = "flattening" [static]

Definition at line 50 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.flattening().

9.27.4.12 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.GENERATING_SBP = "generatingSBP" [static]

Definition at line 49 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.generatingSBP().

**9.27.4.13 final SquanderReporter
edu.mit.csail.sdg.squander.engine.SquanderReporter.INSTANCE =
new SquanderReporter() [static]**

Definition at line 54 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.magic().

**9.27.4.14 kodkod.engine.config.Reporter
edu.mit.csail.sdg.squander.engine.SquanderReporter.kkRep
[private]**

Definition at line 77 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.kkReporter().

9.27.4.15 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.LOADING_JAVA_-SCENE = "loadingJavaScene" [static]

Definition at line 39 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.loadingJavaScene().

9.27.4.16 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.LOADING_JIMPLE = "loadingJimple" [static]

Definition at line 28 of file SquanderReporter.java.

9.27.4.17 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.OPTIMIZING_BOUNDS_AND_FORMULA = "optimizingBoundsAndFormula" [static]

Definition at line 48 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.optimizingBoundsAndFormula().

9.27.4.18 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.PACKAGIN_ANALYSIS = "packaginAnalysis" [static]

Definition at line 27 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.packagingAnalysis().

9.27.4.19 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.RESTORING_HEAP = "restoringHeap" [static]

Definition at line 33 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringJavaHeap().

9.27.4.20 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.RESTORING_SF = "restoringSpecFields" [static]

Definition at line 34 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.restoringSpecFields().

9.27.4.21 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.SCOLEMIZING = "scolemizing" [static]

Definition at line 47 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.skolemizing().

9.27.4.22 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.SOLVING_ANALYSIS = "solvingAnalysis" [static]

Definition at line 46 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingAnalysis().

9.27.4.23 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.SOLVING_CNF = "solvingCNF" [static]

Definition at line 45 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.solvingCNF().

9.27.4.24 long edu.mit.csail.sdg.squander.engine.SquanderReporter.sTime [private]

Definition at line 58 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.start().

9.27.4.25 String edu.mit.csail.sdg.squander.engine.SquanderReporter.task [private]

Definition at line 59 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.toString().

9.27.4.26 Map<String, Long> edu.mit.csail.sdg.squander.engine.SquanderReporter.times = new LinkedHashMap<String, Long>() [private]

Definition at line 56 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.end(), edu.mit.csail.sdg.squander.engine.SquanderReporter.getTaskTime(), and edu.mit.csail.sdg.squander.engine.SquanderReporter.toString().

9.27.4.27 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_-FORGE = "translatingForge" [static]

Definition at line 26 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingForge().

9.27.4.28 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_-SPECS = "translatingSpecs" [static]

Definition at line 30 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingSpecs().

9.27.4.29 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_-TO_BOOLEAN = "translatingToBoolean" [static]

Definition at line 43 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToBoolean().

**9.27.4.30 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_-
TO_CNF = "translatingToCNF" [static]**

Definition at line 42 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToCNF().

**9.27.4.31 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSLATING_-
TO_KODKOD = "translatingToKodkod" [static]**

Definition at line 41 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.translatingToKodkod().

**9.27.4.32 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRANSOFORMING_-
PROCEDURE = "transofmingProcedure" [static]**

Definition at line 44 of file SquanderReporter.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.transformingProcedure().

**9.27.4.33 final String edu.mit.csail.sdg.squander.engine.SquanderReporter.TRAVERSING_HEAP
= "traversingHeap" [static]**

Definition at line 35 of file SquanderReporter.java.

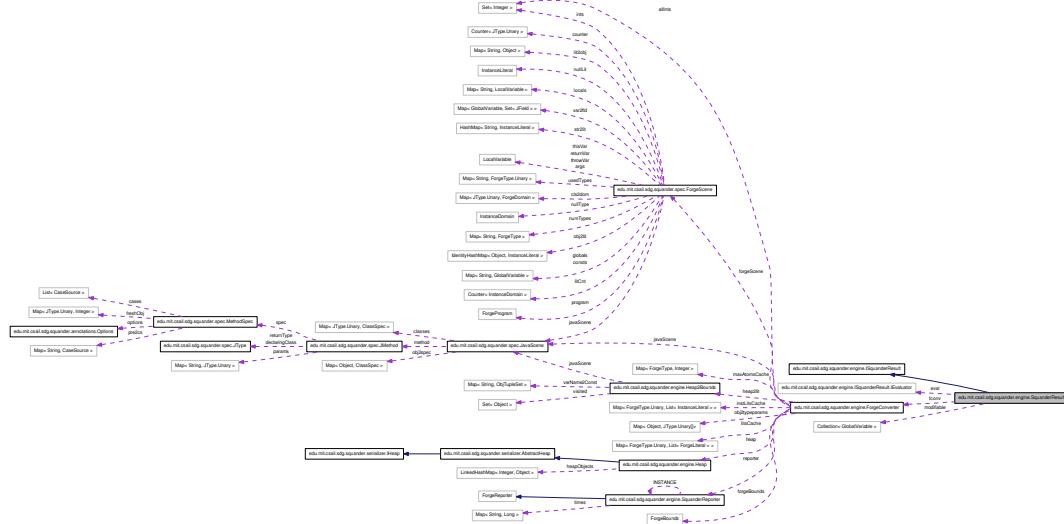
Referenced by edu.mit.csail.sdg.squander.engine.SquanderReporter.traversingHeap().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/[SquanderReporter.java](#)

9.28 edu.mit.csail.sdg.squander.engine.SquanderResult Class Reference

Inherits [edu::mit::csail::sdg::squander::engine::ISquanderResult](#).Collaboration diagram for [edu.mit.csail.sdg.squander.engine.SquanderResult](#):



Public Member Functions

- **SquanderResult** (IEvaluator eval, ForgeConverter fconv, Collection< GlobalVariable > mod)
 - ForgeProgram **program** ()
 - LocalVariable **self** ()
 - LocalVariable **returnVar** ()
 - boolean **hasSolution** ()
 - String **getTrace** ()
 - String **getStats** ()
 - String **unsatCore** ()
 - boolean **findNext** ()
 - void **restoreJavaHeap** ()
 - Iterator< Object > **getSpecField** (String specFieldName)

Package Functions

- public< R > R getReturnValue()

Private Member Functions

- `JField getFieldForVar` (`ForgeScene forgeScene`, `GlobalVariable mod`)
 - `void restoreEmpty` (`GlobalVariable mod`)
 - `Object convertForgeSetToJavaArray` (`ObjTupleSet ots`, `Class<?> arrCls`)

Private Attributes

- final [ForgeConverter](#) fconv
- final Collection< GlobalVariable > modifiable
- IEvaluator eval

9.28.1 Detailed Description

Represents the result of an analysis

Author:

Aleksandar Milicevic

Definition at line 36 of file SquanderResult.java.

9.28.2 Constructor & Destructor Documentation

9.28.2.1 edu.mit.csail.sdg.squander.engine.SquanderResult (IEvaluator eval, ForgeConverter fconv, Collection< GlobalVariable > mod)

Definition at line 42 of file SquanderResult.java.

References edu.mit.csail.sdg.squander.engine.SquanderResult.modifiable.

9.28.3 Member Function Documentation

9.28.3.1 Object edu.mit.csail.sdg.squander.engine.SquanderResult.convertForgeSetToJavaArray (ObjTupleSet ots, Class<?> arrCls) [private]

Definition at line 179 of file SquanderResult.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.size(), and
edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue().

9.28.3.2 boolean edu.mit.csail.sdg.squander.engine.SquanderResult.findNext ()

Finds a different solution and updates the heap if the solution is found. Returns whether a solution was found or not.

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 58 of file SquanderResult.java.

References edu.mit.csail.sdg.squander.engine.SquanderResult.eval, and
edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap().

9.28.3.3 JField edu.mit.csail.sdg.squander.engine.SquanderResult.getJFieldForVar (ForgeScene forgeScene, GlobalVariable mod) [private]

Definition at line 165 of file SquanderResult.java.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.fields()`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty()`, and `edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap()`.

9.28.3.4 public<R> R edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue () [package]

Returns the Java object that is the return value of the method under [Squander](#) analysis. If the method under [Squander](#) analysis has void return type, `null` is returned.

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 69 of file `SquanderResult.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderResult.convertForgeSetToJavaArray()`, `edu.mit.csail.sdg.squander.engine.SquanderResult.eval`, `edu.mit.csail.sdg.squander.engine.SquanderResult.fconv`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene`, `edu.mit.csail.sdg.squander.spec.ForgeScene.global()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.javaScene`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.join()`, `edu.mit.csail.sdg.squander.spec.JavaScene.method`, `edu.mit.csail.sdg.squander.spec.JMethod.returnType`, `edu.mit.csail.sdg.squander.engine.SquanderResult.returnVar()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`.

9.28.3.5 Iterator<Object> edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField (String specFieldName)

Returns the value of the spec field with the given name as a sequence of objects. This works only for unary spec fields, so it shouldn't be used.

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 112 of file `SquanderResult.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity`, `edu.mit.csail.sdg.squander.engine.SquanderResult.eval`, `edu.mit.csail.sdg.squander.engine.SquanderResult.fconv`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene`, `edu.mit.csail.sdg.squander.spec.ForgeScene.global()`, and `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`.

9.28.3.6 String edu.mit.csail.sdg.squander.engine.SquanderResult.getStats ()

Optional statistics about the solving

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 54 of file `SquanderResult.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderResult.eval`.

9.28.3.7 String edu.mit.csail.sdg.squander.engine.SquanderResult.getTrace ()

Optional string representation of the solution. Used for debugging purposes

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 53 of file `SquanderResult.java`.

References `edu.mit.csail.sdg.squander.engine.SquanderResult.eval`.

9.28.3.8 boolean edu.mit.csail.sdg.squander.engine.SquanderResult.hasSolution ()

Weather or not a solution was found

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 52 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.engine.SquanderResult.eval](#).

9.28.3.9 ForgeProgram edu.mit.csail.sdg.squander.engine.SquanderResult.program ()

Definition at line 48 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.engine.SquanderResult.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeSo](#) and [edu.mit.csail.sdg.squander.spec.ForgeScene.program](#).

9.28.3.10 void edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty (GlobalVariable mod) [private]

Definition at line 169 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.spec.JField.factory](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType\(\)](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.for](#) [edu.mit.csail.sdg.squander.engine.SquanderResult.getJFieldForVar\(\)](#), and [edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap](#)().

9.28.3.11 void edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap ()

Restores the Java heap space from the given `Results` that must contain valid solution. If the solution for this problem wasn't found, a runtime exception is thrown.

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 87 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.absstate.FieldValue.addAllTuples\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.eval](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.getJFieldFor](#) [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.isEmpty\(\)](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.modifiable](#), [edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty\(\)](#), and [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderResult.findNext](#)().

9.28.3.12 LocalVariable edu.mit.csail.sdg.squander.engine.SquanderResult.returnVar ()

Definition at line 50 of file SquanderResult.java.

References [edu.mit.csail.sdg.squander.engine.SquanderResult.fconv](#), [edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeSo](#) and [edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue](#)().

9.28.3.13 LocalVariable edu.mit.csail.sdg.squander.engine.SquanderResult.self ()

Definition at line 49 of file SquanderResult.java.

References edu.mit.csail.sdg.squander.engine.SquanderResult.fconv, edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeS... and edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar.

9.28.3.14 String edu.mit.csail.sdg.squander.engine.SquanderResult.unsatCore ()

Returns a string representation of the unsat core if a solution wasn't found (if known)

Implements [edu.mit.csail.sdg.squander.engine.ISquanderResult](#).

Definition at line 56 of file SquanderResult.java.

References edu.mit.csail.sdg.squander.engine.SquanderResult.eval.

9.28.4 Member Data Documentation

9.28.4.1 IEvaluator edu.mit.csail.sdg.squander.engine.SquanderResult.eval [private]

Definition at line 40 of file SquanderResult.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderResult.findNext(),
 edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), edu.mit.csail.sdg.squander.engine.SquanderResult.getSpec(),
 edu.mit.csail.sdg.squander.engine.SquanderResult.getStats(), edu.mit.csail.sdg.squander.engine.SquanderResult.getTrace(),
 edu.mit.csail.sdg.squander.engine.SquanderResult.hasSolution(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJava...
 and edu.mit.csail.sdg.squander.engine.SquanderResult.unsatCore().

9.28.4.2 final ForgeConverter edu.mit.csail.sdg.squander.engine.SquanderResult.fconv [private]

Definition at line 38 of file SquanderResult.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(),
 edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField(), edu.mit.csail.sdg.squander.engine.SquanderResult.program(),
 edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty(), edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJava...
 edu.mit.csail.sdg.squander.engine.SquanderResult.returnVar(), and edu.mit.csail.sdg.squander.engine.SquanderResult.self().

9.28.4.3 final Collection<GlobalVariable> edu.mit.csail.sdg.squander.engine.SquanderResult.modifiable [private]

Definition at line 39 of file SquanderResult.java.

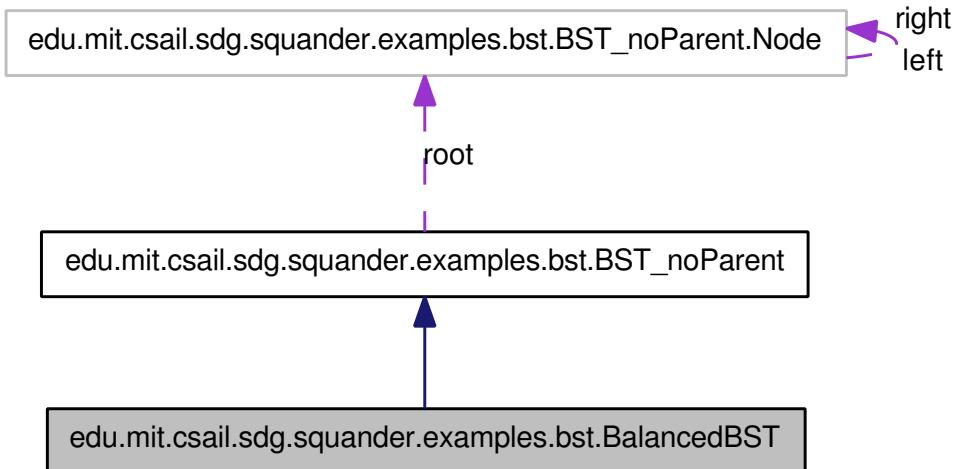
Referenced by edu.mit.csail.sdg.squander.engine.SquanderResult.restoreJavaHeap(), and
 edu.mit.csail.sdg.squander.engine.SquanderResult.SquanderResult().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/engine/[SquanderResult.java](#)

9.29 edu.mit.csail.sdg.squander.examples.bst.BalancedBST Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::bst::BST_noParent.Collaboration](#) diagram for `edu.mit.csail.sdg.squander.examples.bst.BalancedBST`:



Public Member Functions

- boolean `repOk ()`
- void `insertKey_squander (int k)`
- void `insertNode_slow_squander (Node z)`
- void `removeNode_squander (Node nodeToRemove)`

Static Public Member Functions

- static void `main (String[] args)`

Private Member Functions

- boolean `check (Node n)`

Private Attributes

- final int[] `diff` = new int[] {-1, 0, 1}

9.29.1 Detailed Description

Balanced binary search tree.

Adds an additional invariant to ensure that for every tree node n , the sizes of its left and right subtrees don't differ by more than 1.

Author:

Aleksandar Milicevic

Definition at line 22 of file `BalancedBST.java`.

9.29.2 Member Function Documentation

9.29.2.1 boolean edu.mit.csail.sdg.squander.examples.bst.BalancedBST.check (Node *n*) [private]

Definition at line 34 of file `BalancedBST.java`.

9.29.2.2 void edu.mit.csail.sdg.squander.examples.bst.BalancedBST.insertKey_squander (int *k*)

Reimplemented from [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#).

Definition at line 54 of file `BalancedBST.java`.

9.29.2.3 void edu.mit.csail.sdg.squander.examples.bst.BalancedBST.insertNode_slow_squander (Node *z*)

Reimplemented from [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#).

Definition at line 60 of file `BalancedBST.java`.

9.29.2.4 static void edu.mit.csail.sdg.squander.examples.bst.BalancedBST.main (String[] *args*) [static]

Reimplemented from [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#).

Definition at line 70 of file `BalancedBST.java`.

References [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode\(\)](#),
[edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertKey_squander\(\)](#),
[edu.mit.csail.sdg.squander.examples.bst.BST_noParent.removeNode_squander\(\)](#), and
[edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk\(\)](#).

9.29.2.5 void edu.mit.csail.sdg.squander.examples.bst.BalancedBST.removeNode_squander (Node *nodeToRemove*)

Reimplemented from [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#).

Definition at line 66 of file `BalancedBST.java`.

9.29.2.6 boolean edu.mit.csail.sdg.squander.examples.bst.BalancedBST.repOk ()

Reimplemented from [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#).

Definition at line 28 of file `BalancedBST.java`.

9.29.3 Member Data Documentation

9.29.3.1 final int [] edu.mit.csail.sdg.squander.examples.bst.BalancedBST.diff = new int[] {-1, 0, 1} [private]

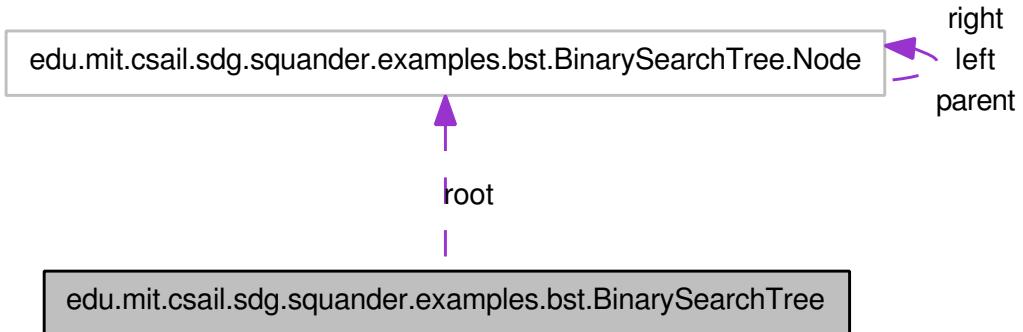
Definition at line 25 of file BalancedBST.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/bst/BalancedBST.java

9.30 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree:



Classes

- class **Node**

Public Member Functions

- [BinarySearchTree \(\)](#)
- [Node getRoot \(\)](#)
- [void setRoot \(Node root\)](#)
- [int size \(\)](#)
- [boolean repOk \(\)](#)
- [BinarySearchTree insert \(Node z\)](#)
- [Node findNode \(int keyToFind\)](#)
- [int min \(\)](#)
- [int max \(\)](#)
- [int max_squander \(\)](#)
- [int min_squander \(\)](#)
- [Node findNode_squander \(int keyToFind\)](#)
- [void removeNode_squander \(Node nodeToRemove\)](#)
- [void insertNode_squander \(Node z\)](#)
- [void insertKey_squander \(int k\)](#)
- [Node\[\] getAllNodes_squander \(\)](#)
- [String toString \(\)](#)
- [void genBST \(\)](#)

Static Public Member Functions

- [static void main \(String\[\] args\)](#)

Private Member Functions

- String [printNode](#) (Node node)

Private Attributes

- Node [root](#)

Static Private Attributes

- static final int [NUM_NODES](#) = 20

9.30.1 Detailed Description

An implementation of the Binary Search Tree data structure with full specs. Manual implementation of the provided methods can be verified against the specs using JForge. The idea is to be able to run all those methods without having the actual implementation, but purely based on specs.

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 36 of file `BinarySearchTree.java`.

9.30.2 Constructor & Destructor Documentation

9.30.2.1 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.BinarySearchTree ()

Definition at line 91 of file `BinarySearchTree.java`.

9.30.3 Member Function Documentation

9.30.3.1 Node edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode (int *keyToFind*)

Definition at line 146 of file `BinarySearchTree.java`.

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander\(\)](#), and [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander\(\)](#).

9.30.3.2 Node edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode_squander (int *keyToFind*)

Definition at line 192 of file `BinarySearchTree.java`.

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testFindNode_squander\(\)](#).

9.30.3.3 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.genBST ()

Definition at line 257 of file BinarySearchTree.java.

9.30.3.4 Node [] edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.getAllNodes_-squander ()

Definition at line 229 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testGetAllNodes_-squander().

9.30.3.5 Node edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.getRoot ()

Definition at line 95 of file BinarySearchTree.java.

9.30.3.6 BinarySearchTree edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insert (Node z)

Definition at line 115 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.main(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander().

9.30.3.7 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insertKey_squander (int k)

Definition at line 222 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander().

9.30.3.8 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insertNode_squander (Node z)

Definition at line 214 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.main(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander().

9.30.3.9 static void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.main (String[] args) [static]

Definition at line 261 of file BinarySearchTree.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insert(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insertNode_squander().

9.30.3.10 int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.max ()

Definition at line 172 of file BinarySearchTree.java.

9.30.3.11 int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.max_squander ()

Definition at line 182 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMax_squander().

9.30.3.12 int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.min ()

Definition at line 161 of file BinarySearchTree.java.

9.30.3.13 int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.min_squander ()

Definition at line 187 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMin_squander().

9.30.3.14 String edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.printNode (Node node) [private]

Definition at line 241 of file BinarySearchTree.java.

9.30.3.15 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.removeNode_squander (Node nodeToRemove)

Definition at line 199 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander().

9.30.3.16 boolean edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk ()

Definition at line 104 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testFindNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMax_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMin_squander(), and
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander().

9.30.3.17 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.setRoot (Node root)

Definition at line 96 of file BinarySearchTree.java.

9.30.3.18 int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.size ()

Definition at line 98 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix(),

edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander(), and
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander().

9.30.3.19 String edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.toString ()

Definition at line 235 of file BinarySearchTree.java.

9.30.4 Member Data Documentation

9.30.4.1 final int edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.NUM_NODES = 20 [static, private]

Definition at line 248 of file BinarySearchTree.java.

9.30.4.2 Node edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.root [private]

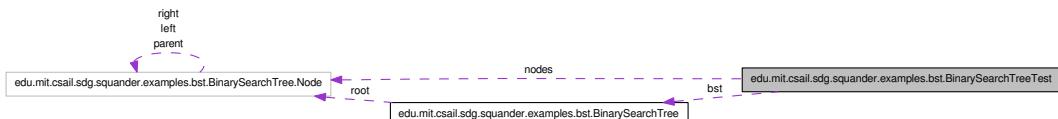
Definition at line 88 of file BinarySearchTree.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/bst/[BinarySearchTree.java](#)

9.31 edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest:



Public Member Functions

- void `before()`
- void `testMin_squander()`
- void `testMax_squander()`
- void `testFindNode_squander()`
- void `testRemoveNode_squander()`
- void `testInsertNode_squander()`
- void `testInsertKey_squander()`
- void `testGetAllNodes_squander()`
- void `testInsertMix()`

Static Public Member Functions

- static void `main(String[] args)`

Private Member Functions

- void `initBinarySearchTree()`

Private Attributes

- `BinarySearchTree bst`
- `int[] keys`
- `Node[] nodes`

9.31.1 Detailed Description

Definition at line 19 of file `BinarySearchTreeTest.java`.

9.31.2 Member Function Documentation

9.31.2.1 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.before()

Definition at line 26 of file `BinarySearchTreeTest.java`.

References `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree()`, and `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys`.

9.31.2.2 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree() [private]

Definition at line 31 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insert(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.nodes.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.before().

9.31.2.3 static void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.main (String[] args) [static]

Definition at line 129 of file BinarySearchTreeTest.java.

9.31.2.4 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testFindNode_squander()

Definition at line 59 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.nodes, and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk().

9.31.2.5 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testGetAllNodes_squander()

Definition at line 103 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.getAllNodes_squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys, and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.nodes.

9.31.2.6 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander()

Definition at line 92 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.size(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.size().

9.31.2.7 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix()

Definition at line 115 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.size(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys.

edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.insertNode_squander(),

edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.size(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.size().

9.31.2.8 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander ()

Definition at line 80 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.size(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.size().

9.31.2.9 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMax_squander ()

Definition at line 50 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.max_squander(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk().

9.31.2.10 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMin_squander ()

Definition at line 41 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.min_squander(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk().

9.31.2.11 void edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander ()

Definition at line 69 of file BinarySearchTreeTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst, edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.findNode(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.removeNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.size().

9.31.3 Member Data Documentation

9.31.3.1 BinarySearchTree edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.bst [private]

Definition at line 21 of file BinarySearchTreeTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree(), edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testFindNode_squander(),

edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testGetAllNodes_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMax_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testMin_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander().

9.31.3.2 `int [] edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.keys` [private]

Definition at line 22 of file `BinarySearchTreeTest.java`.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.before(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testGetAllNodes_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertMix(), and
edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testInsertNode_squander().

9.31.3.3 Node [] edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.nodes [private]

Definition at line 23 of file `BinarySearchTreeTest.java`.

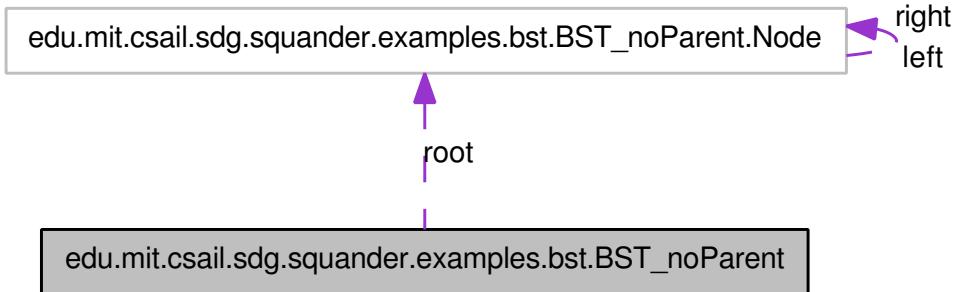
Referenced by `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.initBinarySearchTree()`, `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testFindNode_squander()`, `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testGetAllNodes_squander()`, and `edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest.testRemoveNode_squander()`.

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/bst/**BinarySearchTreeTest.java**

9.32 edu.mit.csail.sdg.squander.examples.bst.BST_noParent Class Reference

Inherited by [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).Collaboration diagram for [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#):



Classes

- class **Node**

Public Member Functions

- [BST_noParent \(\)](#)
- [Node getRoot \(\)](#)
- [void setRoot \(Node root\)](#)
- [int size \(\)](#)
- [boolean repOk \(\)](#)
- [BST_noParent insertNode \(Node z\)](#)
- [Node findNode \(int keyToFind\)](#)
- [boolean findNode \(Node n\)](#)
- [int min \(\)](#)
- [int max \(\)](#)
- [int max_squander \(\)](#)
- [int min_squander \(\)](#)
- [Node findNode_squander \(int keyToFind\)](#)
- [void removeNode_squander \(Node nodeToRemove\)](#)
- [void insertNode_squander \(Node z\)](#)
- [void insertNode_slow_squander \(Node z\)](#)
- [void insertKey_squander \(int k\)](#)
- [Node\[\] getAllNodes_squander \(\)](#)
- [String toString \(\)](#)
- [void genBST \(\)](#)

Static Public Member Functions

- [static void main \(String\[\] args\)](#)

Protected Attributes

- Node [root](#)

Private Member Functions

- String [printNode](#) (Node node)

Static Private Attributes

- static final int [NUM_NODES](#) = 20

9.32.1 Detailed Description

Binary search tree, whose nodes don't have the "parent" pointer, like in [BinarySearchTree](#).

Author:

Aleksandar Milicevic

Definition at line 33 of file [BST_noParent.java](#).

9.32.2 Constructor & Destructor Documentation

9.32.2.1 [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.BST_noParent \(\)](#)

Definition at line 80 of file [BST_noParent.java](#).

9.32.3 Member Function Documentation

9.32.3.1 [boolean edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode \(Node n\)](#)

Definition at line 147 of file [BST_noParent.java](#).

9.32.3.2 [Node edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode \(int keyToFind\)](#)

Definition at line 134 of file [BST_noParent.java](#).

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.main\(\)](#),
[edu.mit.csail.sdg.squander.examples.bst.BalancedBST.main\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander\(\)](#),
[edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander\(\)](#), and
[edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander\(\)](#).

9.32.3.3 [Node edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode_squander \(int keyToFind\)](#)

Definition at line 195 of file [BST_noParent.java](#).

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander\(\)](#).

9.32.3.4 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.genBST ()

Definition at line 276 of file BST_noParent.java.

9.32.3.5 Node [] edu.mit.csail.sdg.squander.examples.bst.BST_noParent.getAllNodes_squander ()

Definition at line 248 of file BST_noParent.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testGetAllNodes_squander().

9.32.3.6 Node edu.mit.csail.sdg.squander.examples.bst.BST_noParent.getRoot ()

Definition at line 84 of file BST_noParent.java.

9.32.3.7 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertKey_squander (int k)

Reimplemented in [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).

Definition at line 241 of file BST_noParent.java.

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BalancedBST.main\(\)](#), and [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander\(\)](#).

9.32.3.8 BST_noParent edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode (Node z)

Definition at line 104 of file BST_noParent.java.

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.main\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix\(\)](#), and [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander\(\)](#).

9.32.3.9 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode_slow_squander (Node z)

Reimplemented in [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).

Definition at line 232 of file BST_noParent.java.

9.32.3.10 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode_squander (Node z)

Definition at line 226 of file BST_noParent.java.

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.main\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix\(\)](#), and [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander\(\)](#).

**9.32.3.11 static void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.main (String[] args)
[static]**

Reimplemented in [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).

Definition at line 281 of file BST_noParent.java.

References [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode\(\)](#),
[edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode_squander\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk\(\)](#), and
[edu.mit.csail.sdg.squander.examples.bst.BST_noParent.size\(\)](#).

9.32.3.12 int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.max ()

Definition at line 175 of file BST_noParent.java.

9.32.3.13 int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.max_squander ()

Definition at line 185 of file BST_noParent.java.

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMax_squander\(\)](#).

9.32.3.14 int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.min ()

Definition at line 164 of file BST_noParent.java.

9.32.3.15 int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.min_squander ()

Definition at line 190 of file BST_noParent.java.

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMin_squander\(\)](#).

**9.32.3.16 String edu.mit.csail.sdg.squander.examples.bst.BST_noParent.printNode (Node node)
[private]**

Definition at line 260 of file BST_noParent.java.

**9.32.3.17 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.removeNode_squander
(Node nodeToRemove)**

Reimplemented in [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).

Definition at line 209 of file BST_noParent.java.

Referenced by [edu.mit.csail.sdg.squander.examples.bst.BalancedBST.main\(\)](#), and
[edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander\(\)](#).

9.32.3.18 boolean edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk ()

Reimplemented in [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#).

Definition at line 93 of file BST_noParent.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParent.main(),
edu.mit.csail.sdg.squander.examples.bst.BalancedBST.main(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMax_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMin_squander(),
and edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander().

9.32.3.19 void edu.mit.csail.sdg.squander.examples.bst.BST_noParent.setRoot (Node *root*)

Definition at line 85 of file BST_noParent.java.

9.32.3.20 int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.size ()

Definition at line 87 of file BST_noParent.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParent.main(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander().

9.32.3.21 String edu.mit.csail.sdg.squander.examples.bst.BST_noParent.toString ()

Definition at line 254 of file BST_noParent.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMax_squander(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMin_squander().

9.32.4 Member Data Documentation

9.32.4.1 final int edu.mit.csail.sdg.squander.examples.bst.BST_noParent.NUM_NODES = 20 [static, private]

Definition at line 267 of file BST_noParent.java.

9.32.4.2 Node edu.mit.csail.sdg.squander.examples.bst.BST_noParent.root [protected]

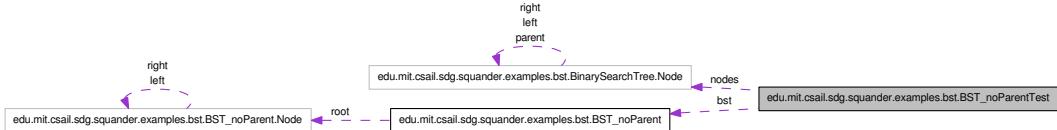
Definition at line 77 of file BST_noParent.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/bst/[BST_noParent.java](#)

9.33 edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest:



Public Member Functions

- void `before()`
- void `testMin_squander()`
- void `testMax_squander()`
- void `testFindNode_squander()`
- void `testRemoveNode_squander()`
- void `testInsertNode_squander()`
- void `testInsertKey_squander()`
- void `testGetAllNodes_squander()`
- void `testInsertMix()`

Static Public Member Functions

- static void `main(String[] args)`

Private Member Functions

- void `initBinarySearchTree()`

Private Attributes

- `BST_noParent bst`
- `int[] keys`
- `Node[] nodes`

9.33.1 Detailed Description

Definition at line 20 of file `BST_noParentTest.java`.

9.33.2 Member Function Documentation

9.33.2.1 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.before()

Definition at line 27 of file `BST_noParentTest.java`.

References `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree()`, and `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys`.

9.33.2.2 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree () [private]

Definition at line 32 of file BST_noParentTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys, and edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.nodes.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.before().

9.33.2.3 static void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.main (String[] args) [static]

Definition at line 144 of file BST_noParentTest.java.

9.33.2.4 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander ()

Definition at line 66 of file BST_noParentTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.nodes, edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParent.toString().

9.33.2.5 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testGetAllNodes_squander ()

Definition at line 118 of file BST_noParentTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noParent.getAllNodes_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys, and edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.nodes.

9.33.2.6 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander ()

Definition at line 107 of file BST_noParentTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertKey_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys, edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParent.size().

9.33.2.7 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix ()

Definition at line 130 of file BST_noParentTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys,

noParent.insertNode(),
squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParent.size().

9.33.2.8 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander ()

Definition at line 92 of file BST_noParentTest.java.

References
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst,
edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParent.insertNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys,
edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk(), edu.mit.csail.sdg.squander.examples.bst.BST_noParent.size(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParent.toString().

9.33.2.9 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMax_squander ()

Definition at line 54 of file BST_noParentTest.java.

References
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst,
edu.mit.csail.sdg.squander.examples.bst.BST_noParent.max_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParent.toString().

9.33.2.10 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMin_squander ()

Definition at line 42 of file BST_noParentTest.java.

References
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst,
edu.mit.csail.sdg.squander.examples.bst.BST_noParent.min_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noParent.toString().

9.33.2.11 void edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander ()

Definition at line 81 of file BST_noParentTest.java.

References
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst,
edu.mit.csail.sdg.squander.examples.bst.BST_noParent.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.nodes,
edu.mit.csail.sdg.squander.examples.bst.BST_noParent.removeNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParent.repOk(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noParent.size().

9.33.3 Member Data Documentation

9.33.3.1 BST_noParent edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.bst [private]

Definition at line 22 of file BST_noParentTest.java.

Referenced by
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander(),

`edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testGetAllNodes_-squander()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_-squander()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMax_squander()`, `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testMin_squander()`, and `edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander()`.

9.33.3.2 `int [] edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.keys` [private]

Definition at line 23 of file BST_noParentTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.before(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testGetAllNodes_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertMix(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testInsertNode_squander().

9.33.3.3 Node [] edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.nodes [private]

Definition at line 24 of file BST_noParentTest.java.

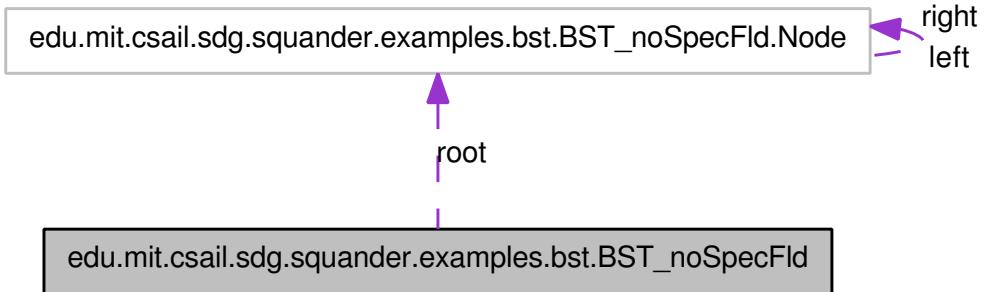
Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testFindNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testGetAllNodes_squander(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest.testRemoveNode_squander().

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/examples/bst/BST_noParentTest.java](#)

9.34 edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld:



Classes

- class **Node**

Public Member Functions

- **BST_noSpecFld ()**
- Node **getRoot ()**
- void **setRoot (Node root)**
- int **size ()**
- boolean **repOk ()**
- **BST_noSpecFld insertNode (Node z)**
- Node **findNode (int keyToFind)**
- boolean **findNode (Node n)**
- int **min ()**
- int **max ()**
- int **max_squander ()**
- int **min_squander ()**
- Node **findNode_squander (int keyToFind)**
- void **removeNode_squander (Node nodeToRemove)**
- void **insertNode_squander (Node z)**
- void **insertKey_squander (int k)**
- Node[] **getAllNodes_squander ()**
- String **toString ()**
- void **genBST ()**

Static Public Member Functions

- static void **main (String[] args)**

Private Member Functions

- String [printNode](#) (Node node)

Private Attributes

- Node [root](#)

Static Private Attributes

- static final int [NUM_NODES](#) = 20

9.34.1 Detailed Description

Binary search tree that doesn't make use of the spec field.

Author:

Aleksandar Milicevic

Definition at line 29 of file BST_noSpecFld.java.

9.34.2 Constructor & Destructor Documentation

9.34.2.1 edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.BST_noSpecFld ()

Definition at line 75 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.main().

9.34.3 Member Function Documentation

9.34.3.1 boolean edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode (Node n)

Definition at line 135 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

9.34.3.2 Node edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode (int keyToFind)

Definition at line 122 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

9.34.3.3 Node edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode_squander (int keyToFind)

Definition at line 179 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander().

9.34.3.4 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.genBST ()

Definition at line 250 of file BST_noSpecFld.java.

9.34.3.5 Node [] edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.getAllNodes_squander ()

Definition at line 222 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testGetAllNodes_squander().

9.34.3.6 Node edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.getRoot ()

Definition at line 79 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

9.34.3.7 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertKey_squander (int k)

Definition at line 215 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander().

9.34.3.8 BST_noSpecFld edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode (Node z)

Definition at line 94 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.main(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander().

9.34.3.9 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode_squander (Node z)

Definition at line 207 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.main(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander().

**9.34.3.10 static void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.main (String[] args)
[static]**

Definition at line 255 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.BST_noSpecFld(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode_squander().

9.34.3.11 int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.max ()

Definition at line 159 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

9.34.3.12 int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.max_squander ()

Definition at line 169 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMax_squander().

9.34.3.13 int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.min ()

Definition at line 150 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

9.34.3.14 int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.min_squander ()

Definition at line 174 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMin_squander().

**9.34.3.15 String edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.printNode (Node node)
[private]**

Definition at line 234 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString().

**9.34.3.16 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.removeNode_squander
(Node nodeToRemove)**

Definition at line 191 of file BST_noSpecFld.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

9.34.3.17 boolean edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk ()

Definition at line 88 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMax_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMin_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

9.34.3.18 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.setRoot (Node root)

Definition at line 80 of file BST_noSpecFld.java.

9.34.3.19 int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size ()

Definition at line 82 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

9.34.3.20 String edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString ()

Definition at line 228 of file BST_noSpecFld.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.printNode(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMax_squander().

9.34.4 Member Data Documentation

9.34.4.1 final int edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.NUM_NODES = 20 [static, private]

Definition at line 241 of file BST_noSpecFld.java.

9.34.4.2 Node edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.root [private]

Definition at line 73 of file BST_noSpecFld.java.

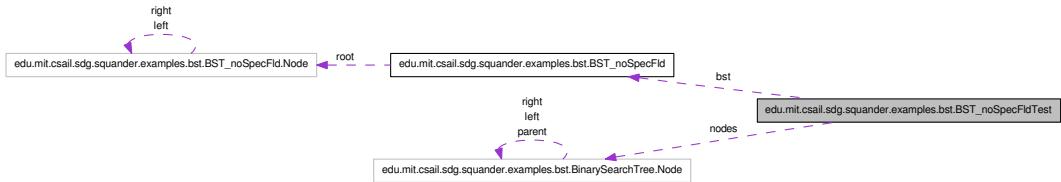
Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.BST_noSpecFld(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.getRoot(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.max(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.min(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/bst/[BST_noSpecFld.java](#)

9.35 edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest:



Public Member Functions

- void `before()`
- void `testMin_squander()`
- void `testMax_squander()`
- void `testFindNode_squander()`
- void `testRemoveNode_squander()`
- void `testInsertNode_squander()`
- void `testInsertKey_squander()`
- void `testGetAllNodes_squander()`
- void `testInsertMix()`

Static Public Member Functions

- static void `main(String[] args)`

Private Member Functions

- void `initBinarySearchTree()`

Private Attributes

- `BST_noSpecFld bst`
- `int[] keys`
- `Node[] nodes`

9.35.1 Detailed Description

Definition at line 20 of file `BST_noSpecFldTest.java`.

9.35.2 Member Function Documentation

9.35.2.1 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.before()

Definition at line 27 of file BST_noSpecFldTest.java.

References `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree()`, and `edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys`.

9.35.2.2 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree()
{} [private]

Definition at line 32 of file BST_noSpecFldTest.java.

References [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst](#),
[edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode\(\)](#), [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys](#), and [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes](#).

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.before().

9.35.2.3 static void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.main (String[] args) [static]

Definition at line 144 of file BST_noSpecFldTest.java.

9.35.2.4 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander()

Definition at line 66 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst,
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes, edu.mit.csail.sdg.squander.examples.bst.BST_-
noSpecFld.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString().

9.35.2.5 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testGetAllNodes_-squander ()

Definition at line 118 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.getAllNodes_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys, and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes.

9.35.2.6 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander()

Definition at line 107 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst,
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_-
noSpecFld.insertKey_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_-

noSpecFldTest.keys, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size().

9.35.2.7 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix ()

Definition at line 130 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size().

9.35.2.8 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander ()

Definition at line 92 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.insertNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString().

9.35.2.9 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMax_squander ()

Definition at line 54 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.max_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.toString().

9.35.2.10 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMin_squander ()

Definition at line 42 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.min_squander(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk().

9.35.2.11 void edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander ()

Definition at line 81 of file BST_noSpecFldTest.java.

References edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.findNode(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes, edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.removeNode_squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.repOk(), and edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.size().

9.35.3 Member Data Documentation

9.35.3.1 BST_noSpecFld edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.bst [private]

Definition at line 22 of file BST_noSpecFldTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testGetAllNodes_-
squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_-
squander(), edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testMax_squander(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

9.35.3.2 int [] edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.keys [private]

Definition at line 23 of file BST_noSpecFldTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.before(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testGetAllNodes_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertKey_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertMix(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testInsertNode_squander().

9.35.3.3 Node [] edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.nodes [private]

Definition at line 24 of file BST_noSpecFldTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.initBinarySearchTree(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testFindNode_squander(),
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testGetAllNodes_squander(), and
edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest.testRemoveNode_squander().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/bst/[BST_noSpecFldTest.java](#)

9.36 edu.mit.csail.sdg.squander.examples.chess.ChessBoard Class Reference

Classes

- class **Cell**

Static Public Member Functions

- static Set< Cell > [nqueens_int](#) (int n)
- static Set< Cell > [nqueens_rel](#) (int n)
- static void [knightsTour](#) (int n, int m, Cell[] result)
- static void [knightsTour2](#) (int n, int m, Cell[] result, Set< Cell >[] next)
- static Cell[] [knightsTour](#) (int n, int m)
- static Cell[] [knightsTour2](#) (int n, int m)
- static void [printNQueens](#) (Collection< Cell > queens)
- static void [main](#) (String[] args)

Static Private Member Functions

- static void [nqueens2](#) (int n, Set< Cell > result)
- static void [nqueens](#) (int n, Set< Cell > result)

9.36.1 Detailed Description

Implements several chess problems/puzzles.

Author:

Aleksandar Milicevic

Definition at line 24 of file ChessBoard.java.

9.36.2 Member Function Documentation

9.36.2.1 static Cell [] [edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour](#) (int n, int m) [static]

Definition at line 136 of file ChessBoard.java.

References [edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour\(\)](#).

9.36.2.2 static void [edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour](#) (int n, int m, Cell[] result) [static]

Solves the Knight's Tour problem.

Definition at line 117 of file ChessBoard.java.

Referenced by [edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour\(\)](#), and [edu.mit.csail.sdg.squander.examples.chess.ChessBoard.main\(\)](#).

9.36.2.3 static Cell[] edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour2 (int n, int m) [static]

Definition at line 146 of file ChessBoard.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour2().

9.36.2.4 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour2 (int n, int m, Cell[] result, Set<Cell>[] next) [static]

A different (potentially more efficient) encoding for the Knight's Tour problem.

Definition at line 132 of file ChessBoard.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour2().

9.36.2.5 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.main (String[] args) [static]

Definition at line 186 of file ChessBoard.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoard.knightsTour().

9.36.2.6 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens (int n, Set<Cell> result) [static, private]

A different encoding for the N-Queens problem.

Definition at line 88 of file ChessBoard.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens_rel().

9.36.2.7 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens2 (int n, Set<Cell> result) [static, private]

Solves the N-Queens problem.

Definition at line 60 of file ChessBoard.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens_int().

9.36.2.8 static Set<Cell> edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens_int (int n) [static]

Definition at line 64 of file ChessBoard.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens2().

9.36.2.9 static Set<Cell> edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens_rel (int n) [static]

Definition at line 92 of file ChessBoard.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoard.nqueens().

**9.36.2.10 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoard.printNQueens
(Collection< Cell > *queens*) [static]**

Definition at line 169 of file ChessBoard.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/chess/[ChessBoard.java](#)

9.37 edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan Class Reference

Static Public Member Functions

- static Cell[] [knightsTourMan](#) (int n, int m)
- static void [main](#) (String[] args)
- static Set< Cell > [nqueens](#) (int n)

Static Public Attributes

- static int[] [dx](#) = new int[] {2, 1, -1, -2, -1, 1, 2}
- static int[] [dy](#) = new int[] {1, 2, 2, 1, -1, -2, -2, -1}

Static Private Member Functions

- static void [search](#) (int[][] pot, int n, int m, int currI, int currJ, int cnt)
- static void [print](#) (int[][] pot)
- static boolean [solveNQueens](#) (int n, int col, int[] colAssignments, boolean[] rowTaken, boolean[] d45Taken, boolean[] d135Taken)

Static Private Attributes

- static long [t1](#)
- static long [t2](#)

9.37.1 Detailed Description

Manual (imperative) implementations of several chess problems/puzzles

Author:

Aleksandar Milicevic

Definition at line 18 of file ChessBoardMan.java.

9.37.2 Member Function Documentation

9.37.2.1 static Cell[] [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.knightsTourMan](#) (int n, int m) [static]

An imperative implementation of the Knight's Tour problem

Definition at line 32 of file ChessBoardMan.java.

References [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search\(\)](#), [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.t1](#), and [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.d45Taken](#).

Referenced by [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.main\(\)](#).

9.37.2.2 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.main (String[] args) [static]

Definition at line 73 of file ChessBoardMan.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.knightsTourMan().

9.37.2.3 static Set<Cell> edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.nqueens (int n) [static]

An imperative implementation of the N-Queens problem

Definition at line 84 of file ChessBoardMan.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.solveNQueens().

9.37.2.4 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.print (int pot[][]) [static, private]

Definition at line 67 of file ChessBoardMan.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search().

9.37.2.5 static void edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search (int pot[][], int n, int m, int currI, int currJ, int cnt) [static, private]

Definition at line 46 of file ChessBoardMan.java.

References edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.dx, edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.dy, edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.pr, edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.t1, and edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.knightsTourMan().

9.37.2.6 static boolean edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.solveNQueens (int n, int col, int[] colAssignments, boolean[] rowTaken, boolean[] d45Taken, boolean[] d135Taken) [static, private]

Definition at line 99 of file ChessBoardMan.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.nqueens().

9.37.3 Member Data Documentation

9.37.3.1 int [] edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.dx = new int[] {2, 1, -1, -2, -2, -1, 1, 2} [static]

Definition at line 24 of file ChessBoardMan.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search().

9.37.3.2 int [] edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.dy = new int[] {1, 2, 2, 1, -1, -2, -2, -1} [static]

Definition at line 25 of file ChessBoardMan.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search().

9.37.3.3 long edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.t1 [static, private]

Definition at line 27 of file ChessBoardMan.java.

Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.knightsTourMan(), and edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search().

9.37.3.4 long edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.t2 [static, private]

Definition at line 27 of file ChessBoardMan.java.

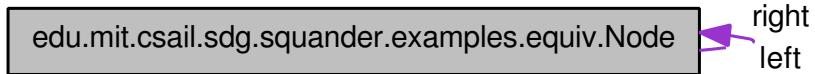
Referenced by edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.knightsTourMan(), and edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan.search().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/chess/[ChessBoardMan.java](#)

9.38 edu.mit.csail.sdg.squander.examples.equiv.Node Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.equiv.Node:



Public Member Functions

- [Node \(int value\)](#)
- [Node\[\] getEquiv \(Node n1, Node n2\)](#)
- [String toString \(\)](#)

Static Public Member Functions

- static void [main \(String\[\] args\)](#)

Package Attributes

- int [value](#)
- [Node left](#)
- [Node right](#)

9.38.1 Detailed Description

One way to define the equivalency of objects.

Author:

Aleksandar Milicevic

Definition at line 25 of file Node.java.

9.38.2 Constructor & Destructor Documentation

9.38.2.1 edu.mit.csail.sdg.squander.examples.equiv.Node.Node (int *value*)

Definition at line 31 of file Node.java.

9.38.3 Member Function Documentation

9.38.3.1 Node [] edu.mit.csail.sdg.squander.examples.equiv.Node.getEquiv (Node *n1*, Node *n2*)

Definition at line 37 of file Node.java.

Referenced by [edu.mit.csail.sdg.squander.examples.equiv.Node.main\(\)](#).

9.38.3.2 static void edu.mit.csail.sdg.squander.examples.equiv.Node.main (String[] args) [static]

Definition at line 47 of file Node.java.

References [edu.mit.csail.sdg.squander.examples.equiv.Node.getEquiv\(\)](#), [edu.mit.csail.sdg.squander.examples.equiv.Node.left](#), and [edu.mit.csail.sdg.squander.examples.equiv.Node.right](#).

9.38.3.3 String edu.mit.csail.sdg.squander.examples.equiv.Node.toString ()

Definition at line 42 of file Node.java.

9.38.4 Member Data Documentation**9.38.4.1 Node edu.mit.csail.sdg.squander.examples.equiv.Node.left [package]**

Definition at line 28 of file Node.java.

Referenced by [edu.mit.csail.sdg.squander.examples.equiv.Node.main\(\)](#).

9.38.4.2 Node edu.mit.csail.sdg.squander.examples.equiv.Node.right [package]

Definition at line 29 of file Node.java.

Referenced by [edu.mit.csail.sdg.squander.examples.equiv.Node.main\(\)](#).

9.38.4.3 int edu.mit.csail.sdg.squander.examples.equiv.Node.value [package]

Definition at line 27 of file Node.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/equiv/[Node.java](#)

9.39 edu.mit.csail.sdg.squander.examples.func_Utils Class Reference

Static Public Member Functions

- static< R, E > R [fold](#) (Iterable< E > lst, R start, SqFunc.Binary< R, R, E > f)
- static< R, E > R [fold](#) (Iterable< E > lst, R start, Func f)

9.39.1 Detailed Description

Definition at line 10 of file Utils.java.

9.39.2 Member Function Documentation

9.39.2.1 static <R,E> R [edu.mit.csail.sdg.squander.examples.func_Utils.fold](#) (Iterable< E > lst, R start, Func f) [static]

Definition at line 21 of file Utils.java.

9.39.2.2 static <R,E> R [edu.mit.csail.sdg.squander.examples.func_Utils.fold](#) (Iterable< E > lst, R start, SqFunc.Binary< R, R, E > f) [static]

Definition at line 12 of file Utils.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/func/[Utils.java](#)

9.40 edu.mit.csail.sdg.squander.examples.graph2.Graph Class Reference

Classes

- class **Node**

Public Member Functions

- [Graph \(\)](#)
- Node [newNode \(int key\)](#)
- void [addNode \(Node n\)](#)
- void [newEdge \(Node a, Node b\)](#)
- Node[] [nodes \(\)](#)
- int [numEdges \(\)](#)
- int [numNodes \(\)](#)
- int [size \(\)](#)
- Node[] [hamiltonian \(\)](#)
- Node[] [topsort \(\)](#)
- Node[] [maxClique \(int k\)](#)

9.40.1 Detailed Description

Abstract (mock) graph.

Author:

kuat

Definition at line 23 of file Graph.java.

9.40.2 Constructor & Destructor Documentation

9.40.2.1 edu.mit.csail.sdg.squander.examples.graph2.Graph.Graph ()

Definition at line 38 of file Graph.java.

9.40.3 Member Function Documentation

9.40.3.1 void edu.mit.csail.sdg.squander.examples.graph2.Graph.addNode (Node n)

Definition at line 51 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1(), and edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph2().

9.40.3.2 Node [] edu.mit.csail.sdg.squander.examples.graph2.Graph.hamiltonian ()

Definition at line 80 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1().

9.40.3.3 Node [] edu.mit.csail.sdg.squander.examples.graph2.Graph.maxClique (int *k*)

Definition at line 102 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph2().

9.40.3.4 void edu.mit.csail.sdg.squander.examples.graph2.Graph.addEdge (Node *a*, Node *b*)

Definition at line 58 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1(), and edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph2().

9.40.3.5 Node edu.mit.csail.sdg.squander.examples.graph2.Graph.addNode (int *key*)

Definition at line 45 of file Graph.java.

9.40.3.6 Node [] edu.mit.csail.sdg.squander.examples.graph2.Graph.nodes ()

Definition at line 65 of file Graph.java.

9.40.3.7 int edu.mit.csail.sdg.squander.examples.graph2.Graph.numEdges ()

Definition at line 69 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1(), and edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph2().

9.40.3.8 int edu.mit.csail.sdg.squander.examples.graph2.Graph.numNodes ()

Definition at line 70 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1().

9.40.3.9 int edu.mit.csail.sdg.squander.examples.graph2.Graph.size ()

Definition at line 71 of file Graph.java.

9.40.3.10 Node [] edu.mit.csail.sdg.squander.examples.graph2.Graph.topsort ()

Definition at line 91 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/graph2/[Graph.java](#)

9.41 edu.mit.csail.sdg.squander.examples.graph2.GraphTest Class Reference

Public Member Functions

- void [testGraph1\(\)](#)
- void [testGraph2\(\)](#)

9.41.1 Detailed Description

Testing various graph algorithms.

Author:

kuat

Definition at line 24 of file GraphTest.java.

9.41.2 Member Function Documentation

9.41.2.1 void edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph1()

Definition at line 27 of file GraphTest.java.

References [edu.mit.csail.sdg.squander.examples.graph2.Graph.addNode\(\)](#),
[edu.mit.csail.sdg.squander.examples.graph2.Graph.hamiltonian\(\)](#), [edu.mit.csail.sdg.squander.examples.graph2.Graph.newEdge\(\)](#),
[edu.mit.csail.sdg.squander.examples.graph2.Graph.numEdges\(\)](#), [edu.mit.csail.sdg.squander.examples.graph2.Graph.numNodes\(\)](#) and
[edu.mit.csail.sdg.squander.examples.graph2.Graph.topsort\(\)](#).

9.41.2.2 void edu.mit.csail.sdg.squander.examples.graph2.GraphTest.testGraph2()

Definition at line 65 of file GraphTest.java.

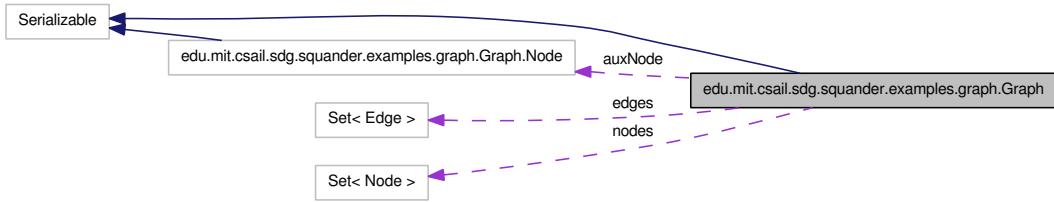
References [edu.mit.csail.sdg.squander.examples.graph2.Graph.addNode\(\)](#),
[edu.mit.csail.sdg.squander.examples.graph2.Graph.maxClique\(\)](#), [edu.mit.csail.sdg.squander.examples.graph2.Graph.newEdge\(\)](#) and
[edu.mit.csail.sdg.squander.examples.graph2.Graph.numEdges\(\)](#).

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/graph2/[GraphTest.java](#)

9.42 edu.mit.csail.sdg.squander.examples.graph.Graph Class Reference

Inherits java::io::Serializable.Collaboration diagram for edu.mit.csail.sdg.squander.examples.graph.Graph:



Classes

- class **Edge**
- class **Node**

Public Member Functions

- Node `getAuxNode ()`
- void `setAuxNode (Node aux)`
- int `getAuxInt ()`
- void `setAuxInt (int auxInt)`
- `Graph ()`
- Node `newNode (int key)`
- void `addNode (Node n)`
- void `addEdge (Edge e)`
- void `newUndirectedEdge (Node a, Node b)`
- void `newUndirectedEdge (Node a, Node b, int cost)`
- Edge `newEdge (Node a, Node b)`
- Edge `newEdge (Node a, Node b, int cost)`
- boolean `containsEdge (Node n1, Node n2)`
- Node `findNode (int label)`
- Node[] `nodes ()`
- Edge[] `edges ()`
- int `numEdges ()`
- int `numNodes ()`
- int `size ()`
- Set< Node > `getNeighbors (Node src)`
- void `removeAllIncomingEdges (Node n)`
- void `removeAllOutgoingEdges (Node n)`
- Node[] `hamiltonian ()`
- Edge[] `hamiltonian2 ()`
- Edge[] `tsp (Node startNode, int maxCost)`
- Node[] `topsort ()`
- Node[] `maxClique (int k)`
- Map< Node, Integer > `color (int k)`
- String `toString ()`

Static Public Member Functions

- static boolean [checkTSP \(Graph g, Edge\[\] hamcycle, int maxCost\)](#)

Private Attributes

- Set< Node > [nodes](#) = new LinkedHashSet<Node>()
- Set< Edge > [edges](#) = new LinkedHashSet<Edge>()
- Node [auxNode](#)
- int [auxInt](#)

Static Private Attributes

- static final long [serialVersionUID = -6332798241722968023L](#)

9.42.1 Detailed Description

An implementation of the [Graph](#) data structure, along with several graph algorithms.

Author:

Aleksandar Milicevic

Definition at line 28 of file Graph.java.

9.42.2 Constructor & Destructor Documentation

9.42.2.1 edu.mit.csail.sdg.squander.examples.graph.Graph.Graph ()

Definition at line 145 of file Graph.java.

9.42.3 Member Function Documentation

9.42.3.1 void edu.mit.csail.sdg.squander.examples.graph.Graph.addEdge (Edge e)

Definition at line 154 of file Graph.java.

References [edu.mit.csail.sdg.squander.examples.graph.Graph.edges\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge\(\)](#).

9.42.3.2 void edu.mit.csail.sdg.squander.examples.graph.Graph.addNode (Node n)

Definition at line 153 of file Graph.java.

References [edu.mit.csail.sdg.squander.examples.graph.Graph.nodes\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.examples.graph.Graph.newNode\(\)](#),
[edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1\(\)](#), and
[edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph2\(\)](#).

9.42.3.3 static boolean edu.mit.csail.sdg.squander.examples.graph.Graph.checkTSP (Graph g, Edge[] hamcycle, int maxCost) [static]

Definition at line 318 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.nodes.

9.42.3.4 Map<Node, Integer> edu.mit.csail.sdg.squander.examples.graph.Graph.color (int k)

[Graph](#) k-Coloring problem

Definition at line 303 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor().

9.42.3.5 boolean edu.mit.csail.sdg.squander.examples.graph.Graph.containsEdge (Node n1, Node n2)

Definition at line 178 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.edges().

9.42.3.6 Edge [] edu.mit.csail.sdg.squander.examples.graph.Graph.edges ()

Definition at line 187 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.addEdge(),
edu.mit.csail.sdg.squander.examples.graph.Graph.containsEdge(), edu.mit.csail.sdg.squander.examples.graph.Graph.getNeighbors(),
edu.mit.csail.sdg.squander.examples.graph.Graph.numEdges(), edu.mit.csail.sdg.squander.examples.graph.Graph.removeAllInEdges(),
and edu.mit.csail.sdg.squander.examples.graph.Graph.removeAllOutgoingEdges().

9.42.3.7 Node edu.mit.csail.sdg.squander.examples.graph.Graph.findNode (int label)

Definition at line 179 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.nodes().

9.42.3.8 int edu.mit.csail.sdg.squander.examples.graph.Graph.getAuxInt ()

Definition at line 142 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.auxInt.

9.42.3.9 Node edu.mit.csail.sdg.squander.examples.graph.Graph.getAuxNode ()

Definition at line 138 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.auxNode.

9.42.3.10 Set<Node> edu.mit.csail.sdg.squander.examples.graph.Graph.getNeighbors (Node src)

Definition at line 193 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.edges().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.checkColorsOk().

9.42.3.11 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph.hamiltonian ()

Spec for the Hamiltonian path problem

Definition at line 226 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1().

9.42.3.12 Edge [] edu.mit.csail.sdg.squander.examples.graph.Graph.hamiltonian2 ()

A different spec for the Hamiltonian path problem

Definition at line 242 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1().

9.42.3.13 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph.maxClique (int *k*)

Max Clique

Definition at line 288 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph2().

9.42.3.14 Edge edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge (Node *a*, Node *b*, int *cost*)

Definition at line 172 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.addEdge().

9.42.3.15 Edge edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge (Node *a*, Node *b*)

Definition at line 166 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.addEdge().

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.newUndirectedEdge(),
edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor(), edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGr
and edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph2().

9.42.3.16 Node edu.mit.csail.sdg.squander.examples.graph.Graph.newNode (int *key*)

Definition at line 147 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.addNode().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor(), and
edu.mit.csail.sdg.squander.examples.graph.GraphTest.testTSP().

9.42.3.17 void edu.mit.csail.sdg.squander.examples.graph.Graph.newUndirectedEdge (Node *a*, Node *b*, int *cost*)

Definition at line 161 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge().

9.42.3.18 void edu.mit.csail.sdg.squander.examples.graph.Graph.newUndirectedEdge (Node *a*, Node *b*)

Definition at line 156 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor(), and edu.mit.csail.sdg.squander.examples.graph.GraphTest.testTSP().

9.42.3.19 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph.nodes ()

Definition at line 186 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.addNode(), edu.mit.csail.sdg.squander.examples.graph.Graph.findNode(), and edu.mit.csail.sdg.squander.examples.graph.Graph.numNodes().

9.42.3.20 int edu.mit.csail.sdg.squander.examples.graph.Graph.numEdges ()

Definition at line 189 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.edges().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1(), and edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph2().

9.42.3.21 int edu.mit.csail.sdg.squander.examples.graph.Graph.numNodes ()

Definition at line 190 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.nodes().

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.size(), and edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1().

9.42.3.22 void edu.mit.csail.sdg.squander.examples.graph.Graph.removeAllIncomingEdges (Node *n*)

Definition at line 201 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.edges().

9.42.3.23 void edu.mit.csail.sdg.squander.examples.graph.Graph.removeAllOutgoingEdges (Node *n*)

Definition at line 208 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.edges().

9.42.3.24 void edu.mit.csail.sdg.squander.examples.graph.Graph.setAuxInt (int *auxInt*)

Definition at line 143 of file Graph.java.

9.42.3.25 void edu.mit.csail.sdg.squander.examples.graph.Graph.setAuxNode (Node *aux*)

Definition at line 139 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.auxNode.

9.42.3.26 int edu.mit.csail.sdg.squander.examples.graph.Graph.size ()

Definition at line 191 of file Graph.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.numNodes().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.checkColorsOk(), and edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp().

9.42.3.27 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph.topsort ()

Topological sort

Definition at line 274 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1().

9.42.3.28 String edu.mit.csail.sdg.squander.examples.graph.Graph.toString ()

Definition at line 308 of file Graph.java.

9.42.3.29 Edge [] edu.mit.csail.sdg.squander.examples.graph.Graph.tsp (Node *startNode*, int *maxCost*)

Traveling Salesman Problem

Definition at line 260 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testTSP().

9.42.4 Member Data Documentation

9.42.4.1 int edu.mit.csail.sdg.squander.examples.graph.Graph.auxInt [private]

Definition at line 141 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.getAuxInt().

9.42.4.2 Node edu.mit.csail.sdg.squander.examples.graph.Graph.auxNode [private]

Definition at line 137 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.getAuxNode(), and edu.mit.csail.sdg.squander.examples.graph.Graph.setAuxNode().

**9.42.4.3 Set<Edge> edu.mit.csail.sdg.squander.examples.graph.Graph.edges = new
LinkedHashSet<Edge>() [private]**

Definition at line 135 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp().

**9.42.4.4 Set<Node> edu.mit.csail.sdg.squander.examples.graph.Graph.nodes = new
LinkedHashSet<Node>() [private]**

Definition at line 134 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.Graph.checkTSP().

**9.42.4.5 final long edu.mit.csail.sdg.squander.examples.graph.Graph serialVersionUID =
-6332798241722968023L [static, private]**

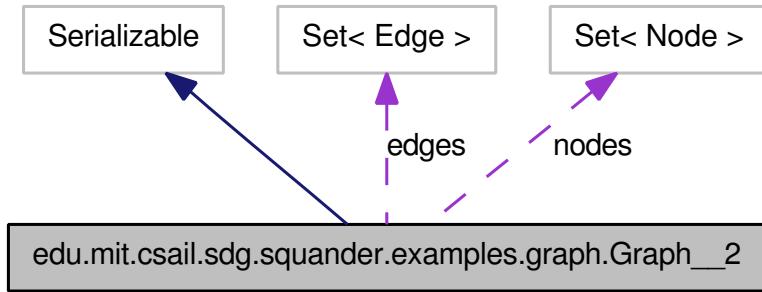
Definition at line 30 of file Graph.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/graph/[Graph.java](#)

9.43 edu.mit.csail.sdg.squander.examples.graph.Graph__2 Class Reference

Inherits java::io::Serializable.Collaboration diagram for edu.mit.csail.sdg.squander.examples.graph.Graph__2:



Classes

- class **Edge**
- class **Node**

Public Member Functions

- `Graph_2()`
- `Node newNode (int key)`
- `void addNode (Node n)`
- `void addEdge (Edge e)`
- `Edge newEdge (Node a, Node b)`
- `boolean containsEdge (Node n1, Node n2)`
- `Node[] nodes ()`
- `Edge[] edges ()`
- `int numEdges ()`
- `int numNodes ()`
- `int size ()`
- `void removeAllIncomingEdges (Node n)`
- `void removeAllOutgoingEdges (Node n)`
- `Node[] hamiltonian ()`
- `Node[] topsort ()`
- `Node[] maxClique (int k)`
- `String toString ()`

Private Attributes

- `Set< Node > nodes = new LinkedHashSet<Node>()`
- `Set< Edge > edges = new LinkedHashSet<Edge>()`

Static Private Attributes

- static final long serialVersionUID = -6332798241722968023L

9.43.1 Detailed Description

The same as [Graph](#) but with an extra spec field.

Author:

Aleksandar Milicevic

Definition at line 28 of file Graph_2.java.

9.43.2 Constructor & Destructor Documentation

9.43.2.1 edu.mit.csail.sdg.squander.examples.graph.Graph_2.Graph_2()

Definition at line 120 of file Graph_2.java.

9.43.3 Member Function Documentation

9.43.3.1 void edu.mit.csail.sdg.squander.examples.graph.Graph_2.addEdge (Edge e)

Definition at line 129 of file Graph_2.java.

9.43.3.2 void edu.mit.csail.sdg.squander.examples.graph.Graph_2.addNode (Node n)

Definition at line 128 of file Graph_2.java.

9.43.3.3 boolean edu.mit.csail.sdg.squander.examples.graph.Graph_2.containsEdge (Node n1, Node n2)

Definition at line 137 of file Graph_2.java.

9.43.3.4 Edge [] edu.mit.csail.sdg.squander.examples.graph.Graph_2.edges()

Definition at line 140 of file Graph_2.java.

9.43.3.5 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph_2.hamiltonian()

Definition at line 168 of file Graph_2.java.

9.43.3.6 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph_2.maxClique (int k)

Definition at line 190 of file Graph_2.java.

9.43.3.7 Edge edu.mit.csail.sdg.squander.examples.graph.Graph__2.newEdge (Node *a*, Node *b*)

Definition at line 131 of file Graph__2.java.

9.43.3.8 Node edu.mit.csail.sdg.squander.examples.graph.Graph__2.newNode (int *key*)

Definition at line 122 of file Graph__2.java.

9.43.3.9 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph__2.nodes ()

Definition at line 139 of file Graph__2.java.

9.43.3.10 int edu.mit.csail.sdg.squander.examples.graph.Graph__2.numEdges ()

Definition at line 142 of file Graph__2.java.

9.43.3.11 int edu.mit.csail.sdg.squander.examples.graph.Graph__2.numNodes ()

Definition at line 143 of file Graph__2.java.

9.43.3.12 void edu.mit.csail.sdg.squander.examples.graph.Graph__2.removeAllIncomingEdges (Node *n*)

Definition at line 146 of file Graph__2.java.

9.43.3.13 void edu.mit.csail.sdg.squander.examples.graph.Graph__2.removeAllOutgoingEdges (Node *n*)

Definition at line 153 of file Graph__2.java.

9.43.3.14 int edu.mit.csail.sdg.squander.examples.graph.Graph__2.size ()

Definition at line 144 of file Graph__2.java.

9.43.3.15 Node [] edu.mit.csail.sdg.squander.examples.graph.Graph__2.topsort ()

Definition at line 179 of file Graph__2.java.

9.43.3.16 String edu.mit.csail.sdg.squander.examples.graph.Graph__2.toString ()

Definition at line 195 of file Graph__2.java.

9.43.4 Member Data Documentation

**9.43.4.1 Set<Edge> edu.mit.csail.sdg.squander.examples.graph.Graph__2.edges = new
LinkedHashSet<Edge>() [private]**

Definition at line 118 of file Graph__2.java.

**9.43.4.2 Set<Node> edu.mit.csail.sdg.squander.examples.graph.Graph__2.nodes = new
LinkedHashSet<Node>() [private]**

Definition at line 117 of file Graph__2.java.

**9.43.4.3 final long edu.mit.csail.sdg.squander.examples.graph.Graph__2 serialVersionUID =
-6332798241722968023L [static, private]**

Definition at line 30 of file Graph__2.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/graph/[Graph__2.java](#)

9.44 edu.mit.csail.sdg.squander.examples.graph.GraphTest Class Reference

Public Member Functions

- void [testGraph1\(\)](#)
- void [testGraph2\(\)](#)
- void [testColor\(\)](#)
- void [testTSP\(\)](#)

Private Member Functions

- boolean [checkColorsOk\(Graph g, Map<Node, Integer> colors\)](#)

9.44.1 Detailed Description

Testing various graph algorithms.

Author:

kuat

Definition at line 26 of file GraphTest.java.

9.44.2 Member Function Documentation

9.44.2.1 boolean edu.mit.csail.sdg.squander.examples.graph.GraphTest.checkColorsOk (Graph g, Map<Node, Integer> colors) [private]

Definition at line 176 of file GraphTest.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.getNeighbors(), and
edu.mit.csail.sdg.squander.examples.graph.Graph.size().

Referenced by edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor().

9.44.2.2 void edu.mit.csail.sdg.squander.examples.graph.GraphTest.testColor ()

Definition at line 120 of file GraphTest.java.

References edu.mit.csail.sdg.squander.examples.graph.GraphTest.checkColorsOk(),
edu.mit.csail.sdg.squander.examples.graph.Graph.color(), edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge(),
edu.mit.csail.sdg.squander.examples.graph.Graph.newNode(), and edu.mit.csail.sdg.squander.examples.graph.Graph.newUndir()

9.44.2.3 void edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph1 ()

Definition at line 29 of file GraphTest.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.addNode(),
edu.mit.csail.sdg.squander.examples.graph.Graph.hamiltonian(), edu.mit.csail.sdg.squander.examples.graph.Graph.hamiltonian()
edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge(), edu.mit.csail.sdg.squander.examples.graph.Graph.numEdges(),
edu.mit.csail.sdg.squander.examples.graph.Graph.numNodes(), and edu.mit.csail.sdg.squander.examples.graph.Graph.topsort()

9.44.2.4 void edu.mit.csail.sdg.squander.examples.graph.GraphTest.testGraph2 ()

Definition at line 73 of file GraphTest.java.

References [edu.mit.csail.sdg.squander.examples.graph.Graph.addNode\(\)](#),
[edu.mit.csail.sdg.squander.examples.graph.Graph.maxClique\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.Graph.newEdge\(\)](#),
and [edu.mit.csail.sdg.squander.examples.graph.Graph.numEdges\(\)](#).

9.44.2.5 void edu.mit.csail.sdg.squander.examples.graph.GraphTest.testTSP ()

Definition at line 147 of file GraphTest.java.

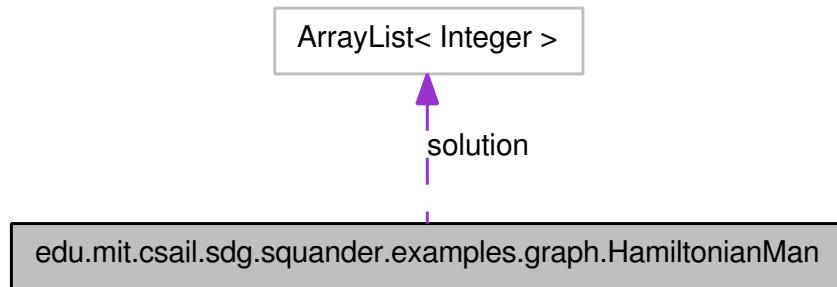
References [edu.mit.csail.sdg.squander.examples.graph.Graph.newNode\(\)](#),
[edu.mit.csail.sdg.squander.examples.graph.Graph.newUndirectedEdge\(\)](#), and
[edu.mit.csail.sdg.squander.examples.graph.Graph.tsp\(\)](#).

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/graph/[GraphTest.java](#)

9.45 edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan:



Static Public Member Functions

- static Node[] hp (Graph g)
- static void hp (int[][] adjacency)
- static void hp (List< Integer > pathSoFar, int[][] adjacency)
- static void printSolution (List< Integer > pathSoFar)
- static void main (String[] args)

Static Private Attributes

- static ArrayList< Integer > solution

9.45.1 Detailed Description

An imperative implementation of the Hamiltonian problem taken from:

<http://moodle.cornellcollege.edu/0809/mod/resource/index.php?id=947>

Definition at line 19 of file HamiltonianMan.java.

9.45.2 Member Function Documentation

9.45.2.1 static void edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp (List< Integer > pathSoFar, int adjacency[][]) [static]

Definition at line 44 of file HamiltonianMan.java.

References [edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp\(\)](#), [edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.printSolution\(\)](#), and [edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.solution\(\)](#).

9.45.2.2 static void edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp (int adjacency[][]) [static]

Definition at line 40 of file HamiltonianMan.java.

References edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp().

9.45.2.3 static Node[] edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp (Graph g) [static]

Definition at line 23 of file HamiltonianMan.java.

References edu.mit.csail.sdg.squander.examples.graph.Graph.edges, edu.mit.csail.sdg.squander.examples.graph.Graph.size(), and edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.solution.

Referenced by edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp(), and edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.main().

9.45.2.4 static void edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.main (String[] args) [static]

Definition at line 80 of file HamiltonianMan.java.

References edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp(), and edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.solution.

9.45.2.5 static void edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.printSolution (List< Integer > pathSoFar) [static]

Definition at line 69 of file HamiltonianMan.java.

References edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.solution.

Referenced by edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp().

9.45.3 Member Data Documentation

**9.45.3.1 ArrayList<Integer>
edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.solution
[static, private]**

Definition at line 21 of file HamiltonianMan.java.

Referenced by edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.hp(), edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.main(), and edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan.printSolution().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/graph/[HamiltonianMan.java](#)

9.46 edu.mit.csail.sdg.squander.examples.javacol.Collections Class Reference

Static Public Member Functions

- static< E > E `get` (List< E > list, int idx)
- static< E > void `set` (List< E > list, int idx, E value)
- static< E > void `add` (List< E > list, E elem)
- static< E > E `prev` (List< E > list, E elem)
- static< E > E `next` (List< E > list, E elem)
- static< E > E `remove` (List< E > list, int idx)
- static< K, V > V `get` (Map< K, V > map, K key)
- static< K, V > V `put` (Map< K, V > map, K key, V value)
- static< K, V > V `removeKey` (Map< K, V > map, K key)
- static< E > boolean `contains` (Set< E > s, E key)
- static< E > boolean `add` (Set< E > s, E key)
- static< E > boolean `remove` (Set< E > s, E key)
- static void `main` (String[] args)

Private Member Functions

- int `f` (Map< String, Integer > m)

9.46.1 Detailed Description

Specifies very basic operations on various Java collections.

Author:

Aleksandar Milicevic

Definition at line 26 of file Collections.java.

9.46.2 Member Function Documentation

9.46.2.1 static <E> boolean edu.mit.csail.sdg.squander.examples.javacol.Collections.add (Set< E > s, E key) [static]

Definition at line 118 of file Collections.java.

9.46.2.2 static <E> void edu.mit.csail.sdg.squander.examples.javacol.Collections.add (List< E > list, E elem) [static]

Definition at line 50 of file Collections.java.

9.46.2.3 static <E> boolean edu.mit.csail.sdg.squander.examples.javacol.Collections.contains (Set< E > s, E key) [static]

Definition at line 109 of file Collections.java.

**9.46.2.4 int edu.mit.csail.sdg.squander.examples.javacol.Collections.f (Map< String, Integer > m)
[private]**

Definition at line 132 of file Collections.java.

**9.46.2.5 static <K,V> V edu.mit.csail.sdg.squander.examples.javacol.Collections.get (Map< K, V
> map, K key) [static]**

Definition at line 82 of file Collections.java.

**9.46.2.6 static <E> E edu.mit.csail.sdg.squander.examples.javacol.Collections.get (List< E > list,
int idx) [static]**

Definition at line 34 of file Collections.java.

**9.46.2.7 static void edu.mit.csail.sdg.squander.examples.javacol.Collections.main (String[] args)
[static]**

Definition at line 136 of file Collections.java.

**9.46.2.8 static <E> E edu.mit.csail.sdg.squander.examples.javacol.Collections.next (List< E >
list, E elem) [static]**

Definition at line 60 of file Collections.java.

**9.46.2.9 static <E> E edu.mit.csail.sdg.squander.examples.javacol.Collections.prev (List< E >
list, E elem) [static]**

Definition at line 55 of file Collections.java.

**9.46.2.10 static <K,V> V edu.mit.csail.sdg.squander.examples.javacol.Collections.put (Map< K,
V > map, K key, V value) [static]**

Definition at line 91 of file Collections.java.

**9.46.2.11 static <E> boolean edu.mit.csail.sdg.squander.examples.javacol.Collections.remove
(Set< E > s, E key) [static]**

Definition at line 127 of file Collections.java.

**9.46.2.12 static <E> E edu.mit.csail.sdg.squander.examples.javacol.Collections.remove (List< E
> list, int idx) [static]**

Definition at line 73 of file Collections.java.

**9.46.2.13 static <K,V> V edu.mit.csail.sdg.squander.examples.javacol.Collections.removeKey
(Map< K, V > map, K key) [static]**

Definition at line 100 of file Collections.java.

**9.46.2.14 static <E> void edu.mit.csail.sdg.squander.examples.javacol.Collections.set (List< E >
list, int idx, E value) [static]**

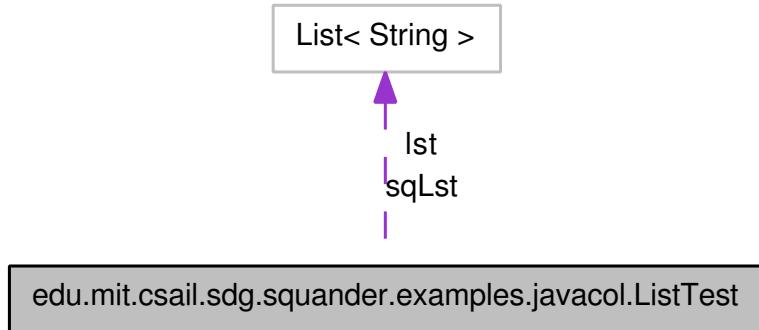
Definition at line 41 of file Collections.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/javacol/[Collections.java](#)

9.47 edu.mit.csail.sdg.squander.examples.javacol.ListTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.javacol.ListTest:



Public Member Functions

- void [setUp](#)()
- void [testGet](#)()
- void [testSet](#)()
- void [testAdd](#)()
- void [testPrevNext](#)()
- void [testRemove](#)()

Private Attributes

- final String[] [elems](#) = new String[] { "str1", "str2", "str1", "str3", "str2" }
- List< String > [lst](#)
- List< String > [sqLst](#)

9.47.1 Detailed Description

Definition at line 17 of file ListTest.java.

9.47.2 Member Function Documentation

9.47.2.1 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.setUp ()

Definition at line 25 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.elems, edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst and edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqLst.

9.47.2.2 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.testAdd ()

Definition at line 51 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.elems, edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst and edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqLst.

9.47.2.3 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.testGet ()

Definition at line 35 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst, and edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqLst.

9.47.2.4 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.testPrevNext ()

Definition at line 62 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst.

9.47.2.5 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.testRemove ()

Definition at line 79 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.elems, edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst and edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqLst.

9.47.2.6 void edu.mit.csail.sdg.squander.examples.javacol.ListTest.testSet ()

Definition at line 42 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.ListTest.elems, edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst and edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqLst.

9.47.3 Member Data Documentation

9.47.3.1 final String [] edu.mit.csail.sdg.squander.examples.javacol.ListTest.elems = new String[] { "str1", "str2", "str1", "str3", "str2" } [private]

Definition at line 19 of file ListTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.ListTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testAdd(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testRemove() and edu.mit.csail.sdg.squander.examples.javacol.ListTest.testSet().

9.47.3.2 List<String> edu.mit.csail.sdg.squander.examples.javacol.ListTest.lst [private]

Definition at line 21 of file ListTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.ListTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testAdd(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testGet(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testPrevNext(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testRemove() and edu.mit.csail.sdg.squander.examples.javacol.ListTest.testSet().

9.47.3.3 List<String> edu.mit.csail.sdg.squander.examples.javacol.ListTest.sqLst [private]

Definition at line 22 of file ListTest.java.

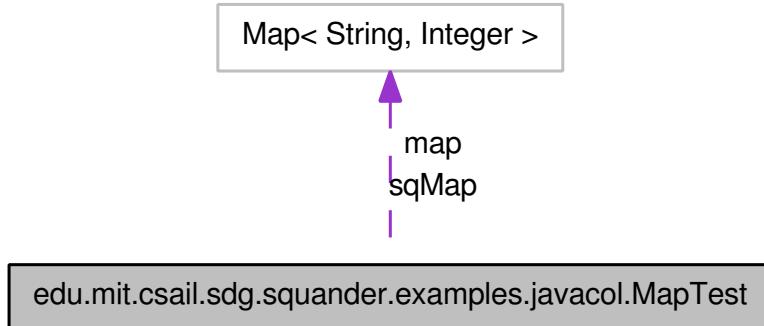
Referenced by edu.mit.csail.sdg.squander.examples.javacol.ListTest.setUp(),
edu.mit.csail.sdg.squander.examples.javacol.ListTest.testAdd(), edu.mit.csail.sdg.squander.examples.javacol.ListTest.testGet(),
edu.mit.csail.sdg.squander.examples.javacol.ListTest.testRemove(), and
edu.mit.csail.sdg.squander.examples.javacol.ListTest.testSet().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/javacol/[ListTest.java](#)

9.48 edu.mit.csail.sdg.squander.examples.javacol.MapTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.javacol.MapTest:



Public Member Functions

- void [setUp \(\)](#)
- void [testGet \(\)](#)
- void [testPut \(\)](#)
- void [testRemove \(\)](#)

Private Attributes

- Map< String, Integer > [map](#)
- Map< String, Integer > [sqMap](#)

Static Private Attributes

- static final String[] [keys](#) = new String[] { "str1", "str2", "str3" }
- static final Integer[] [vals](#) = new Integer[] { 1, 2, 3 }

9.48.1 Detailed Description

Definition at line 16 of file MapTest.java.

9.48.2 Member Function Documentation

9.48.2.1 void edu.mit.csail.sdg.squander.examples.javacol.MapTest.setUp ()

Definition at line 25 of file MapTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.MapTest.keys, edu.mit.csail.sdg.squander.examples.javacol.MapTest.map, edu.mit.csail.sdg.squander.examples.javacol.MapTest.sqMap, and edu.mit.csail.sdg.squander.examples.javacol.MapTest.vals.

9.48.2.2 void edu.mit.csail.sdg.squander.examples.javacol.MapTest.testGet ()

Definition at line 35 of file MapTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.MapTest.keys, edu.mit.csail.sdg.squander.examples.javacol.MapTest.map and edu.mit.csail.sdg.squander.examples.javacol.MapTest.sqMap.

9.48.2.3 void edu.mit.csail.sdg.squander.examples.javacol.MapTest.testPut ()

Definition at line 45 of file MapTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.MapTest.keys, edu.mit.csail.sdg.squander.examples.javacol.MapTest.map, edu.mit.csail.sdg.squander.examples.javacol.MapTest.sqMap, and edu.mit.csail.sdg.squander.examples.javacol.MapTest.vals.

9.48.2.4 void edu.mit.csail.sdg.squander.examples.javacol.MapTest.testRemove ()

Definition at line 67 of file MapTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.MapTest.keys, edu.mit.csail.sdg.squander.examples.javacol.MapTest.map and edu.mit.csail.sdg.squander.examples.javacol.MapTest.sqMap.

9.48.3 Member Data Documentation

9.48.3.1 final String [] edu.mit.csail.sdg.squander.examples.javacol.MapTest.keys = new String[] { "str1", "str2", "str3" } [**static, private**]

Definition at line 18 of file MapTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.MapTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testGet(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testPut() and edu.mit.csail.sdg.squander.examples.javacol.MapTest.testRemove().

9.48.3.2 Map<String, Integer> edu.mit.csail.sdg.squander.examples.javacol.MapTest.map [**private**]

Definition at line 21 of file MapTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.MapTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testGet(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testPut() and edu.mit.csail.sdg.squander.examples.javacol.MapTest.testRemove().

9.48.3.3 Map<String, Integer> edu.mit.csail.sdg.squander.examples.javacol.MapTest.sqMap [**private**]

Definition at line 22 of file MapTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.MapTest.setUp(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testGet(), edu.mit.csail.sdg.squander.examples.javacol.MapTest.testPut() and edu.mit.csail.sdg.squander.examples.javacol.MapTest.testRemove().

9.48.3.4 final Integer [] edu.mit.csail.sdg.squander.examples.javacol.MapTest.vals = new Integer[] { 1, 2, 3 } [static, private]

Definition at line 19 of file MapTest.java.

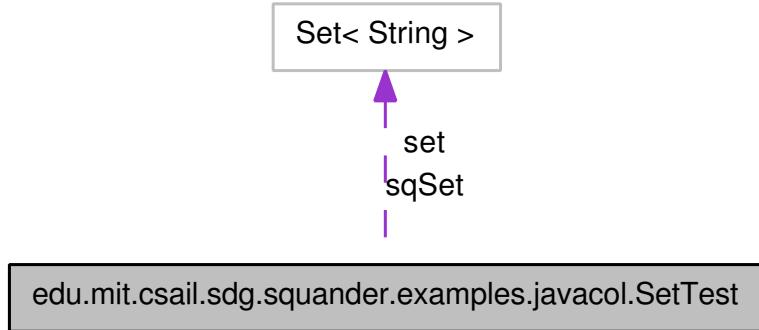
Referenced by edu.mit.csail.sdg.squander.examples.javacol.MapTest.setUp(), and edu.mit.csail.sdg.squander.examples.javacol.MapTest.testPut().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/javacol/[MapTest.java](#)

9.49 edu.mit.csail.sdg.squander.examples.javacol.SetTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.javacol.SetTest:



Public Member Functions

- void [setUp \(\)](#)
- void [testContains \(\)](#)
- void [testAdd \(\)](#)
- void [testRemove \(\)](#)

Private Attributes

- Set< String > [set](#)
- Set< String > [sqSet](#)

Static Private Attributes

- static final String[] [keys](#) = new String[] { "str1", "str2", "str3" }

9.49.1 Detailed Description

Definition at line 16 of file SetTest.java.

9.49.2 Member Function Documentation

9.49.2.1 void edu.mit.csail.sdg.squander.examples.javacol.SetTest.setUp ()

Definition at line 24 of file SetTest.java.

References [edu.mit.csail.sdg.squander.examples.javacol.SetTest.keys](#), and [edu.mit.csail.sdg.squander.examples.javacol.SetTest.sqSet](#).

9.49.2.2 void edu.mit.csail.sdg.squander.examples.javacol.SetTest.testAdd ()

Definition at line 46 of file SetTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.SetTest.keys, and
edu.mit.csail.sdg.squander.examples.javacol.SetTest.sqSet.

9.49.2.3 void edu.mit.csail.sdg.squander.examples.javacol.SetTest.testContains ()

Definition at line 34 of file SetTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.SetTest.sqSet.

9.49.2.4 void edu.mit.csail.sdg.squander.examples.javacol.SetTest.testRemove ()

Definition at line 64 of file SetTest.java.

References edu.mit.csail.sdg.squander.examples.javacol.SetTest.keys, and
edu.mit.csail.sdg.squander.examples.javacol.SetTest.sqSet.

9.49.3 Member Data Documentation

**9.49.3.1 final String [] edu.mit.csail.sdg.squander.examples.javacol.SetTest.keys = new String[] {
 "str1", "str2", "str3" } [static, private]**

Definition at line 18 of file SetTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.SetTest.setUp(),
edu.mit.csail.sdg.squander.examples.javacol.SetTest.testAdd(), and edu.mit.csail.sdg.squander.examples.javacol.SetTest.testRemove().

9.49.3.2 Set<String> edu.mit.csail.sdg.squander.examples.javacol.SetTest.set [private]

Definition at line 20 of file SetTest.java.

9.49.3.3 Set<String> edu.mit.csail.sdg.squander.examples.javacol.SetTest.sqSet [private]

Definition at line 21 of file SetTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.SetTest.setUp(),
edu.mit.csail.sdg.squander.examples.javacol.SetTest.testAdd(), edu.mit.csail.sdg.squander.examples.javacol.SetTest.testContains(),
and edu.mit.csail.sdg.squander.examples.javacol.SetTest.testRemove().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/javacol/[SetTest.java](#)

9.50 edu.mit.csail.sdg.squander.examples.javacol.Str Class Reference

Public Member Functions

- [Str \(String msg\)](#)

Package Attributes

- final String [msg](#)

9.50.1 Detailed Description

Definition at line 19 of file TypeParamsEx.java.

9.50.2 Constructor & Destructor Documentation

9.50.2.1 edu.mit.csail.sdg.squander.examples.javacol.Str.Str (String msg)

Definition at line 21 of file TypeParamsEx.java.

9.50.3 Member Data Documentation

9.50.3.1 final String edu.mit.csail.sdg.squander.examples.javacol.Str.msg [package]

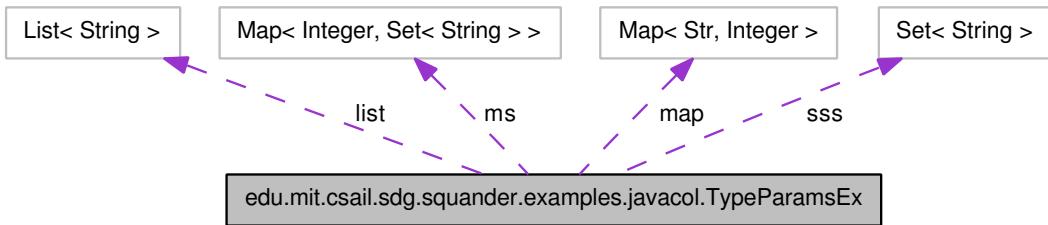
Definition at line 20 of file TypeParamsEx.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/javacol/[TypeParamsEx.java](#)

9.51 edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx:



Public Member Functions

- `TypeParamsEx ()`
- `int findInt (String key)`
- `Set< String > common ()`
- `void common2 ()`

Static Public Member Functions

- `static Integer get (Map< String, Integer > m, String s)`
- `static void main1 (String[] args)`
- `static void main (String[] args)`
- `static void main3 (String[] args)`
- `static void main4 (String[] args)`

Package Attributes

- `Map< Str, Integer > map = new HashMap<Str, Integer>()`
- `List< String > list = new LinkedList<String>()`
- `Set< String > sss = new HashSet<String>()`
- `Map< Integer, Set< String > > ms = new HashMap<Integer, Set<String>>()`

Private Member Functions

- `void init ()`

9.51.1 Detailed Description

Definition at line 24 of file TypeParamsEx.java.

9.51.2 Constructor & Destructor Documentation

9.51.2.1 `edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.TypeParamsEx ()`

Definition at line 31 of file TypeParamsEx.java.

References edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.init().

9.51.3 Member Function Documentation

9.51.3.1 `Set<String> edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.common ()`

Definition at line 65 of file TypeParamsEx.java.

9.51.3.2 `void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.common2 ()`

Definition at line 71 of file TypeParamsEx.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main3(), and edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest.test1().

9.51.3.3 `int edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.findInt (String key)`

Definition at line 58 of file TypeParamsEx.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest.test1().

9.51.3.4 `static Integer edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.get (Map< String, Integer > m, String s) [static]`

Definition at line 76 of file TypeParamsEx.java.

9.51.3.5 `void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.init () [private]`

Definition at line 35 of file TypeParamsEx.java.

References edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.list, edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.map, and edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx().
Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.TypeParamsEx().

9.51.3.6 `static void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main (String[] args) [static]`

Definition at line 88 of file TypeParamsEx.java.

9.51.3.7 `static void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main1 (String[] args) [static]`

Definition at line 80 of file TypeParamsEx.java.

9.51.3.8 static void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main3 (String[] args) [static]

Definition at line 93 of file TypeParamsEx.java.

References edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.common2(), and edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.sss.

9.51.3.9 static void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main4 (String[] args) [static]

Definition at line 99 of file TypeParamsEx.java.

9.51.4 Member Data Documentation

**9.51.4.1 List<String> edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.list = new
LinkedList<String>() [package]**

Definition at line 27 of file TypeParamsEx.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.init().

**9.51.4.2 Map<Str, Integer> edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.map =
new HashMap<Str, Integer>() [package]**

Definition at line 26 of file TypeParamsEx.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.init().

**9.51.4.3 Map<Integer, Set<String>>
edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.ms = new
HashMap<Integer, Set<String>>() [package]**

Definition at line 29 of file TypeParamsEx.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.init().

**9.51.4.4 Set<String> edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.sss = new
HashSet<String>() [package]**

Definition at line 28 of file TypeParamsEx.java.

Referenced by edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.main3(), and edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest.test1().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/javacol/[TypeParamsEx.java](#)

9.52 edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest Class Reference

Public Member Functions

- void [test1 \(\)](#)

9.52.1 Detailed Description

Definition at line 16 of file TypeParamsTest.java.

9.52.2 Member Function Documentation

9.52.2.1 void edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest.test1 ()

Definition at line 19 of file TypeParamsTest.java.

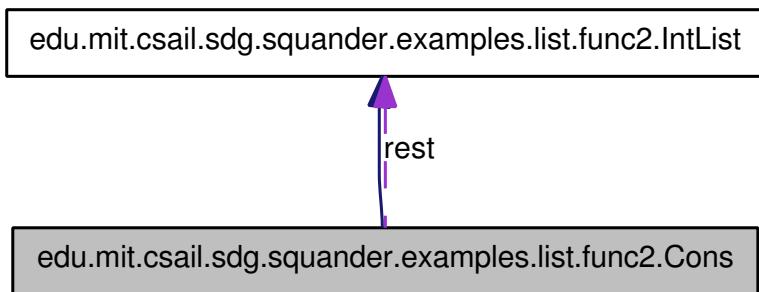
References [edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.common2\(\)](#),
[edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.findInt\(\)](#), and
[edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx.sss](#).

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/javacol/[TypeParamsTest.java](#)

9.53 edu.mit.csail.sdg.squander.examples.list.func2.Cons Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::list::func2::IntList.Collaboration](#) diagram for `edu.mit.csail.sdg.squander.examples.list.func2.Cons`:



Public Member Functions

- [Cons \(int key, IntList rest\)](#)
- [int getKey \(\)](#)
- [IntList getRest \(\)](#)
- [String toString \(\)](#)

Private Attributes

- final int [key](#)
- final [IntList rest](#)

9.53.1 Detailed Description

Definition at line 15 of file `Cons.java`.

9.53.2 Constructor & Destructor Documentation

9.53.2.1 edu.mit.csail.sdg.squander.examples.list.func2.Cons.Cons (int key, IntList rest)

Definition at line 20 of file `Cons.java`.

9.53.3 Member Function Documentation

9.53.3.1 int edu.mit.csail.sdg.squander.examples.list.func2.Cons.getKey ()

Definition at line 25 of file `Cons.java`.

9.53.3.2 IntList edu.mit.csail.sdg.squander.examples.list.func2.Cons.getRest ()

Definition at line 29 of file `Cons.java`.

9.53.3.3 String edu.mit.csail.sdg.squander.examples.list.func2.Cons.toString ()

Definition at line 34 of file Cons.java.

9.53.4 Member Data Documentation**9.53.4.1 final int edu.mit.csail.sdg.squander.examples.list.func2.Cons.key [private]**

Definition at line 17 of file Cons.java.

9.53.4.2 final IntList edu.mit.csail.sdg.squander.examples.list.func2.Cons.rest [private]

Definition at line 18 of file Cons.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/list/func2/[Cons.java](#)

9.54 edu.mit.csail.sdg.squander.examples.list.func2.IntList Class Reference

Inherited by [edu.mit.csail.sdg.squander.examples.list.func2.Cons](#), and [edu.mit.csail.sdg.squander.examples.list.func2.Nil](#).

Public Member Functions

- final int [size \(\)](#)
- final int [get \(int idx\)](#)
- final [IntList sublist \(int startIdx\)](#)

Static Public Member Functions

- static void [main \(String\[\] args\)](#)

9.54.1 Detailed Description

Functional list implementation.

Author:

Aleksandar Milicevic

Definition at line 21 of file IntList.java.

9.54.2 Member Function Documentation

9.54.2.1 final int edu.mit.csail.sdg.squander.examples.list.func2.IntList.get (int *idx*)

Definition at line 27 of file IntList.java.

9.54.2.2 static void edu.mit.csail.sdg.squander.examples.list.func2.IntList.main (String[] *args*) [static]

Definition at line 32 of file IntList.java.

References [edu.mit.csail.sdg.squander.examples.list.func2.IntList.size\(\)](#).

9.54.2.3 final int edu.mit.csail.sdg.squander.examples.list.func2.IntList.size ()

Definition at line 24 of file IntList.java.

Referenced by [edu.mit.csail.sdg.squander.examples.list.func2.IntList.main\(\)](#), and [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSize\(\)](#).

9.54.2.4 final IntList edu.mit.csail.sdg.squander.examples.list.func2.IntList.sublist (int startIdx)

Definition at line 30 of file IntList.java.

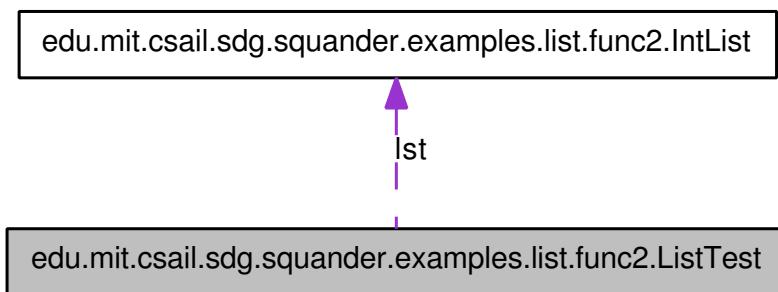
Referenced by edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSublist().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/list/func2/[IntList.java](#)

9.55 edu.mit.csail.sdg.squander.examples.list.func2.ListTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.list.func2.ListTest:



Public Member Functions

- void [setUp \(\)](#)
- void [testSize \(\)](#)
- void [testSublist \(\)](#)

Private Attributes

- [IntList lst](#)
- [int\[\] elems](#)

9.55.1 Detailed Description

Definition at line 16 of file ListTest.java.

9.55.2 Member Function Documentation

9.55.2.1 void edu.mit.csail.sdg.squander.examples.list.func2.ListTest.setUp ()

Definition at line 22 of file ListTest.java.

References [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.elems](#), and [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.lst](#).

9.55.2.2 void edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSize ()

Definition at line 31 of file ListTest.java.

References [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.elems](#), [edu.mit.csail.sdg.squander.examples.list.func2.ListTest.lst](#), and [edu.mit.csail.sdg.squander.examples.list.func2.IntList.size\(\)](#).

9.55.2.3 void edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSublist ()

Definition at line 36 of file ListTest.java.

References edu.mit.csail.sdg.squander.examples.list.func2.ListTest.lst, and
edu.mit.csail.sdg.squander.examples.list.func2.IntList.sublist().

9.55.3 Member Data Documentation

9.55.3.1 int [] edu.mit.csail.sdg.squander.examples.list.func2.ListTest.elems [private]

Definition at line 19 of file ListTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.list.func2.ListTest.setUp(), and
edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSize().

9.55.3.2 IntList edu.mit.csail.sdg.squander.examples.list.func2.ListTest.lst [private]

Definition at line 18 of file ListTest.java.

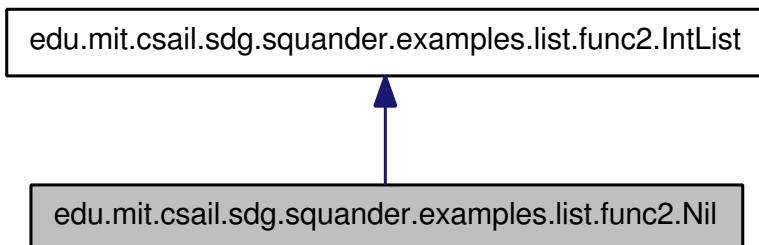
Referenced by edu.mit.csail.sdg.squander.examples.list.func2.ListTest.setUp(),
edu.mit.csail.sdg.squander.examples.list.func2.ListTest.testSize(), and edu.mit.csail.sdg.squander.examples.list.func2.ListTest.t

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/list/func2/[ListTest.java](#)

9.56 edu.mit.csail.sdg.squander.examples.list.func2.Nil Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::list::func2::IntList.Collaboration](#) diagram for `edu.mit.csail.sdg.squander.examples.list.func2.Nil`:



Public Member Functions

- String [toString \(\)](#)

9.56.1 Detailed Description

Definition at line 13 of file `Nil.java`.

9.56.2 Member Function Documentation

9.56.2.1 String [edu.mit.csail.sdg.squander.examples.list.func2.Nil.toString \(\)](#)

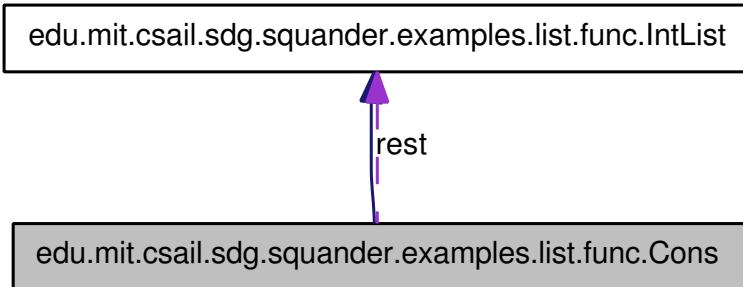
Definition at line 16 of file `Nil.java`.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/list/func2/[Nil.java](#)

9.57 edu.mit.csail.sdg.squander.examples.list.func.Cons Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::list::func::IntList.Collaboration](#) diagram for `edu.mit.csail.sdg.squander.examples.list.func.Cons`:



Public Member Functions

- [Cons \(int key, IntList rest\)](#)
- [int key \(\)](#)

Package Attributes

- [final int key](#)
- [final IntList rest](#)

9.57.1 Detailed Description

Definition at line 13 of file `Cons.java`.

9.57.2 Constructor & Destructor Documentation

9.57.2.1 edu.mit.csail.sdg.squander.examples.list.func.Cons.Cons (int *key*, IntList *rest*)

Definition at line 18 of file `Cons.java`.

9.57.3 Member Function Documentation

9.57.3.1 int edu.mit.csail.sdg.squander.examples.list.func.Cons.key ()

Definition at line 24 of file `Cons.java`.

9.57.4 Member Data Documentation

9.57.4.1 final int edu.mit.csail.sdg.squander.examples.list.func.Cons.key [package]

Definition at line 15 of file Cons.java.

9.57.4.2 final IntList edu.mit.csail.sdg.squander.examples.list.func.Cons.rest [package]

Definition at line 16 of file Cons.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/list/func/[Cons.java](#)

9.58 edu.mit.csail.sdg.squander.examples.list.func.IntList Class Reference

Inherited by [edu.mit.csail.sdg.squander.examples.list.func.Cons](#).

Public Member Functions

- [IntList next \(\)](#)
- final int [size \(\)](#)

Static Public Member Functions

- static void [main \(String\[\] args\)](#)

9.58.1 Detailed Description

Functional list implementation.

Author:

Aleksandar Milicevic

Definition at line 20 of file IntList.java.

9.58.2 Member Function Documentation

9.58.2.1 static void edu.mit.csail.sdg.squander.examples.list.func.IntList.main (String[] args) [static]

Definition at line 38 of file IntList.java.

References [edu.mit.csail.sdg.squander.examples.list.func.IntList.size\(\)](#).

9.58.2.2 IntList edu.mit.csail.sdg.squander.examples.list.func.IntList.next ()

Definition at line 23 of file IntList.java.

9.58.2.3 final int edu.mit.csail.sdg.squander.examples.list.func.IntList.size ()

Definition at line 26 of file IntList.java.

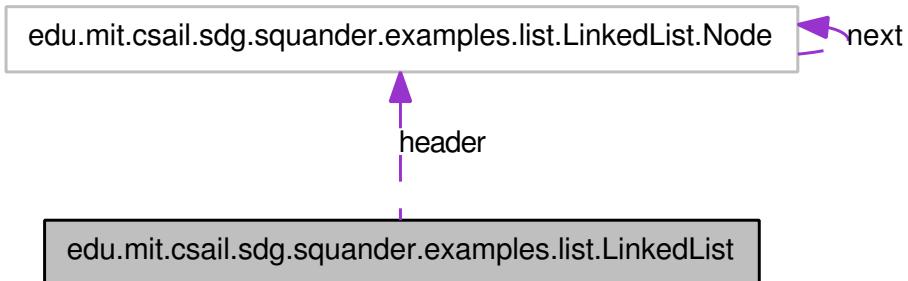
Referenced by [edu.mit.csail.sdg.squander.examples.list.func.IntList.main\(\)](#).

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/list/func/[IntList.java](#)

9.59 edu.mit.csail.sdg.squander.examples.list.LinkedList Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.list.LinkedList:



Classes

- class `Node`

Public Member Functions

- void `add` (Node n)
- void `add_man` (Node node)
- void `remove` (Node n)
- Node[] `nodes` ()
- Node `header` ()
- Iterator< Node > `iterator` ()
- String `toString` ()
- int `size` ()
- boolean `repOk` ()
- int `findNode` (Integer key)

Static Public Member Functions

- static void `main` (String[] args)

Private Attributes

- Node `header`

9.59.1 Detailed Description

A Linked List implementation.

Author:

Aleksandar Milicevic

Definition at line 29 of file `LinkedList.java`.

9.59.2 Member Function Documentation

9.59.2.1 void edu.mit.csail.sdg.squander.examples.list.LinkedList.add (Node *n*)

Definition at line 73 of file LinkedList.java.

Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedList.main(), and edu.mit.csail.sdg.squander.examples.list.LinkedListTest.setUp().

9.59.2.2 void edu.mit.csail.sdg.squander.examples.list.LinkedList.add_man (Node *node*)

Definition at line 75 of file LinkedList.java.

9.59.2.3 int edu.mit.csail.sdg.squander.examples.list.LinkedList.findNode (Integer *key*)

Definition at line 153 of file LinkedList.java.

9.59.2.4 Node edu.mit.csail.sdg.squander.examples.list.LinkedList.header ()

Definition at line 104 of file LinkedList.java.

9.59.2.5 Iterator<Node> edu.mit.csail.sdg.squander.examples.list.LinkedList.iterator ()

Definition at line 107 of file LinkedList.java.

9.59.2.6 static void edu.mit.csail.sdg.squander.examples.list.LinkedList.main (String[] *args*) [static]

Definition at line 122 of file LinkedList.java.

References edu.mit.csail.sdg.squander.examples.list.LinkedList.add(), edu.mit.csail.sdg.squander.examples.list.LinkedList.header() and edu.mit.csail.sdg.squander.examples.list.LinkedList.remove().

9.59.2.7 Node [] edu.mit.csail.sdg.squander.examples.list.LinkedList.nodes ()

Definition at line 102 of file LinkedList.java.

Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedListTest.testFold().

9.59.2.8 void edu.mit.csail.sdg.squander.examples.list.LinkedList.remove (Node *n*)

Definition at line 94 of file LinkedList.java.

Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedList.main().

9.59.2.9 boolean edu.mit.csail.sdg.squander.examples.list.LinkedList.repOk ()

Definition at line 142 of file LinkedList.java.

9.59.2.10 int edu.mit.csail.sdg.squander.examples.list.LinkedList.size ()

Definition at line 136 of file LinkedList.java.

9.59.2.11 String edu.mit.csail.sdg.squander.examples.list.LinkedList.toString ()

Definition at line 118 of file LinkedList.java.

9.59.3 Member Data Documentation

9.59.3.1 Node edu.mit.csail.sdg.squander.examples.list.LinkedList.header [private]

Definition at line 65 of file LinkedList.java.

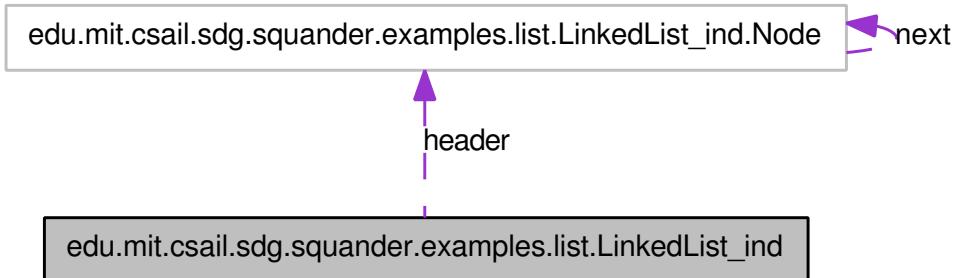
Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedList.main().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/list/[LinkedList.java](#)

9.60 edu.mit.csail.sdg.squander.examples.list.LinkedList_ind Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.list.LinkedList_ind:



Classes

- class **Node**

Public Member Functions

- void **addNode** (Node n)
- Node[] **nodes** ()
- Node **header** ()
- String **toString** ()

Static Public Member Functions

- static void **main** (String[] args)

Private Attributes

- Node **header**

9.60.1 Detailed Description

Linked list implementation with inductive definitions.

Author:

Aleksandar Milicevic

Definition at line 24 of file `LinkedList_ind.java`.

9.60.2 Member Function Documentation

9.60.2.1 void edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.addNode (Node *n*)

Definition at line 58 of file LinkedList_ind.java.

Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.main().

9.60.2.2 Node edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.header ()

Definition at line 65 of file LinkedList_ind.java.

9.60.2.3 static void edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.main (String[] *args*) [static]

Definition at line 72 of file LinkedList_ind.java.

References edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.addNode(), and
edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.header.

9.60.2.4 Node [] edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.nodes ()

Definition at line 63 of file LinkedList_ind.java.

9.60.2.5 String edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.toString ()

Definition at line 68 of file LinkedList_ind.java.

9.60.3 Member Data Documentation

9.60.3.1 Node edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.header [private]

Definition at line 53 of file LinkedList_ind.java.

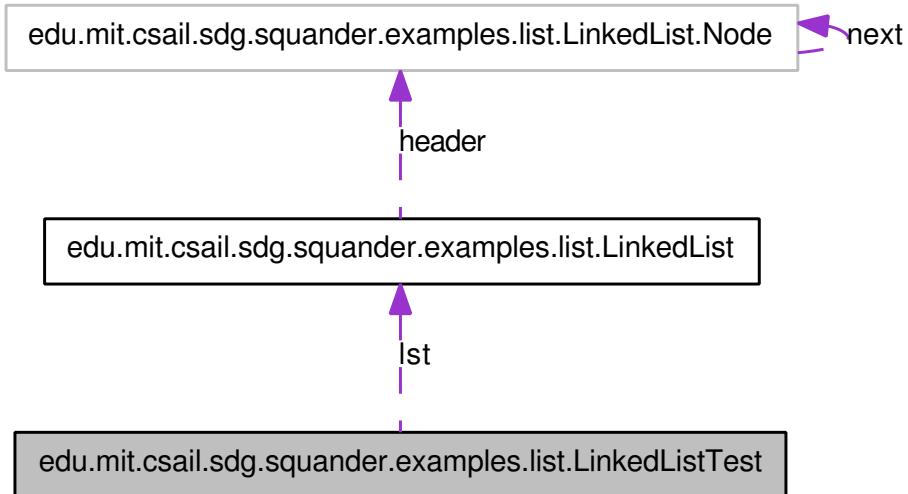
Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.main().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/list/[LinkedList_ind.java](#)

9.61 edu.mit.csail.sdg.squander.examples.list.LinkedListTest Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.list.LinkedListTest:



Public Member Functions

- void [setUp \(\)](#)
- void [testFold \(\)](#)

Private Attributes

- [LinkedList lst](#)

9.61.1 Detailed Description

Definition at line 17 of file [LinkedListTest.java](#).

9.61.2 Member Function Documentation

9.61.2.1 void edu.mit.csail.sdg.squander.examples.list.LinkedListTest.setUp ()

Definition at line 22 of file [LinkedListTest.java](#).

References [edu.mit.csail.sdg.squander.examples.list.LinkedList.add\(\)](#), and [edu.mit.csail.sdg.squander.examples.list.LinkedListTest.lst](#).

9.61.2.2 void edu.mit.csail.sdg.squander.examples.list.LinkedListTest.testFold ()

Definition at line 32 of file [LinkedListTest.java](#).

References edu.mit.csail.sdg.squander.examples.list.LinkedListTest.lst, and
edu.mit.csail.sdg.squander.examples.list.LinkedList.nodes().

9.61.3 Member Data Documentation

9.61.3.1 LinkedList edu.mit.csail.sdg.squander.examples.list.LinkedListTest.lst [private]

Definition at line 19 of file LinkedListTest.java.

Referenced by edu.mit.csail.sdg.squander.examples.list.LinkedListTest.setUp(), and
edu.mit.csail.sdg.squander.examples.list.LinkedListTest.testFold().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/list/[LinkedListTest.java](#)

9.62 edu.mit.csail.sdg.squander.examples.mock.AddressBook Interface Reference

Inherited by [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#).

Public Member Functions

- String [getEmailAddress](#) (String name)
- boolean [contains](#) (String name)

Package Functions

- void [setEmailAddress](#) (String name, String email)

9.62.1 Detailed Description

Definition at line 18 of file AddressBook.java.

9.62.2 Member Function Documentation

9.62.2.1 boolean edu.mit.csail.sdg.squander.examples.mock.AddressBook.contains (String *name*)

Implemented in [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#).

Referenced by [edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind\(\)](#).

9.62.2.2 String edu.mit.csail.sdg.squander.examples.mock.AddressBook.getEmailAddress (String *name*)

Implemented in [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#).

Referenced by [edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind\(\)](#).

9.62.2.3 void edu.mit.csail.sdg.squander.examples.mock.AddressBook.setEmailAddress (String *name*, String *email*) [package]

Implemented in [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#).

Referenced by [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest.setUp\(\)](#).

The documentation for this interface was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/mock/[AddressBook.java](#)

9.63 edu.mit.csail.sdg.squander.examples.mock.EmailMessage Class Reference

Public Member Functions

- [EmailMessage](#) (String recipient)

Package Functions

- boolean [bind](#) ([AddressBook](#) abook)

Package Attributes

- String [recipientName](#)
- String [emailAddress](#)

9.63.1 Detailed Description

Definition at line 7 of file EmailMessage.java.

9.63.2 Constructor & Destructor Documentation

9.63.2.1 edu.mit.csail.sdg.squander.examples.mock.EmailMessage.[EmailMessage](#) (String recipient)

Definition at line 11 of file EmailMessage.java.

References edu.mit.csail.sdg.squander.examples.mock.EmailMessage.recipientName.

9.63.3 Member Function Documentation

9.63.3.1 boolean edu.mit.csail.sdg.squander.examples.mock.EmailMessage.[bind](#) ([AddressBook](#) abook) [package]

Definition at line 15 of file EmailMessage.java.

References [edu.mit.csail.sdg.squander.examples.mock.AddressBook.contains\(\)](#), [edu.mit.csail.sdg.squander.examples.mock.EmailMessage.emailAddress](#), [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#) and [edu.mit.csail.sdg.squander.examples.mock.EmailMessage.recipientName](#).

Referenced by [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfAbsent\(\)](#), and [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfPresent\(\)](#).

9.63.4 Member Data Documentation

9.63.4.1 String edu.mit.csail.sdg.squander.examples.mock.EmailMessage.[emailAddress](#) [package]

Definition at line 9 of file EmailMessage.java.

Referenced by edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind(), and edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfPresent().

9.63.4.2 String edu.mit.csail.sdg.squander.examples.mock.EmailMessage.recipientName [package]

Definition at line 8 of file EmailMessage.java.

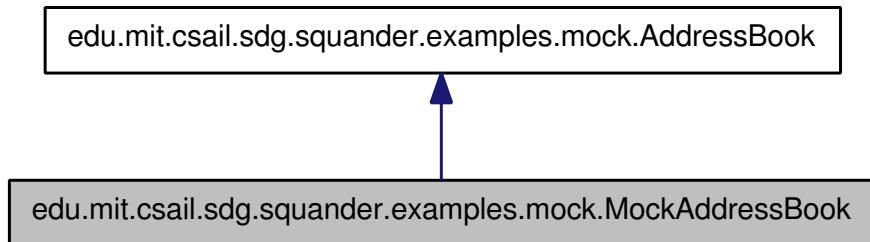
Referenced by edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind(), and edu.mit.csail.sdg.squander.examples.mock.EmailMessage.EmailMessage().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/mock/[EmailMessage.java](#)

9.64 edu.mit.csail.sdg.squander.examples.mock.MockAddressBook Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::mock::AddressBook](#).Collaboration diagram for [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#):



Public Member Functions

- [MockAddressBook \(\)](#)
- void [setEmailAddress](#) (String name, String email)
- String [getEmailAddress](#) (String name)
- boolean [contains](#) (String name)

Private Member Functions

- void [init \(\)](#)

9.64.1 Detailed Description

Completely magic interface implementation. Ideally, should be autogenerated.

Author:

kuat

Definition at line 16 of file [MockAddressBook.java](#).

9.64.2 Constructor & Destructor Documentation

9.64.2.1 edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.MockAddressBook ()

Definition at line 18 of file [MockAddressBook.java](#).

References [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.init\(\)](#).

9.64.3 Member Function Documentation

9.64.3.1 boolean edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.contains (String *name*)

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

Definition at line 35 of file MockAddressBook.java.

9.64.3.2 String edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.getEmailAddress (String *name*)

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

Definition at line 30 of file MockAddressBook.java.

9.64.3.3 void edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.init () [private]

Definition at line 22 of file MockAddressBook.java.

Referenced by [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#)([MockAddressBook\(\)](#)).

9.64.3.4 void edu.mit.csail.sdg.squander.examples.mock.MockAddressBook.setEmailAddress (String *name*, String *email*)

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

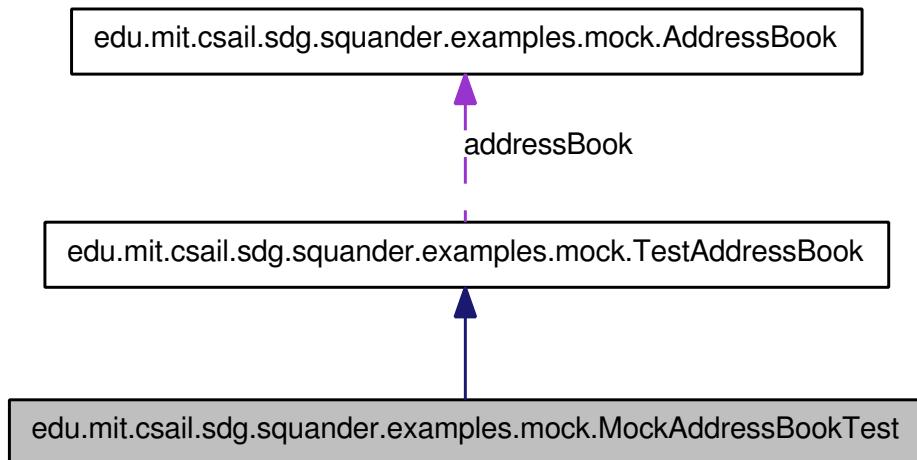
Definition at line 25 of file MockAddressBook.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/mock/[MockAddressBook.java](#)

9.65 edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::mock::TestAddressBook](#).Collaboration diagram for [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest](#):



Public Member Functions

- void [setUp \(\)](#)

9.65.1 Detailed Description

Definition at line 12 of file `MockAddressBookTest.java`.

9.65.2 Member Function Documentation

9.65.2.1 void [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest.setUp \(\) \[virtual\]](#)

Implements [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#).

Definition at line 16 of file `MockAddressBookTest.java`.

References [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.addressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.AddressBook.setEmailAddress\(\)](#).

The documentation for this class was generated from the following file:

- `tests/edu/mit/csail/sdg/squander/examples/mock/MockAddressBookTest.java`

9.66 edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::mock::AddressBook](#).Collaboration diagram for [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#):



Classes

- class [Entry](#)

Public Member Functions

- void [setEmailAddress](#) (String name, String email)
- String [getEmailAddress](#) (String name)
- boolean [contains](#) (String name)
- String [toString](#) ()

Public Attributes

- Entry[] [entries](#)

9.66.1 Detailed Description

Concrete squander mock object. This one comes with concrete data structures.

this needs a concrete representation and a way of saying that change to the abstract state can automatically trigger changes to the concrete state that the abstract state depends on. basically the idea of a data group.

Author:

kuat

Definition at line 26 of file [SquanderAddressBook.java](#).

9.66.2 Member Function Documentation

9.66.2.1 boolean [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.contains](#) (String name)

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

Definition at line 54 of file [SquanderAddressBook.java](#).

9.66.2.2 String

**edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.getEmailAddress
(String *name*)**

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

Definition at line 49 of file SquanderAddressBook.java.

**9.66.2.3 void edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.setEmailAddress
(String *name*, String *email*)**

Implements [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#).

Definition at line 44 of file SquanderAddressBook.java.

Referenced by [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook.setUp\(\)](#).

9.66.2.4 String edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.toString ()

Definition at line 59 of file SquanderAddressBook.java.

9.66.3 Member Data Documentation**9.66.3.1 Entry [] edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.entries**

Definition at line 40 of file SquanderAddressBook.java.

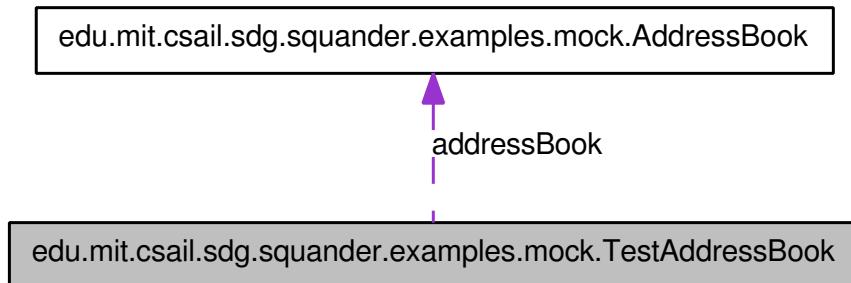
Referenced by [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook.setUp\(\)](#).

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/mock/[SquanderAddressBook.java](#)

9.67 edu.mit.csail.sdg.squander.examples.mock.TestAddressBook Class Reference

Inherited by [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest](#), [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#):



Public Member Functions

- `abstract void setUp ()`
- `void testBindIfPresent ()`
- `void testBindIfAbsent ()`

Protected Attributes

- `AddressBook addressBook`

9.67.1 Detailed Description

Definition at line 14 of file `TestAddressBook.java`.

9.67.2 Member Function Documentation

9.67.2.1 `abstract void edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.setUp () [pure virtual]`

Implemented in [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest](#), and [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook](#).

9.67.2.2 `void edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfAbsent ()`

Definition at line 29 of file `TestAddressBook.java`.

References [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.addressBook](#), and [edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind\(\)](#).

9.67.2.3 void edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfPresent ()

Definition at line 22 of file TestAddressBook.java.

References edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.addressBook, edu.mit.csail.sdg.squander.examples.mock.EmailMessage.bind(), and edu.mit.csail.sdg.squander.examples.mock.EmailMessage.unbind().

9.67.3 Member Data Documentation

9.67.3.1 AddressBook edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.addressBook [protected]

Definition at line 16 of file TestAddressBook.java.

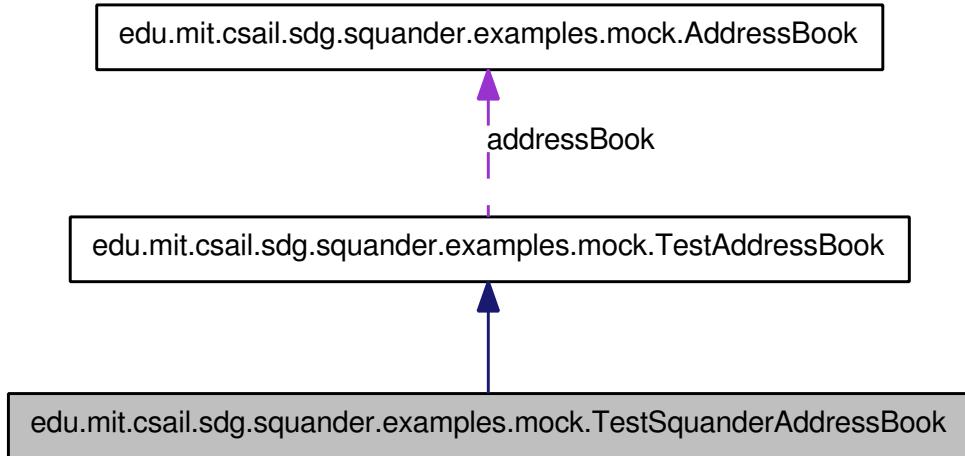
Referenced by edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook.setUp(), edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest.setUp(),
edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfAbsent(), and
edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.testBindIfPresent().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/mock/[TestAddressBook.java](#)

9.68 edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::mock::TestAddressBook](#). Collaboration diagram for [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook](#):



Public Member Functions

- void [setUp \(\)](#)

9.68.1 Detailed Description

Definition at line 14 of file [TestSquanderAddressBook.java](#).

9.68.2 Member Function Documentation

9.68.2.1 void [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook.setUp \(\) \[virtual\]](#)

Implements [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#).

Definition at line 18 of file [TestSquanderAddressBook.java](#).

References [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook.addressBook](#), [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.entries](#), and [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.setEmailAddress\(\)](#).

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/mock/[TestSquanderAddressBook.java](#)

9.69 edu.mit.csail.sdg.squander.examples.numbers.Arithmetic Class Reference

Static Public Member Functions

- static int [gcd](#) (final int m, final int n)
- static int [gcd_impl](#) (int m, int n)
- static int[] [sort](#) (int[] a)
- static int [square_root](#) (int s)
- static int [square_root_finite](#) (int s)
- static int [square_root_mixed](#) (final int s)
- static int [_square_root_mixed](#) (final int s)
- static void [main](#) (String[] args)

Static Private Member Functions

- static int [findP](#) (final int r, final int q)
- static int [findQ](#) (final int p, final int q, final int r, final int s)
- static int [findR](#) (final int p, final int q, final int r, final int s)
- static int [_findQ](#) (final int p, final int q, final int r, final int s)
- static int [_findR](#) (final int p, final int q, final int r, final int s)

9.69.1 Detailed Description

Examples of arithmetic algorithms.

Author:

kuat

Definition at line 23 of file Arithmetic.java.

9.69.2 Member Function Documentation

9.69.2.1 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._findQ (final int p, final int q, final int r, final int s) [static, private]

Definition at line 146 of file Arithmetic.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._square_root_mixed\(\)](#).

9.69.2.2 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._findR (final int p, final int q, final int r, final int s) [static, private]

Definition at line 153 of file Arithmetic.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._square_root_mixed\(\)](#).

9.69.2.3 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._square_root_mixed (final int s) [static]

Definition at line 130 of file Arithmetic.java.

References edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._findQ(), edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._findR(), and edu.mit.csail.sdg.squander.examples.numbers.Arithmet

9.69.2.4 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.findP (final int r, final int q) [static, private]

Definition at line 112 of file Arithmetic.java.

Referenced by edu.mit.csail.sdg.squander.examples.numbers.Arithmetic._square_root_mixed(), and edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root_mixed().

9.69.2.5 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.findQ (final int p, final int q, final int r, final int s) [static, private]

Definition at line 118 of file Arithmetic.java.

Referenced by edu.mit.csail.sdg.squander.examples.numbers.Arithmeti

9.69.2.6 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.findR (final int p, final int q, final int r, final int s) [static, private]

Definition at line 125 of file Arithmetic.java.

Referenced by edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root_mixed().

9.69.2.7 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.gcd (final int m, final int n) [static]

Definition at line 30 of file Arithmetic.java.

Referenced by edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.gcd_

9.69.2.8 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.gcd_impl (int m, int n) [static]

Definition at line 39 of file Arithmetic.java.

References edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.gcd()

9.69.2.9 static void edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.main (String[] args) [static]

Definition at line 158 of file Arithmetic.java.

References edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.sort()

**9.69.2.10 static int [] edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.sort (int[] a)
[static]**

Definition at line 66 of file Arithmetic.java.

Referenced by edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.main().

**9.69.2.11 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root (int s)
[static]**

Definition at line 80 of file Arithmetic.java.

**9.69.2.12 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root_finite
(int s) [static]**

Definition at line 91 of file Arithmetic.java.

**9.69.2.13 static int edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.square_root_mixed
(final int s) [static]**

Definition at line 95 of file Arithmetic.java.

References [edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.findP\(\)](#),
[edu.mit.csail.sdg.squander.examples.numbers.Arithmetic.findQ\(\)](#), and [edu.mit.csail.sdg.squander.examples.numbers.Arithmetic](#)

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/numbers/[Arithmetic.java](#)

9.70 edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest Class Reference

Public Member Functions

- void [test1 \(\)](#)
- void [test2 \(\)](#)
- void [test3 \(\)](#)
- void [test4 \(\)](#)

9.70.1 Detailed Description

Definition at line 12 of file ArithmeticTest.java.

9.70.2 Member Function Documentation

9.70.2.1 void edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest.test1 ()

Definition at line 15 of file ArithmeticTest.java.

9.70.2.2 void edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest.test2 ()

Definition at line 24 of file ArithmeticTest.java.

9.70.2.3 void edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest.test3 ()

Definition at line 35 of file ArithmeticTest.java.

9.70.2.4 void edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest.test4 ()

Definition at line 46 of file ArithmeticTest.java.

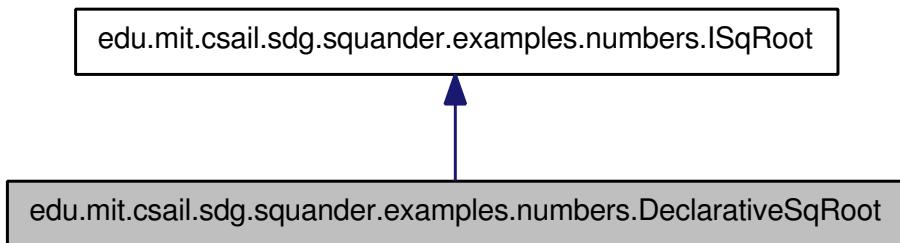
The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/numbers/[ArithmeticTest.java](#)

9.71 edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::numbers::ISqRoot](#).

Inherited by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).Collaboration diagram for edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot:



Public Member Functions

- [DeclarativeSqRoot \(int myS\)](#)
- int [getS \(\)](#)
- int [getR \(\)](#)
- int [getQ \(\)](#)
- int [sqRoot \(\)](#)

Protected Member Functions

- [DeclarativeSqRoot \(\)](#)
- void [setR \(int r\)](#)
- void [setQ \(int q\)](#)

Private Member Functions

- void [init \(int myS\)](#)

9.71.1 Detailed Description

Purely declarative implementation

Author:

Aleksandar Milicevic

Definition at line 17 of file DeclarativeSqRoot.java.

9.71.2 Constructor & Destructor Documentation

9.71.2.1 `edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.DeclarativeSqRoot ()` [protected]

Definition at line 19 of file DeclarativeSqRoot.java.

9.71.2.2 `edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.DeclarativeSqRoot (int myS)`

Definition at line 21 of file DeclarativeSqRoot.java.

References edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.init().

9.71.3 Member Function Documentation

9.71.3.1 `int edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getQ ()`

Implements [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#).

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 34 of file DeclarativeSqRoot.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot\(\)](#).

9.71.3.2 `int edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getR ()`

Implements [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#).

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 33 of file DeclarativeSqRoot.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot\(\)](#).

9.71.3.3 `int edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getS ()`

Implements [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#).

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 32 of file DeclarativeSqRoot.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot\(\)](#).

9.71.3.4 `void edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.init (int myS)` [private]

Definition at line 28 of file DeclarativeSqRoot.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.DeclarativeSqRoot\(\)](#).

**9.71.3.5 void edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.setQ (int *q*)
[protected]**

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 42 of file DeclarativeSqRoot.java.

**9.71.3.6 void edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.setR (int *r*)
[protected]**

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 38 of file DeclarativeSqRoot.java.

9.71.3.7 int edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.sqRoot ()

Implements [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#).

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).

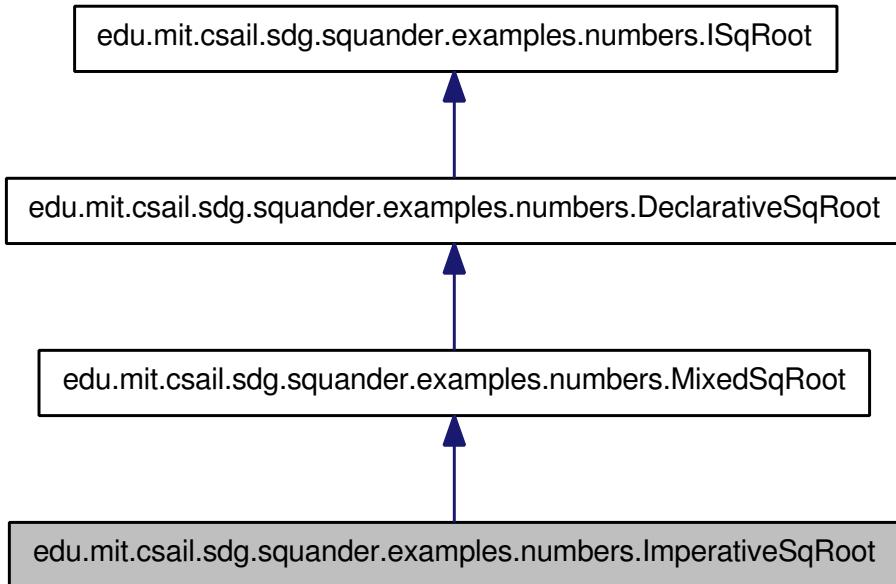
Definition at line 45 of file DeclarativeSqRoot.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/numbers/[DeclarativeSqRoot.java](#)

9.72 edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::numbers::MixedSqRoot](#).Collaboration diagram for [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#):



Public Member Functions

- [ImperativeSqRoot](#) (int s)
- int [getS](#) ()
- int [getQ](#) ()
- int [getR](#) ()

Protected Member Functions

- void [setQ](#) (int q)
- void [setR](#) (int r)
- int [findP](#) ()
- int [findQ](#) (int p)
- int [findR](#) (int p)

Private Attributes

- final int [s1](#)
- int [r1](#)
- int [q1](#)

9.72.1 Detailed Description

Definition at line 15 of file ImperativeSqRoot.java.

9.72.2 Constructor & Destructor Documentation

9.72.2.1 int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.ImperativeSqRoot (int s)

Definition at line 25 of file ImperativeSqRoot.java.

9.72.3 Member Function Documentation

9.72.3.1 int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.findP () [protected]

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).

Definition at line 40 of file ImperativeSqRoot.java.

9.72.3.2 int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.findQ (int p) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).

Definition at line 46 of file ImperativeSqRoot.java.

9.72.3.3 int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.findR (int p) [protected]

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).

Definition at line 52 of file ImperativeSqRoot.java.

9.72.3.4 int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.getQ ()

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 33 of file ImperativeSqRoot.java.

9.72.3.5 int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.getR ()

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 34 of file ImperativeSqRoot.java.

9.72.3.6 int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.getS ()

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 32 of file ImperativeSqRoot.java.

**9.72.3.7 void edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.setQ (int *q*)
[protected]**

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 36 of file ImperativeSqRoot.java.

**9.72.3.8 void edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.setR (int *r*)
[protected]**

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 37 of file ImperativeSqRoot.java.

9.72.4 Member Data Documentation

9.72.4.1 int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.q1 [private]

Definition at line 23 of file ImperativeSqRoot.java.

9.72.4.2 int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.r1 [private]

Definition at line 22 of file ImperativeSqRoot.java.

**9.72.4.3 final int edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot.s1
[private]**

Definition at line 21 of file ImperativeSqRoot.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/numbers/[ImperativeSqRoot.java](#)

9.73 edu.mit.csail.sdg.squander.examples.numbers.ISqRoot Interface Reference

Inherited by [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Public Member Functions

- int [getS\(\)](#)
- int [getR\(\)](#)
- int [getQ\(\)](#)
- int [sqRoot\(\)](#)

9.73.1 Detailed Description

Definition at line 21 of file [ISqRoot.java](#).

9.73.2 Member Function Documentation

9.73.2.1 int edu.mit.csail.sdg.squander.examples.numbers.ISqRoot.getQ()

Implemented in [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#), and [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

9.73.2.2 int edu.mit.csail.sdg.squander.examples.numbers.ISqRoot.getR()

Implemented in [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#), and [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

9.73.2.3 int edu.mit.csail.sdg.squander.examples.numbers.ISqRoot.getS()

Implemented in [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#), and [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

9.73.2.4 int edu.mit.csail.sdg.squander.examples.numbers.ISqRoot.sqRoot()

Implemented in [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#), and [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#).

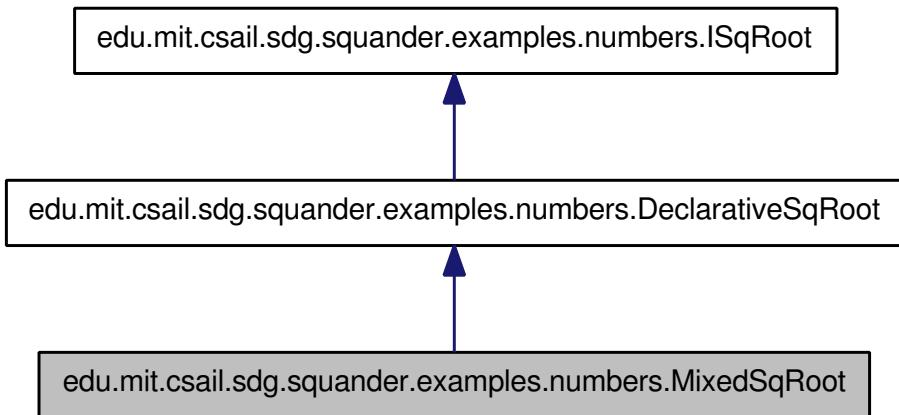
The documentation for this interface was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/numbers/[ISqRoot.java](#)

9.74 edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::numbers::DeclarativeSqRoot](#).

Inherited by [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).Collaboration diagram for edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot:



Public Member Functions

- [MixedSqRoot \(int myS\)](#)
- [int sqRoot \(\)](#)

Protected Member Functions

- [MixedSqRoot \(\)](#)
- [int findP \(\)](#)
- [int findQ \(int p\)](#)
- [int findR \(int p\)](#)

9.74.1 Detailed Description

Mixed implementation that follows the approach from Carroll Morgan's book

Author:

Aleksandar Milicevic

Definition at line 18 of file MixedSqRoot.java.

9.74.2 Constructor & Destructor Documentation

9.74.2.1 edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.MixedSqRoot () [protected]

Definition at line 20 of file MixedSqRoot.java.

9.74.2.2 edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.MixedSqRoot (int *myS*)

Definition at line 23 of file MixedSqRoot.java.

9.74.3 Member Function Documentation

9.74.3.1 int edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findP () [protected]

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 44 of file MixedSqRoot.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot\(\)](#).

9.74.3.2 int edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findQ (int *p*) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 52 of file MixedSqRoot.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot\(\)](#).

9.74.3.3 int edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findR (int *p*) [protected]

Reimplemented in [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#).

Definition at line 60 of file MixedSqRoot.java.

Referenced by [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot\(\)](#).

9.74.3.4 int edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.sqRoot ()

Reimplemented from [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#).

Definition at line 28 of file MixedSqRoot.java.

References [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findP\(\)](#),
[edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findQ\(\)](#), [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot.findR\(\)](#),
[edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getQ\(\)](#), [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getS\(\)](#),
and [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot.getR\(\)](#).

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/numbers/[MixedSqRoot.java](#)

9.75 edu.mit.csail.sdg.squander.examples.numbers.SqRootTest Class Reference

Public Member Functions

- void [test1 \(\)](#)
- void [test2 \(\)](#)
- void [test3 \(\)](#)

9.75.1 Detailed Description

Unit test for our fully declarative, mixed, and fully imperative square root implementation

Author:

Aleksandar Milicevic

Definition at line 21 of file SqRootTest.java.

9.75.2 Member Function Documentation

9.75.2.1 void edu.mit.csail.sdg.squander.examples.numbers.SqRootTest.test1 ()

Definition at line 24 of file SqRootTest.java.

9.75.2.2 void edu.mit.csail.sdg.squander.examples.numbers.SqRootTest.test2 ()

Definition at line 34 of file SqRootTest.java.

9.75.2.3 void edu.mit.csail.sdg.squander.examples.numbers.SqRootTest.test3 ()

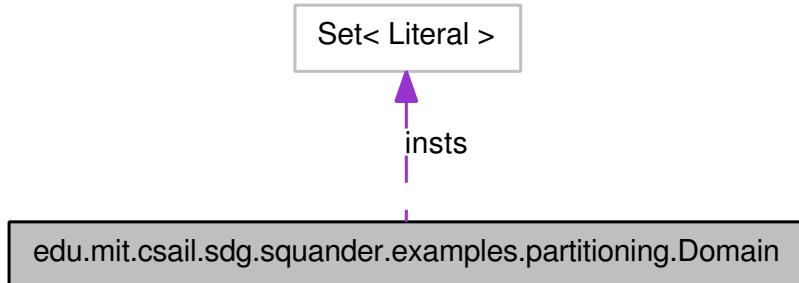
Definition at line 45 of file SqRootTest.java.

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/numbers/[SqRootTest.java](#)

9.76 edu.mit.csail.sdg.squander.examples.partitioning.Domain Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.partitioning.Domain:



Public Member Functions

- int `getIdx ()`
- Set< Literal > `getInsts ()`
- int `hashCode ()`
- boolean `equals (Object obj)`
- String `toString ()`

Private Attributes

- final int `idx = cnt++`
- final Set< Literal > `insts = new HashSet<Literal>()`

Static Private Attributes

- static int `cnt = 0`

9.76.1 Detailed Description

Definition at line 13 of file Domain.java.

9.76.2 Member Function Documentation

9.76.2.1 boolean edu.mit.csail.sdg.squander.examples.partitioning.Domain.equals (Object *obj*)

Definition at line 33 of file Domain.java.

References edu.mit.csail.sdg.squander.examples.partitioning.Domain.idx.

9.76.2.2 int edu.mit.csail.sdg.squander.examples.partitioning.Domain.getIdx ()

Definition at line 21 of file Domain.java.

9.76.2.3 Set<Literal> edu.mit.csail.sdg.squander.examples.partitioning.Domain.getInsts ()

Definition at line 22 of file Domain.java.

9.76.2.4 int edu.mit.csail.sdg.squander.examples.partitioning.Domain.hashCode ()

Definition at line 25 of file Domain.java.

9.76.2.5 String edu.mit.csail.sdg.squander.examples.partitioning.Domain.toString ()

Definition at line 47 of file Domain.java.

9.76.3 Member Data Documentation**9.76.3.1 int edu.mit.csail.sdg.squander.examples.partitioning.Domain.cnt = 0 [static, private]**

Definition at line 15 of file Domain.java.

9.76.3.2 final int edu.mit.csail.sdg.squander.examples.partitioning.Domain.idx = cnt++ [private]

Definition at line 16 of file Domain.java.

Referenced by edu.mit.csail.sdg.squander.examples.partitioning.Domain.equals().

9.76.3.3 final Set<Literal> edu.mit.csail.sdg.squander.examples.partitioning.Domain.insts = new HashSet<Literal>() [private]

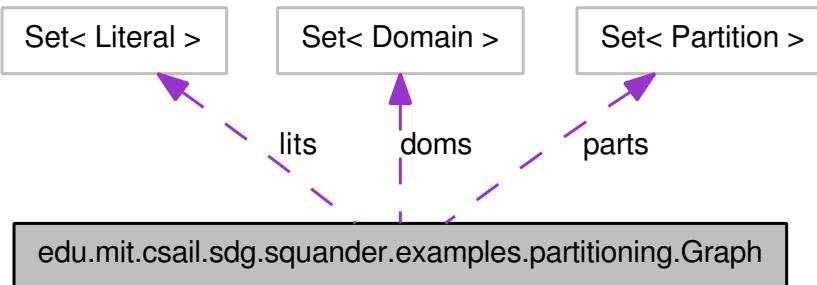
Definition at line 18 of file Domain.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/partitioning/Domain.java

9.77 edu.mit.csail.sdg.squander.examples.partitioning.Graph Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.partitioning.Graph:



Public Member Functions

- void `gen()`
- String `toString()`

Static Public Member Functions

- static void `main(String[] args)`

Private Attributes

- final Set< Partition > `parts` = new HashSet<Partition>()
- final Set< Domain > `doms` = new HashSet<Domain>()
- final Set< Literal > `lits` = new HashSet<Literal>()

Static Private Attributes

- static final int `n` = 4

9.77.1 Detailed Description

Definition at line 38 of file Graph.java.

9.77.2 Member Function Documentation

9.77.2.1 void edu.mit.csail.sdg.squander.examples.partitioning.Graph.gen()

Definition at line 66 of file Graph.java.

Referenced by edu.mit.csail.sdg.squander.examples.partitioning.Graph.main().

9.77.2.2 static void edu.mit.csail.sdg.squander.examples.partitioning.Graph.main (String[] args) [static]

Definition at line 89 of file Graph.java.

References [edu.mit.csail.sdg.squander.engine.ISquanderResult.findNext\(\)](#), [edu.mit.csail.sdg.squander.examples.partitioning.Graph.gen\(\)](#), and [edu.mit.csail.sdg.squander.engine.ISquanderResult.hasSolut](#)

9.77.2.3 String edu.mit.csail.sdg.squander.examples.partitioning.Graph.toString ()

Definition at line 71 of file Graph.java.

9.77.3 Member Data Documentation**9.77.3.1 final Set<Domain> edu.mit.csail.sdg.squander.examples.partitioning.Graph.doms = new HashSet<Domain>() [private]**

Definition at line 43 of file Graph.java.

9.77.3.2 final Set<Literal> edu.mit.csail.sdg.squander.examples.partitioning.Graph.lits = new HashSet<Literal>() [private]

Definition at line 44 of file Graph.java.

9.77.3.3 final int edu.mit.csail.sdg.squander.examples.partitioning.Graph.n = 4 [static, private]

Definition at line 40 of file Graph.java.

9.77.3.4 final Set<Partition> edu.mit.csail.sdg.squander.examples.partitioning.Graph.parts = new HashSet<Partition>() [private]

Definition at line 42 of file Graph.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/partitioning/[Graph.java](#)

9.78 edu.mit.csail.sdg.squander.examples.partitioning.Literal Class Reference

Public Member Functions

- int [getIdx \(\)](#)
- int [hashCode \(\)](#)
- boolean [equals \(Object obj\)](#)
- String [toString \(\)](#)

Private Attributes

- final int [idx = cnt++](#)

Static Private Attributes

- static int [cnt = 0](#)

9.78.1 Detailed Description

Definition at line 7 of file Literal.java.

9.78.2 Member Function Documentation

9.78.2.1 boolean edu.mit.csail.sdg.squander.examples.partitioning.Literal.equals (Object *obj*)

Definition at line 24 of file Literal.java.

References edu.mit.csail.sdg.squander.examples.partitioning.Literal.idx.

9.78.2.2 int edu.mit.csail.sdg.squander.examples.partitioning.Literal.getIdx ()

Definition at line 13 of file Literal.java.

References edu.mit.csail.sdg.squander.examples.partitioning.Literal.idx.

9.78.2.3 int edu.mit.csail.sdg.squander.examples.partitioning.Literal.hashCode ()

Definition at line 16 of file Literal.java.

References edu.mit.csail.sdg.squander.examples.partitioning.Literal.idx.

9.78.2.4 String edu.mit.csail.sdg.squander.examples.partitioning.Literal.toString ()

Definition at line 38 of file Literal.java.

References edu.mit.csail.sdg.squander.examples.partitioning.Literal.idx.

9.78.3 Member Data Documentation

9.78.3.1 int edu.mit.csail.sdg.squander.examples.partitioning.Literal.cnt = 0 [static, private]

Definition at line 9 of file Literal.java.

9.78.3.2 final int edu.mit.csail.sdg.squander.examples.partitioning.Literal.idx = cnt++ [private]

Definition at line 10 of file Literal.java.

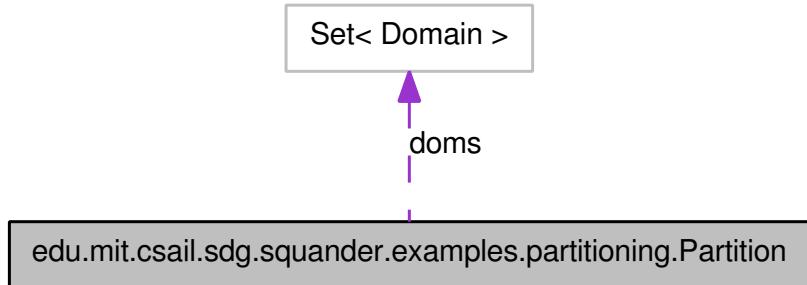
Referenced by edu.mit.csail.sdg.squander.examples.partitioning.Literal.equals(),
edu.mit.csail.sdg.squander.examples.partitioning.Literal.getIdx(), edu.mit.csail.sdg.squander.examples.partitioning.Literal.hashCode()
and edu.mit.csail.sdg.squander.examples.partitioning.Literal.toString().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/partitioning/[Literal.java](#)

9.79 edu.mit.csail.sdg.squander.examples.partitioning.Partition Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.partitioning.Partition:



Public Member Functions

- `Set< Domain > getDoms ()`
- `int getIdx ()`
- `int hashCode ()`
- `boolean equals (Object obj)`
- `String toString ()`

Private Attributes

- `final int idx = cnt++`
- `final Set< Domain > doms = new HashSet<Domain>()`

Static Private Attributes

- `static int cnt = 0`

9.79.1 Detailed Description

Definition at line 13 of file Partition.java.

9.79.2 Member Function Documentation

9.79.2.1 boolean edu.mit.csail.sdg.squander.examples.partitioning.Partition.equals (Object *obj*)

Definition at line 32 of file Partition.java.

References edu.mit.csail.sdg.squander.examples.partitioning.Partition.idx.

9.79.2.2 Set<Domain> edu.mit.csail.sdg.squander.examples.partitioning.Partition.getDoms ()

Definition at line 20 of file Partition.java.

9.79.2.3 int edu.mit.csail.sdg.squander.examples.partitioning.Partition.getIdx ()

Definition at line 21 of file Partition.java.

9.79.2.4 int edu.mit.csail.sdg.squander.examples.partitioning.Partition.hashCode ()

Definition at line 24 of file Partition.java.

9.79.2.5 String edu.mit.csail.sdg.squander.examples.partitioning.Partition.toString ()

Definition at line 46 of file Partition.java.

9.79.3 Member Data Documentation**9.79.3.1 int edu.mit.csail.sdg.squander.examples.partitioning.Partition.cnt = 0 [static, private]**

Definition at line 15 of file Partition.java.

9.79.3.2 final Set<Domain> edu.mit.csail.sdg.squander.examples.partitioning.Partition.doms = new HashSet<Domain>() [private]

Definition at line 18 of file Partition.java.

9.79.3.3 final int edu.mit.csail.sdg.squander.examples.partitioning.Partition.idx = cnt++ [private]

Definition at line 16 of file Partition.java.

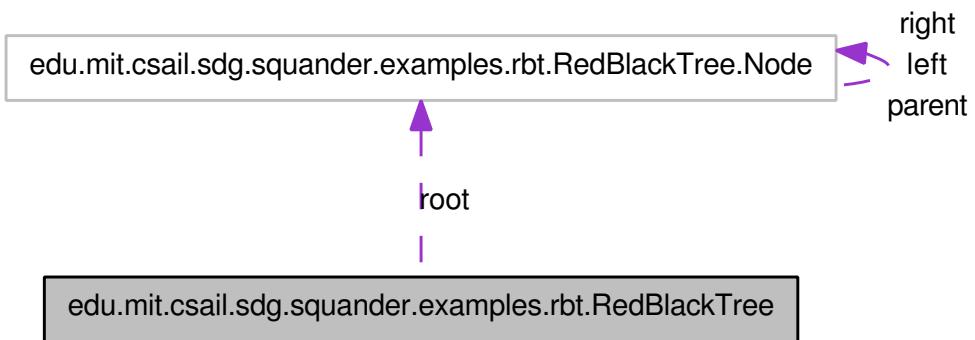
Referenced by edu.mit.csail.sdg.squander.examples.partitioning.Partition.equals().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/partitioning/Partition.java

9.80 edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree:



Classes

- class `Node`

Package Functions

- `RedBlackTree ()`
- void `clear ()`
- `Node search (int k)`
- `Node searchGTE (int k)`
- `Node searchLTE (int k)`
- `Node predecessor (Node node)`
- `Node successor (Node node)`
- `Node minAll ()`
- `Node maxAll ()`
- void `replace (Node o, Node n)`
- void `insert (Node z)`
- void `delete (Node z)`

Package Attributes

- `Node root`

Static Package Attributes

- static final boolean `BLACK` = true
- static final boolean `RED` = false

9.80.1 Detailed Description

Case study of Red-Black trees with integer keys. Stripped down and simplified.

Author:

Kuat Yessenov A tree with integer keys.
Emina Torlak

Definition at line 35 of file RedBlackTree.java.

9.80.2 Constructor & Destructor Documentation

9.80.2.1 `edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.RedBlackTree () [package]`

Creates an empty IntTree.

Definition at line 50 of file RedBlackTree.java.

9.80.3 Member Function Documentation

9.80.3.1 `void edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.clear () [package]`

Discards all elements from this tree.

Definition at line 58 of file RedBlackTree.java.

9.80.3.2 `void edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.delete (Node z) [package]`

A slightly modified implementation of the CLR deletion algorithm. requires z in this.nodes effects
this.nodes' = this.nodes - z

Definition at line 185 of file RedBlackTree.java.

9.80.3.3 `void edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.insert (Node z) [package]`

Implementation of the CLR insertion algorithm.

Definition at line 174 of file RedBlackTree.java.

9.80.3.4 `Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.maxAll () [package]`

Returns the node with the largest key. return key.(max(this.nodes.key))

Definition at line 143 of file RedBlackTree.java.

9.80.3.5 `Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.minAll () [package]`

Returns the node with the smallest key. return key.(min(this.nodes.key))

Definition at line 134 of file RedBlackTree.java.

**9.80.3.6 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.predecessor (Node *node*)
[package]**

Implementation of the tree-predecessor algorithm from CLR. Returns the given node's predecessor, if it exists. Otherwise returns null. return the given node's predecessor throws NullPointerException - node = null

Definition at line 109 of file RedBlackTree.java.

**9.80.3.7 void edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.replace (Node *o*, Node *n*)
[package]**

Replaces the old node, o, with the given new node, n, in this tree.

Definition at line 161 of file RedBlackTree.java.

9.80.3.8 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.search (int *k*) [package]

Returns the node with the given key, or null no such node exists. return

Definition at line 67 of file RedBlackTree.java.

**9.80.3.9 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.searchGTE (int *k*)
[package]**

Returns the node whose key is the ceiling of k in this tree, or null if no such node exists.

Definition at line 78 of file RedBlackTree.java.

**9.80.3.10 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.searchLTE (int *k*)
[package]**

Returns the node whose key is the floor of k in this tree, or null if no such node exists. return {n: this.nodes | n.key <= k && no n': this.nodes - n | n'.key <= k && n'.key > n.key }

Definition at line 92 of file RedBlackTree.java.

**9.80.3.11 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.successor (Node *node*)
[package]**

Implementation of the tree-successor algorithm from CLR. Returns the given node's successor, if it exists. Otherwise returns null.

Definition at line 125 of file RedBlackTree.java.

9.80.4 Member Data Documentation

**9.80.4.1 final boolean edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.BLACK = true
[static, package]**

Definition at line 37 of file RedBlackTree.java.

**9.80.4.2 final boolean edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.RED = false
[static, package]**

Definition at line 38 of file RedBlackTree.java.

9.80.4.3 Node edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.root [package]

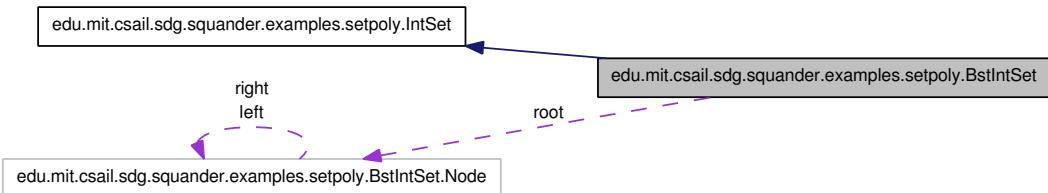
Definition at line 44 of file RedBlackTree.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/rbt/[RedBlackTree.java](#)

9.81 edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::setpoly::IntSet.Collaboration](#) diagram for `edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet`:



Classes

- class **Node**

Public Member Functions

- boolean `add (int e)`
- String `toString ()`

Private Member Functions

- String `printNode (Node n)`

Private Attributes

- Node `root = null`

9.81.1 Detailed Description

Definition at line 16 of file `BstIntSet.java`.

9.81.2 Member Function Documentation

9.81.2.1 boolean edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet.add (int e)

Reimplemented from [edu.mit.csail.sdg.squander.examples.setpoly.IntSet](#).

Definition at line 36 of file `BstIntSet.java`.

9.81.2.2 String edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet.printNode (Node n) [private]

Definition at line 45 of file `BstIntSet.java`.

9.81.2.3 String edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet.toString ()

Definition at line 41 of file BstIntSet.java.

9.81.3 Member Data Documentation

9.81.3.1 Node edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet.root = null [private]

Definition at line 31 of file BstIntSet.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/setpoly/[BstIntSet.java](#)

9.82 edu.mit.csail.sdg.squander.examples.setpoly.SetInt Class Reference

Inherited by [edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet](#), and [edu.mit.csail.sdg.squander.examples.setpoly.SetInt](#).

Public Member Functions

- [IntSet \(\)](#)
- boolean [add \(int e\)](#)
- boolean [contains \(int e\)](#)
- boolean [containsAll \(IntSet s2\)](#)
- boolean [remove \(int e\)](#)
- Set< Integer > [nodes \(\)](#)

Static Public Member Functions

- static void [main \(String\[\] args\)](#)
- static void [main2 \(String\[\] args\)](#)

Private Member Functions

- void [init \(\)](#)

9.82.1 Detailed Description

Definition at line 17 of file IntSet.java.

9.82.2 Constructor & Destructor Documentation

9.82.2.1 edu.mit.csail.sdg.squander.examples.setpoly.SetInt.SetInt ()

Definition at line 19 of file IntSet.java.

9.82.3 Member Function Documentation

9.82.3.1 boolean edu.mit.csail.sdg.squander.examples.setpoly.SetInt.add (int e)

Reimplemented in [edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet](#).

Definition at line 26 of file IntSet.java.

Referenced by [edu.mit.csail.sdg.squander.examples.setpoly.SetInt.main\(\)](#), and [edu.mit.csail.sdg.squander.examples.setpoly.SetInt.main2\(\)](#).

9.82.3.2 boolean edu.mit.csail.sdg.squander.examples.setpoly.SetInt.contains (int e)

Definition at line 29 of file IntSet.java.

9.82.3.3 boolean edu.mit.csail.sdg.squander.examples.setpoly.SetInt.containsAll (IntSet s2)

Definition at line 32 of file IntSet.java.

Referenced by edu.mit.csail.sdg.squander.examples.setpoly.SetInt.main().

9.82.3.4 void edu.mit.csail.sdg.squander.examples.setpoly.SetInt.init () [private]

Definition at line 22 of file IntSet.java.

9.82.3.5 static void edu.mit.csail.sdg.squander.examples.setpoly.SetInt.main (String[] args) [static]

Definition at line 43 of file IntSet.java.

References edu.mit.csail.sdg.squander.examples.setpoly.SetInt.add(), edu.mit.csail.sdg.squander.examples.setpoly.SetInt.containsAll() and edu.mit.csail.sdg.squander.examples.setpoly.SetInt.remove().

9.82.3.6 static void edu.mit.csail.sdg.squander.examples.setpoly.SetInt.main2 (String[] args) [static]

Definition at line 56 of file IntSet.java.

References edu.mit.csail.sdg.squander.examples.setpoly.SetInt.add(), edu.mit.csail.sdg.squander.examples.setpoly.SetInt.nodes() and edu.mit.csail.sdg.squander.examples.setpoly.SetInt.remove().

9.82.3.7 Set<Integer> edu.mit.csail.sdg.squander.examples.setpoly.SetInt.nodes ()

Reimplemented in [edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet](#).

Definition at line 41 of file IntSet.java.

Referenced by edu.mit.csail.sdg.squander.examples.setpoly.SetInt.main2().

9.82.3.8 boolean edu.mit.csail.sdg.squander.examples.setpoly.SetInt.remove (int e)

Definition at line 36 of file IntSet.java.

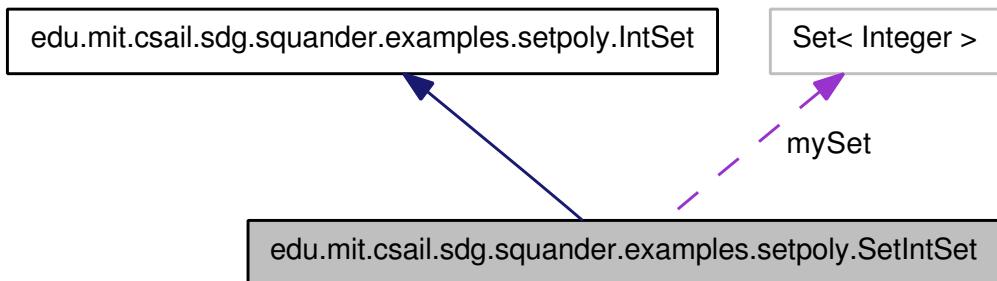
Referenced by [edu.mit.csail.sdg.squander.examples.setpoly.SetInt.main\(\)](#), [edu.mit.csail.sdg.squander.examples.setpoly.SetInt.main2\(\)](#) and [edu.mit.csail.sdg.squander.examples.setpoly.SetInt.nodes\(\)](#).

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/setpoly/[IntSet.java](#)

9.83 edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet Class Reference

Inherits [edu::mit::csail::sdg::squander::examples::setpoly::IntSet.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet](#):



Public Member Functions

- `Set< Integer > nodes ()`
- `String toString ()`

Private Attributes

- `Set< Integer > mySet = new HashSet<Integer>()`

9.83.1 Detailed Description

Definition at line 13 of file `.SetIntSet.java`.

9.83.2 Member Function Documentation

9.83.2.1 `Set<Integer> edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet.nodes ()`

Reimplemented from [edu.mit.csail.sdg.squander.examples.setpoly.IntSet](#).

Definition at line 18 of file `.SetIntSet.java`.

9.83.2.2 `String edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet.toString ()`

Definition at line 23 of file `.SetIntSet.java`.

9.83.3 Member Data Documentation

9.83.3.1 `Set<Integer> edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet.mySet = new HashSet<Integer>() [private]`

Definition at line 15 of file `.SetIntSet.java`.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/setpoly/[SetIntSet.java](#)

9.84 edu.mit.csail.sdg.squander.examples.sort.Sort Class Reference

Public Member Functions

- [Sort \(int...array\)](#)
- [int\[\] getA \(\)](#)
- [void sort \(\)](#)
- [String toString \(\)](#)

Static Public Member Functions

- [static void main \(String\[\] args\)](#)

Private Attributes

- [int\[\] a = new int\[0\]](#)

9.84.1 Detailed Description

Definition at line 19 of file Sort.java.

9.84.2 Constructor & Destructor Documentation

9.84.2.1 edu.mit.csail.sdg.squander.examples.sort.Sort (int... array)

Definition at line 24 of file Sort.java.

References edu.mit.csail.sdg.squander.examples.sort.Sort.a.

Referenced by edu.mit.csail.sdg.squander.examples.sort.Sort.main().

9.84.3 Member Function Documentation

9.84.3.1 int [] edu.mit.csail.sdg.squander.examples.sort.Sort.getA ()

Definition at line 32 of file Sort.java.

References edu.mit.csail.sdg.squander.examples.sort.Sort.a.

Referenced by [edu.mit.csail.sdg.squander.examples.sort.SortTest.test1\(\)](#), [edu.mit.csail.sdg.squander.examples.sort.SortTest.test2\(\)](#), and [edu.mit.csail.sdg.squander.examples.sort.SortTest.test3\(\)](#).

9.84.3.2 static void edu.mit.csail.sdg.squander.examples.sort.Sort.main (String[] args) [static]

Definition at line 50 of file Sort.java.

References edu.mit.csail.sdg.squander.examples.sort.Sort.a, edu.mit.csail.sdg.squander.examples.sort.Sort.Sort(), and edu.mit.csail.sdg.squander.examples.sort.Sort.sort().

9.84.3.3 void edu.mit.csail.sdg.squander.examples.sort.Sort.sort ()

Definition at line 40 of file Sort.java.

Referenced by edu.mit.csail.sdg.squander.examples.sort.Sort.main(), edu.mit.csail.sdg.squander.examples.sort.SortTest.test1(), edu.mit.csail.sdg.squander.examples.sort.SortTest.test2(), and edu.mit.csail.sdg.squander.examples.sort.SortTest.test3().

9.84.3.4 String edu.mit.csail.sdg.squander.examples.sort.Sort.toString ()

Definition at line 46 of file Sort.java.

References edu.mit.csail.sdg.squander.examples.sort.Sort.a.

9.84.4 Member Data Documentation

9.84.4.1 int [] edu.mit.csail.sdg.squander.examples.sort.Sort.a = new int[0] [private]

Definition at line 22 of file Sort.java.

Referenced by edu.mit.csail.sdg.squander.examples.sort.Sort.getA(), edu.mit.csail.sdg.squander.examples.sort.Sort.main(), edu.mit.csail.sdg.squander.examples.sort.Sort.Sort(), and edu.mit.csail.sdg.squander.examples.sort.Sort.toString().

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/sort/[Sort.java](#)

9.85 edu.mit.csail.sdg.squander.examples.sort.SortTest Class Reference

Public Member Functions

- void [test1 \(\)](#)
- void [test2 \(\)](#)
- void [test3 \(\)](#)

9.85.1 Detailed Description

Definition at line 15 of file SortTest.java.

9.85.2 Member Function Documentation

9.85.2.1 void edu.mit.csail.sdg.squander.examples.sort.SortTest.test1 ()

Definition at line 18 of file SortTest.java.

References edu.mit.csail.sdg.squander.examples.sort.Sort.getA(), and edu.mit.csail.sdg.squander.examples.sort.Sort.sort().

9.85.2.2 void edu.mit.csail.sdg.squander.examples.sort.SortTest.test2 ()

Definition at line 29 of file SortTest.java.

References edu.mit.csail.sdg.squander.examples.sort.Sort.getA(), and edu.mit.csail.sdg.squander.examples.sort.Sort.sort().

9.85.2.3 void edu.mit.csail.sdg.squander.examples.sort.SortTest.test3 ()

Definition at line 38 of file SortTest.java.

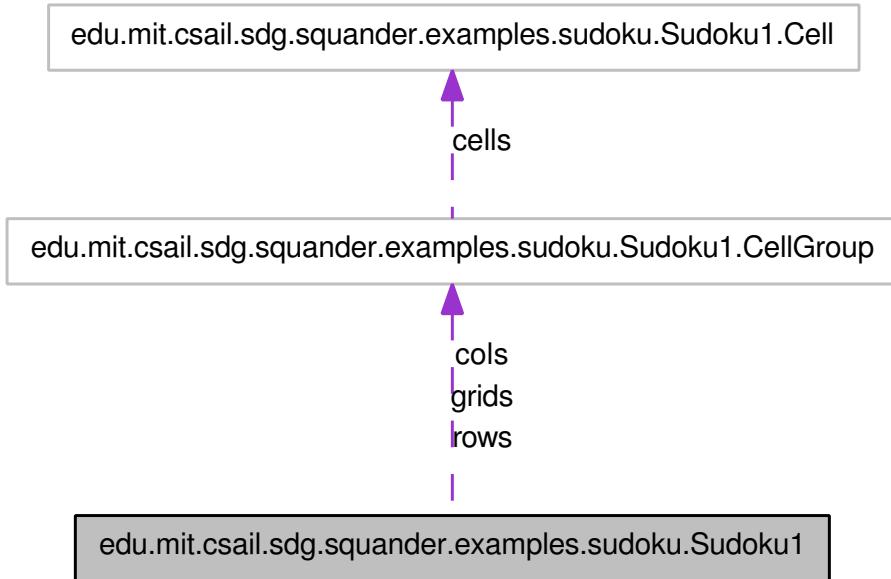
References edu.mit.csail.sdg.squander.examples.sort.Sort.getA(), and edu.mit.csail.sdg.squander.examples.sort.Sort.sort().

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/examples/sort/[SortTest.java](#)

9.86 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1 Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1:



Classes

- class **Cell**
- class **CellGroup**

Public Member Functions

- [Sudoku1 \(int n\)](#)
- void [setCellValue \(int row, int col, int val\)](#)
- int [getCellValue \(int row, int col\)](#)
- void [solve \(\)](#)
- String [printSimple \(\)](#)
- String [toString \(\)](#)

Static Public Member Functions

- static [Sudoku1 parse \(String puzzle\)](#)
- static void [main \(String\[\] args\)](#)

Private Member Functions

- void [printHLine \(StringBuilder sb, int n2, int m\)](#)
- void [init \(\)](#)

Private Attributes

- final int `n`
- CellGroup[] `rows`
- CellGroup[] `cols`
- CellGroup[] `grids`

9.86.1 Detailed Description

Definition at line 19 of file Sudoku1.java.

9.86.2 Constructor & Destructor Documentation

9.86.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.Sudoku1 (int *n*)

Definition at line 54 of file Sudoku1.java.

9.86.3 Member Function Documentation

9.86.3.1 int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.getCellValue (int *row*, int *col*)

Definition at line 71 of file Sudoku1.java.

9.86.3.2 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.init () [private]

Definition at line 117 of file Sudoku1.java.

9.86.3.3 static void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.main (String[] *args*) [static]

Definition at line 155 of file Sudoku1.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.solve().

9.86.3.4 static Sudoku1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.parse (String *puzzle*) [static]

Definition at line 143 of file Sudoku1.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.setCellValue().

9.86.3.5 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.printHLine (StringBuilder *sb*, int *n2*, int *m*) [private]

Definition at line 108 of file Sudoku1.java.

9.86.3.6 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.printSimple ()

Definition at line 82 of file Sudoku1.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku1Small().

9.86.3.7 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.setCellValue (int row, int col, int val)

Definition at line 63 of file Sudoku1.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.parse().

9.86.3.8 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.solve ()

Definition at line 78 of file Sudoku1.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.main(), and
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku1Small().

9.86.3.9 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.toString ()

Definition at line 91 of file Sudoku1.java.

9.86.4 Member Data Documentation**9.86.4.1 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.cols [private]**

Definition at line 51 of file Sudoku1.java.

9.86.4.2 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.grids [private]

Definition at line 52 of file Sudoku1.java.

9.86.4.3 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.n [private]

Definition at line 48 of file Sudoku1.java.

9.86.4.4 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.rows [private]

Definition at line 50 of file Sudoku1.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/sudoku/[Sudoku1.java](#)

9.87 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test Class Reference

Public Member Functions

- void [testSudoku1Small \(\)](#)
- void [testSudoku2Small \(\)](#)
- void [testSudoku3Small \(\)](#)
- void [testSudoku5Small \(\)](#)

9.87.1 Detailed Description

Definition at line 15 of file Sudoku1Test.java.

9.87.2 Member Function Documentation

9.87.2.1 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku1Small ()

Definition at line 18 of file Sudoku1Test.java.

References [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.printSimple\(\)](#), and
[edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.solve\(\)](#).

9.87.2.2 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku2Small ()

Definition at line 25 of file Sudoku1Test.java.

References [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.printSimple\(\)](#), and
[edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.solve\(\)](#).

9.87.2.3 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku3Small ()

Definition at line 32 of file Sudoku1Test.java.

References [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.printSimple\(\)](#), and
[edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.solve\(\)](#).

9.87.2.4 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku5Small ()

Definition at line 39 of file Sudoku1Test.java.

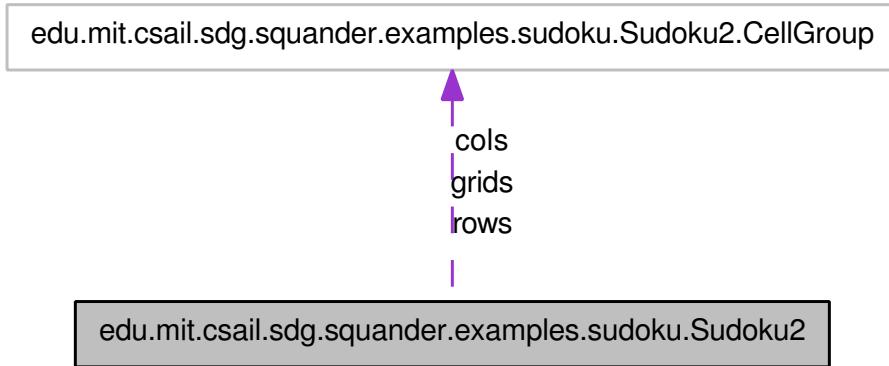
References [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.printSimple\(\)](#), and
[edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.solve\(\)](#).

The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1Test.java](#)

9.88 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2 Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2:



Classes

- class **CellGroup**

Public Member Functions

- [Sudoku2 \(int n\)](#)
- void [setCellValue \(int row, int col, int val\)](#)
- int [getCellValue \(int row, int col\)](#)
- void [solve \(\)](#)
- boolean [repOK \(\)](#)
- String [printSimple \(\)](#)
- String [toString \(\)](#)

Static Public Member Functions

- static [Sudoku2 parse \(String puzzle\)](#)
- static void [main \(String\[\] args\)](#)

Private Member Functions

- void [printHLine \(StringBuilder sb, int n2, int m\)](#)
- void [init \(\)](#)

Private Attributes

- final int [n](#)
- final int [m](#)
- CellGroup[] [rows](#)

- CellGroup[] cols
- CellGroup[] grids

9.88.1 Detailed Description

Definition at line 22 of file Sudoku2.java.

9.88.2 Constructor & Destructor Documentation

9.88.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.Sudoku2 (int *n*)

Definition at line 47 of file Sudoku2.java.

9.88.3 Member Function Documentation

9.88.3.1 int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.getCellValue (int *row*, int *col*)

Definition at line 66 of file Sudoku2.java.

9.88.3.2 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.init () [private]

Definition at line 129 of file Sudoku2.java.

9.88.3.3 static void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.main (String[] *args*) [static]

Definition at line 152 of file Sudoku2.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.repOK(), and
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.solve().

9.88.3.4 static Sudoku2 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.parse (String *puzzle*) [static]

Definition at line 140 of file Sudoku2.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.setCellValue().

9.88.3.5 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.printHLine (StringBuilder *sb*, int *n2*, int *m*) [private]

Definition at line 120 of file Sudoku2.java.

9.88.3.6 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.printSimple ()

Definition at line 94 of file Sudoku2.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku2Small().

9.88.3.7 boolean edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.repOK ()

Definition at line 81 of file Sudoku2.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.main().

9.88.3.8 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.setCellValue (int row, int col, int val)

Definition at line 55 of file Sudoku2.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.parse().

9.88.3.9 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.solve ()

Definition at line 77 of file Sudoku2.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.main(), and
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku2Small().

9.88.3.10 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.toString ()

Definition at line 103 of file Sudoku2.java.

9.88.4 Member Data Documentation

9.88.4.1 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.cols [private]

Definition at line 44 of file Sudoku2.java.

9.88.4.2 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.grids [private]

Definition at line 45 of file Sudoku2.java.

9.88.4.3 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.m [private]

Definition at line 41 of file Sudoku2.java.

9.88.4.4 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.n [private]

Definition at line 39 of file Sudoku2.java.

9.88.4.5 CellGroup [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.rows [private]

Definition at line 43 of file Sudoku2.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/sudoku/[Sudoku2.java](#)

9.89 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3 Class Reference

Public Member Functions

- `Sudoku3 (int n)`
- `void setCellValue (int row, int col, int value)`
- `int getCellValue (int row, int col)`
- `void solve ()`
- `String printSimple ()`
- `String toString ()`

Static Public Member Functions

- `static Sudoku3 parse (String puzzle)`
- `static void main (String[] args)`

Private Member Functions

- `void initGrid ()`
- `void printHLine (StringBuilder sb, int n2, int m)`

Private Attributes

- `final int n`
- `final int m`
- `final int[] nums`

9.89.1 Detailed Description

"grid" is indexed from "1" not from "0"

Author:

Aleksandar Milicevic

Definition at line 26 of file Sudoku3.java.

9.89.2 Constructor & Destructor Documentation

9.89.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.Sudoku3 (int n)

Definition at line 33 of file Sudoku3.java.

9.89.3 Member Function Documentation

9.89.3.1 int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.setCellValue (int row, int col)

Definition at line 55 of file Sudoku3.java.

9.89.3.2 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.initGrid () [private]

Definition at line 44 of file Sudoku3.java.

9.89.3.3 static void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.main (String[] args) [static]

Definition at line 122 of file Sudoku3.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.solve().

9.89.3.4 static Sudoku3 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.parse (String puzzle) [static]

Definition at line 107 of file Sudoku3.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.setCellValue().

9.89.3.5 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.printHLine (StringBuilder sb, int n2, int m) [private]

Definition at line 98 of file Sudoku3.java.

9.89.3.6 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.printSimple ()

Definition at line 72 of file Sudoku3.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku3Small().

9.89.3.7 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.setCellValue (int row, int col, int value)

Definition at line 48 of file Sudoku3.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.parse().

9.89.3.8 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.solve ()

Definition at line 68 of file Sudoku3.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.main(), and
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku3Small().

9.89.3.9 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.toString ()

Definition at line 81 of file Sudoku3.java.

9.89.4 Member Data Documentation

9.89.4.1 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.m [private]

Definition at line 30 of file Sudoku3.java.

9.89.4.2 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.n [private]

Definition at line 28 of file Sudoku3.java.

9.89.4.3 final int [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3.nums [private]

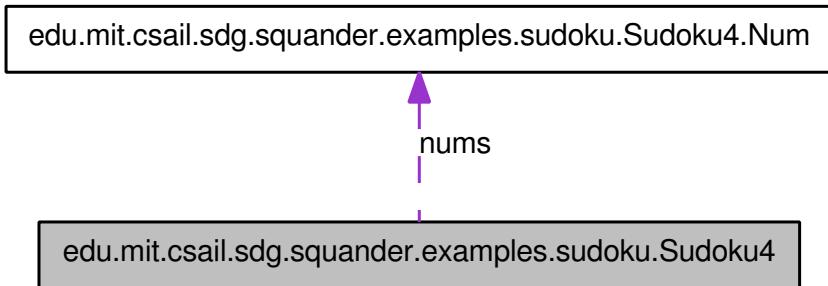
Definition at line 31 of file Sudoku3.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/sudoku/[Sudoku3.java](#)

9.90 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4 Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4:



Classes

- class [Num](#)

Public Member Functions

- [Sudoku4 \(int n\)](#)
- void [setCellValue \(int row, int col, int value\)](#)
- int [getCellValue \(int row, int col\)](#)
- void [solve \(\)](#)
- String [printSimple \(\)](#)
- String [toString \(\)](#)

Static Public Member Functions

- static [Sudoku4 parse \(String puzzle\)](#)
- static void [main \(String\[\] args\)](#)

Private Member Functions

- void [initGrid \(\)](#)
- void [printHLine \(StringBuilder sb, int n2, int m\)](#)

Private Attributes

- final int [n](#)
- final int [m](#)
- final [Num\[\] nums](#)

9.90.1 Detailed Description

"grid" is indexed from "1" not from "0"

Author:

Aleksandar Milicevic

Definition at line 26 of file Sudoku4.java.

9.90.2 Constructor & Destructor Documentation

9.90.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Sudoku4 (int *n*)

Definition at line 41 of file Sudoku4.java.

9.90.3 Member Function Documentation

9.90.3.1 int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.getCellValue (int *row*, int *col*)

Definition at line 65 of file Sudoku4.java.

9.90.3.2 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.initGrid () [private]

Definition at line 52 of file Sudoku4.java.

9.90.3.3 static void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.main (String[] *args*) [static]

Definition at line 142 of file Sudoku4.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.solve().

9.90.3.4 static Sudoku4 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.parse (String *puzzle*) [static]

Definition at line 127 of file Sudoku4.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.setCellValue().

9.90.3.5 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.printHLine (StringBuilder *sb*, int *n2*, int *m*) [private]

Definition at line 118 of file Sudoku4.java.

9.90.3.6 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.printSimple ()

Definition at line 92 of file Sudoku4.java.

9.90.3.7 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.setCellValue (int row, int col, int value)

Definition at line 56 of file Sudoku4.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.parse().

9.90.3.8 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.solve ()

Definition at line 84 of file Sudoku4.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.main().

9.90.3.9 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.toString ()

Definition at line 101 of file Sudoku4.java.

9.90.4 Member Data Documentation

9.90.4.1 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.m [private]

Definition at line 38 of file Sudoku4.java.

9.90.4.2 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.n [private]

Definition at line 36 of file Sudoku4.java.

9.90.4.3 final Num [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.nums [private]

Definition at line 39 of file Sudoku4.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/sudoku/[Sudoku4.java](#)

9.91 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num Class Reference

Public Member Functions

- [Num \(int val\)](#)

Package Attributes

- final int [val](#)

9.91.1 Detailed Description

Definition at line 28 of file Sudoku4.java.

9.91.2 Constructor & Destructor Documentation

9.91.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num.Num (int val)

Definition at line 31 of file Sudoku4.java.

9.91.3 Member Data Documentation

9.91.3.1 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num.val [package]

Definition at line 29 of file Sudoku4.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/sudoku/[Sudoku4.java](#)

9.92 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5 Class Reference

Public Member Functions

- `Sudoku5 (int n)`
- `void setCellValue (int row, int col, int value)`
- `int getCellValue (int row, int col)`
- `void solve ()`
- `String printSimple ()`
- `String toString ()`

Static Public Member Functions

- `static Sudoku5 parse (String puzzle)`
- `static void main (String[] args)`

Private Member Functions

- `void printHLine (StringBuilder sb, int n2, int m)`

Private Attributes

- `int[][] grid`
- `final int n`
- `final int m`
- `final int[] nums`

9.92.1 Detailed Description

"grid" is indexed from "1" not from "0"

Author:

Aleksandar Milicevic

Definition at line 23 of file Sudoku5.java.

9.92.2 Constructor & Destructor Documentation

9.92.2.1 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.Sudoku5 (int n)

Definition at line 31 of file Sudoku5.java.

9.92.3 Member Function Documentation

9.92.3.1 int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.setCellValue (int row, int col)

Definition at line 48 of file Sudoku5.java.

9.92.3.2 static void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.main (String[] args) [static]

Definition at line 115 of file Sudoku5.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.solve().

9.92.3.3 static Sudoku5 edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.parse (String puzzle) [static]

Definition at line 100 of file Sudoku5.java.

References edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.setCellValue().

9.92.3.4 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.printHLine (StringBuilder sb, int n2, int m) [private]

Definition at line 91 of file Sudoku5.java.

9.92.3.5 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.printSimple ()

Definition at line 65 of file Sudoku5.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku5Small().

9.92.3.6 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.setCellValue (int row, int col, int value)

Definition at line 43 of file Sudoku5.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.parse().

9.92.3.7 void edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.solve ()

Definition at line 61 of file Sudoku5.java.

Referenced by edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.main(), and
edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test.testSudoku5Small().

9.92.3.8 String edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.toString ()

Definition at line 74 of file Sudoku5.java.

9.92.4 Member Data Documentation

9.92.4.1 int [][] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.grid [private]

Definition at line 25 of file Sudoku5.java.

9.92.4.2 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.m [private]

Definition at line 28 of file Sudoku5.java.

9.92.4.3 final int edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.n [private]

Definition at line 26 of file Sudoku5.java.

9.92.4.4 final int [] edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5.nums [private]

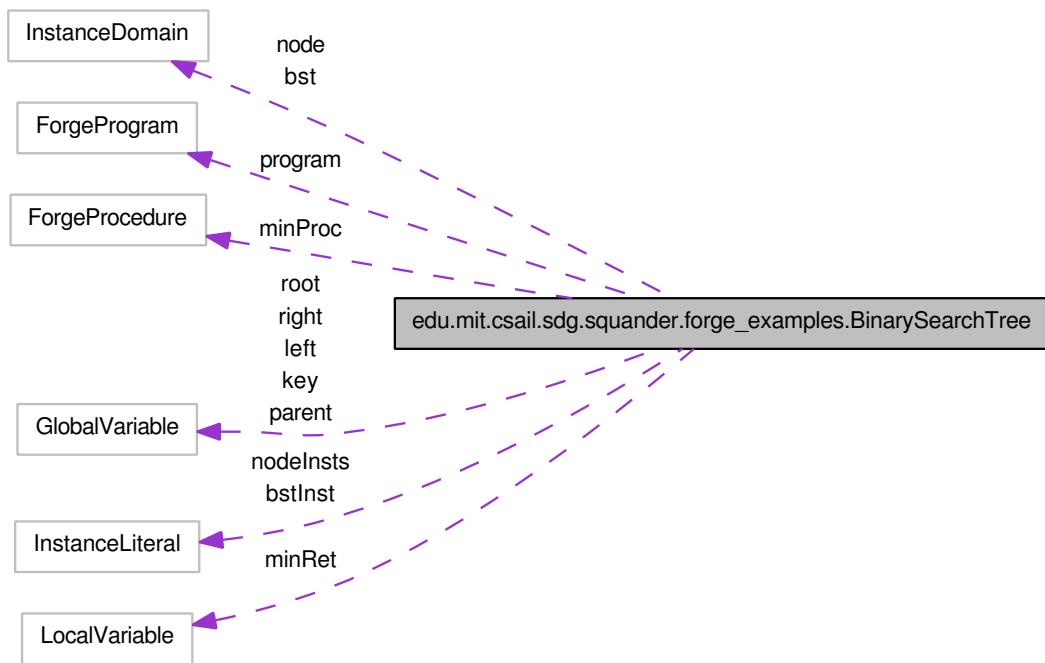
Definition at line 29 of file Sudoku5.java.

The documentation for this class was generated from the following file:

- examples/edu/mit/csail/sdg/squander/examples/sudoku/[Sudoku5.java](#)

9.93 edu.mit.csail.sdg.squander forge_examples.BinarySearchTree Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander forge_examples.BinarySearchTree:



Public Member Functions

- [BinarySearchTree \(\)](#)
- [void runMin \(\)](#)

Static Public Member Functions

- [static void main \(String\[\] args\)](#)

Private Member Functions

- [ForgeCFG cfgMin \(\)](#)
- [ForgeBounds bounds \(\)](#)

Static Private Member Functions

- [static SolveOptions options \(\)](#)

Private Attributes

- [ForgeProgram program](#)

- InstanceDomain `node`
- InstanceDomain `bst`
- InstanceLiteral `nodeInsts` []
- InstanceLiteral `bstInst`
- GlobalVariable `root`
- GlobalVariable `key`
- GlobalVariable `left`
- GlobalVariable `right`
- GlobalVariable `parent`
- LocalVariable `minRet`
- ForgeProcedure `minProc`

9.93.1 Detailed Description

An example of a Forge program that implements and Binary Search Tree data structure and a couple of operations on it.

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 31 of file `BinarySearchTree.java`.

9.93.2 Constructor & Destructor Documentation

9.93.2.1 `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree ()`

Creates Forge programs, instance domains, global variables, literal instances, procedures and such

Definition at line 54 of file `BinarySearchTree.java`.

References [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bst](#), [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bstInst](#), [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.key](#), [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.left](#), [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minProc](#), [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minRet](#), [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.node](#), [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.nodeInsts](#), [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.parent](#), [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.program](#), [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.right](#), and [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.root](#).

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.main()`.

9.93.3 Member Function Documentation

9.93.3.1 `ForgeBounds edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds () [private]`

Returns Forge bounds that bound initial state space, i.e. encode a binary search tree into Forge bounds using `boundInitial` method.

Definition at line 120 of file `BinarySearchTree.java`.

References edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bst, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bstInst, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.key, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.left, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.node, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.nodeInsts, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.parent, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.program, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.right, and edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.root.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin().

9.93.3.2 ForgeCFG edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin () [private]

Returns the specs for the `min` operation

Definition at line 108 of file BinarySearchTree.java.

References edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.key, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minProc, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minRet, edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.node, and edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.program.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin().

9.93.3.3 static void edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.main (String[] args) [static]

Definition at line 160 of file BinarySearchTree.java.

References edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(), and edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin().

9.93.3.4 static SolveOptions edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.options () [static, private]

Returns Forge options for this purpose

Definition at line 99 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin().

9.93.3.5 void edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin ()

Runs the `min` operation on a binary search tree purely based on specs for that operation (no method implementation)

Definition at line 82 of file BinarySearchTree.java.

References edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds(), edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin(), edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minRet, and edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.options().

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.main().

9.93.4 Member Data Documentation

9.93.4.1 InstanceDomain **edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bst** [private]

Definition at line 35 of file BinarySearchTree.java.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds()`.

9.93.4.2 InstanceLiteral **edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bstInst** [private]

Definition at line 38 of file BinarySearchTree.java.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds()`.

9.93.4.3 GlobalVariable **edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.key** [private]

Definition at line 41 of file BinarySearchTree.java.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin()`.

9.93.4.4 GlobalVariable **edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.left** [private]

Definition at line 42 of file BinarySearchTree.java.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds()`.

9.93.4.5 ForgeProcedure **edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minProc** [private]

Definition at line 48 of file BinarySearchTree.java.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin()`.

9.93.4.6 LocalVariable **edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.minRet** [private]

Definition at line 46 of file BinarySearchTree.java.

Referenced by `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree()`, `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin()`, and `edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.runMin()`.

**9.93.4.7 InstanceDomain edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.node
[private]**

Definition at line 34 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(),
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin().

**9.93.4.8 InstanceLiteral edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.nodeInsts[]
[private]**

Definition at line 37 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds().

**9.93.4.9 GlobalVariable edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.parent
[private]**

Definition at line 44 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds().

**9.93.4.10 ForgeProgram edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.program
[private]**

Definition at line 33 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(),
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.cfgMin().

**9.93.4.11 GlobalVariable edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.right
[private]**

Definition at line 43 of file BinarySearchTree.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds().

**9.93.4.12 GlobalVariable edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.root
[private]**

Definition at line 40 of file BinarySearchTree.java.

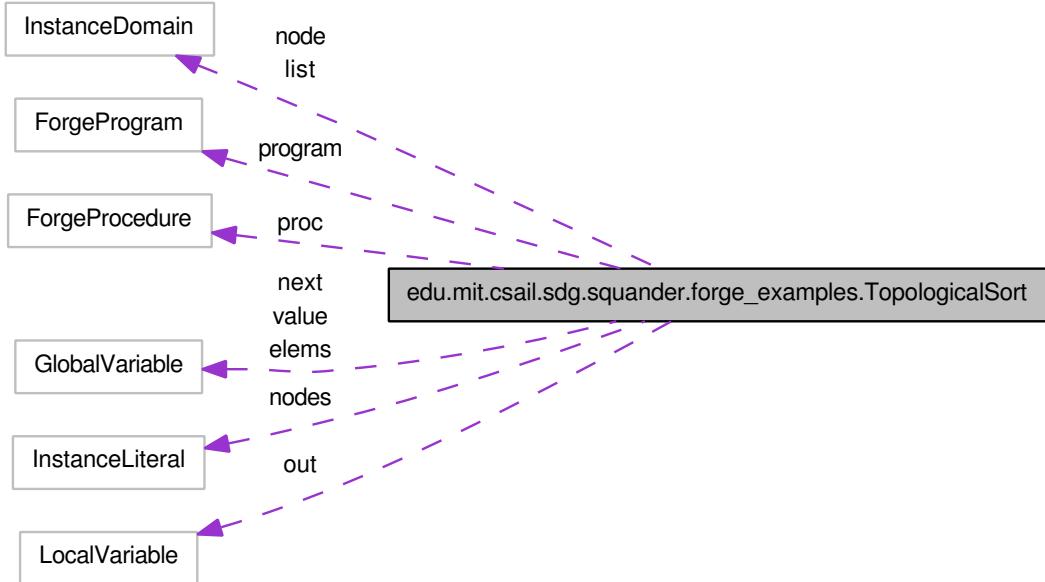
Referenced by edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.BinarySearchTree(), and
edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree.bounds().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/forge_examples/[BinarySearchTree.java](#)

9.94 edu.mit.csail.sdg.squander forge_examples.TopologicalSort Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander forge_examples.TopologicalSort:



Public Member Functions

- [TopologicalSort \(\)](#)

Static Public Member Functions

- static void [main \(String\[\] args\)](#)

Package Functions

- `ForgeExpression condition ()`
- `ForgeCFG cfg ()`
- `ForgeBounds bounds ()`
- `void run ()`

Package Attributes

- final int `num` = 16
- final int `width` = 4
- final `ForgeProgram program`
- final `InstanceDomain node`
- final `InstanceDomain list`
- final `InstanceLiteral[] nodes` = new `InstanceLiteral[num]`

- final GlobalVariable [value](#)
- final GlobalVariable [next](#)
- final GlobalVariable [elems](#)
- final ForgeProcedure [proc](#)
- final LocalVariable [out](#)

9.94.1 Detailed Description

Author:

Kuat Yessenov

Definition at line 32 of file TopologicalSort.java.

9.94.2 Constructor & Destructor Documentation

9.94.2.1 edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort ()

Definition at line 43 of file TopologicalSort.java.

References [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.elems](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.list](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.next](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.node](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.nodes](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.num](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.out](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.proc](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.program](#), and [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.value](#).

Referenced by [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.main\(\)](#).

9.94.3 Member Function Documentation

9.94.3.1 ForgeBounds edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds () [package]

Definition at line 83 of file TopologicalSort.java.

References [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.list](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.next](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.node](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.nodes](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.num](#), [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.program](#), and [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.width](#).

Referenced by [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.run\(\)](#).

9.94.3.2 ForgeCFG edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.cfg () [package]

Definition at line 79 of file TopologicalSort.java.

References edu.mit.csail.sdg.squander forge_examples.TopologicalSort.condition(),
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.elems, and
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.proc.

Referenced by edu.mit.csail.sdg.squander forge_examples.TopologicalSort.run().

9.94.3.3 ForgeExpression edu.mit.csail.sdg.squander forge_examples.TopologicalSort.condition () [package]

Definition at line 59 of file TopologicalSort.java.

References edu.mit.csail.sdg.squander forge_examples.TopologicalSort.elems,
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.list, edu.mit.csail.sdg.squander forge_examples.TopologicalSort.next, edu.mit.csail.sdg.squander forge_examples.TopologicalSort.node,
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.out, and
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.program.

Referenced by edu.mit.csail.sdg.squander forge_examples.TopologicalSort.cfg().

9.94.3.4 static void edu.mit.csail.sdg.squander forge_examples.TopologicalSort.main (String[] args) [static]

Definition at line 126 of file TopologicalSort.java.

References edu.mit.csail.sdg.squander forge_examples.TopologicalSort.run(), and
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.TopologicalSort().

9.94.3.5 void edu.mit.csail.sdg.squander forge_examples.TopologicalSort.run () [package]

Definition at line 107 of file TopologicalSort.java.

References edu.mit.csail.sdg.squander forge_examples.TopologicalSort.bounds(),
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.cfg(), edu.mit.csail.sdg.squander forge_examples.TopologicalSort.elems, edu.mit.csail.sdg.squander forge_examples.TopologicalSort.out, and
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.value.

Referenced by edu.mit.csail.sdg.squander forge_examples.TopologicalSort.main().

9.94.4 Member Data Documentation

9.94.4.1 final GlobalVariable edu.mit.csail.sdg.squander forge_examples.TopologicalSort.elems [package]

Definition at line 39 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander forge_examples.TopologicalSort.cfg(),
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.condition(), edu.mit.csail.sdg.squander forge_examples.TopologicalSort.run(), and
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.TopologicalSort().

9.94.4.2 final InstanceDomain edu.mit.csail.sdg.squander forge_examples.TopologicalSort.list [package]

Definition at line 37 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander forge_examples.TopologicalSort.bounds(),
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.condition(), and
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.TopologicalSort().

9.94.4.3 final GlobalVariable edu.mit.csail.sdg.squander forge_examples.TopologicalSort.next [package]

Definition at line 39 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander forge_examples.TopologicalSort.bounds(),
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.condition(), and
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.TopologicalSort().

9.94.4.4 final InstanceDomain edu.mit.csail.sdg.squander forge_examples.TopologicalSort.node [package]

Definition at line 36 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander forge_examples.TopologicalSort.bounds(),
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.condition(), and
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.TopologicalSort().

9.94.4.5 final InstanceLiteral [] edu.mit.csail.sdg.squander forge_examples.TopologicalSort.nodes = new InstanceLiteral[num] [package]

Definition at line 38 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander forge_examples.TopologicalSort.bounds(), and
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.TopologicalSort().

9.94.4.6 final int edu.mit.csail.sdg.squander forge_examples.TopologicalSort.num = 16 [package]

Definition at line 33 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander forge_examples.TopologicalSort.bounds(), and
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.TopologicalSort().

9.94.4.7 final LocalVariable edu.mit.csail.sdg.squander forge_examples.TopologicalSort.out [package]

Definition at line 41 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander forge_examples.TopologicalSort.condition(),
edu.mit.csail.sdg.squander forge_examples.TopologicalSort.run(), and edu.mit.csail.sdg.squander forge_-
examples.TopologicalSort.TopologicalSort().

9.94.4.8 final ForgeProcedure edu.mit.csail.sdg.squander forge_examples.TopologicalSort.proc [package]

Definition at line 40 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.cfg(), and edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort().

9.94.4.9 final ForgeProgram edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.program [package]

Definition at line 35 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds(), edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.condition(), and edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort().

9.94.4.10 final GlobalVariable edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.value [package]

Definition at line 39 of file TopologicalSort.java.

Referenced by edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.run(), and edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.TopologicalSort().

9.94.4.11 final int edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.width = 4 [package]

Definition at line 34 of file TopologicalSort.java.

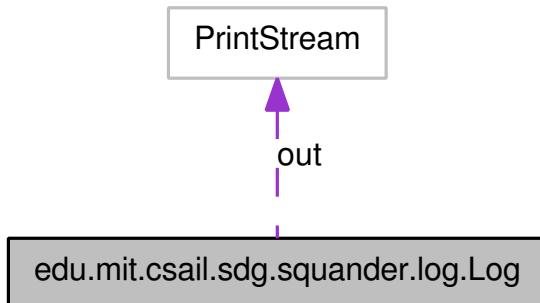
Referenced by edu.mit.csail.sdg.squander.forge_examples.TopologicalSort.bounds().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/forge_examples/[TopologicalSort.java](#)

9.95 edu.mit.csail.sdg.squander.log.Log Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.log.Log:



Public Types

- enum [Level](#) {
 [ALL](#), [TRACE](#), [DEBUG](#), [LOG](#),
 [WARN](#), [ERROR](#), [FATAL](#), [NONE](#) }

Static Public Member Functions

- static void [trace](#) (String msg)
- static void [trace](#) (String msg, Object...args)
- static void [debug](#) (String msg)
- static void [debug](#) (String msg, Object...args)
- static void [log](#) (String msg)
- static void [log](#) (String msg, Object...args)
- static void [warn](#) (String msg)
- static void [warn](#) (String msg, Object...args)
- static void [error](#) (String msg, Object...args)

Static Private Member Functions

- static void [myLog](#) ([Level](#) logLevel, String msg, Object...args)

Static Private Attributes

- static PrintStream [out](#) = System.out

9.95.1 Detailed Description

Simple logging facility

Author:

Aleksandar Milicevic

Definition at line 16 of file Log.java.

9.95.2 Member Enumeration Documentation

9.95.2.1 enum edu::mit::csail::sdg::squander::log::Log::Level

Enumerator:

ALL
TRACE
DEBUG
LOG
WARN
ERROR
FATAL
NONE

Definition at line 18 of file Log.java.

9.95.3 Member Function Documentation

9.95.3.1 static void edu.mit.csail.sdg.squander.log.Log.debug (String *msg*, Object... *args*) [static]

Definition at line 43 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.myLog().

9.95.3.2 static void edu.mit.csail.sdg.squander.log.Log.debug (String *msg*) [static]

Definition at line 39 of file Log.java.

9.95.3.3 static void edu.mit.csail.sdg.squander.log.Log.error (String *msg*, Object... *args*) [static]

Definition at line 63 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.myLog().

9.95.3.4 static void edu.mit.csail.sdg.squander.log.Log.log (String *msg*, Object... *args*) [static]

Definition at line 51 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.myLog().

9.95.3.5 static void edu.mit.csail.sdg.squander.log.Log.log (String *msg*) [static]

Definition at line 47 of file Log.java.

9.95.3.6 static void edu.mit.csail.sdg.squander.log.Log.myLog (Level *logLevel*, String *msg*, Object... *args*) [static, private]

Definition at line 67 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.out.

Referenced by edu.mit.csail.sdg.squander.log.Log.debug(), edu.mit.csail.sdg.squander.log.Log.error(), edu.mit.csail.sdg.squander.log.Log.log(), edu.mit.csail.sdg.squander.log.Log.trace(), and edu.mit.csail.sdg.squander.log.Log.warn().

9.95.3.7 static void edu.mit.csail.sdg.squander.log.Log.trace (String *msg*, Object... *args*) [static]

Definition at line 35 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.myLog().

9.95.3.8 static void edu.mit.csail.sdg.squander.log.Log.trace (String *msg*) [static]

Definition at line 31 of file Log.java.

9.95.3.9 static void edu.mit.csail.sdg.squander.log.Log.warn (String *msg*, Object... *args*) [static]

Definition at line 59 of file Log.java.

References edu.mit.csail.sdg.squander.log.Log.myLog().

9.95.3.10 static void edu.mit.csail.sdg.squander.log.Log.warn (String *msg*) [static]

Definition at line 55 of file Log.java.

9.95.4 Member Data Documentation

9.95.4.1 PrintStream edu.mit.csail.sdg.squander.log.Log.out = System.out [static, private]

Definition at line 22 of file Log.java.

Referenced by edu.mit.csail.sdg.squander.log.Log.myLog().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/log/[Log.java](#)

9.96 edu.mit.csail.sdg.squander.options.ConfigLoader Class Reference

Static Public Member Functions

- static String[] [loadOptions](#) (Object confObj, String[] args)

Static Private Member Functions

- static Field [getField](#) (Class<?> cls, String name)
- static void [setString](#) (Object confObj, String optionName, String optionValue, Field f)
- static void [setEnum](#) (Object confObj, String optionName, String optionValue, Field f, Class<?> fieldType)
- static void [setClass](#) (Object confObj, String optionName, String optionValue, Field f)
- static void [setInt](#) (Object confObj, String optionName, String optionValue, Field f)
- static void [setBoolean](#) (Object confObj, String optionName, String optionValue, Field f)
- static void [error](#) (String msg)

9.96.1 Detailed Description

Definition at line 16 of file ConfigLoader.java.

9.96.2 Member Function Documentation

9.96.2.1 static void edu.mit.csail.sdg.squander.options.ConfigLoader.error (String msg) [static, private]

Definition at line 120 of file ConfigLoader.java.

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions(), edu.mit.csail.sdg.squander.options.ConfigLoader.setBoolean(), edu.mit.csail.sdg.squander.options.ConfigLoader.setClass(), edu.mit.csail.sdg.squander.options.ConfigLoader.setEnum(), and edu.mit.csail.sdg.squander.options.ConfigLoader.setInt().

9.96.2.2 static Field edu.mit.csail.sdg.squander.options.ConfigLoader.getField (Class<?> cls, String name) [static, private]

Definition at line 58 of file ConfigLoader.java.

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

9.96.2.3 static String [] edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions (Object confObj, String[] args) [static]

Definition at line 18 of file ConfigLoader.java.

References edu.mit.csail.sdg.squander.options.ConfigLoader.error(), edu.mit.csail.sdg.squander.options.ConfigLoader.getField(), edu.mit.csail.sdg.squander.options.ConfigLoader.setBoolean(), edu.mit.csail.sdg.squander.options.ConfigLoader.setClass(), edu.mit.csail.sdg.squander.options.ConfigLoader.setEnum(), edu.mit.csail.sdg.squander.options.ConfigLoader.setInt(), and edu.mit.csail.sdg.squander.options.ConfigLoader.setString().

9.96.2.4 static void edu.mit.csail.sdg.squander.options.ConfigLoader.setBoolean (Object *confObj*, String *optionName*, String *optionValue*, Field *f*) [static, private]

Definition at line 107 of file ConfigLoader.java.

References edu.mit.csail.sdg.squander.options.ConfigLoader.error().

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

9.96.2.5 static void edu.mit.csail.sdg.squander.options.ConfigLoader.setClass (Object *confObj*, String *optionName*, String *optionValue*, Field *f*) [static, private]

Definition at line 89 of file ConfigLoader.java.

References edu.mit.csail.sdg.squander.options.ConfigLoader.error().

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

9.96.2.6 static void edu.mit.csail.sdg.squander.options.ConfigLoader.setEnum (Object *confObj*, String *optionName*, String *optionValue*, Field *f*, Class<?>*fieldType*) [static, private]

Definition at line 70 of file ConfigLoader.java.

References edu.mit.csail.sdg.squander.options.ConfigLoader.error().

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

9.96.2.7 static void edu.mit.csail.sdg.squander.options.ConfigLoader.setInt (Object *confObj*, String *optionName*, String *optionValue*, Field *f*) [static, private]

Definition at line 97 of file ConfigLoader.java.

References edu.mit.csail.sdg.squander.options.ConfigLoader.error().

Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

9.96.2.8 static void edu.mit.csail.sdg.squander.options.ConfigLoader.setString (Object *confObj*, String *optionName*, String *optionValue*, Field *f*) [static, private]

Definition at line 66 of file ConfigLoader.java.

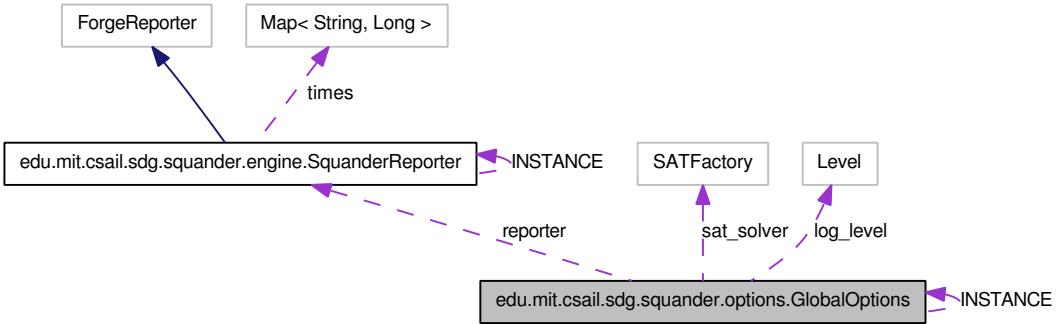
Referenced by edu.mit.csail.sdg.squander.options.ConfigLoader.loadOptions().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/options/[ConfigLoader.java](#)

9.97 edu.mit.csail.sdg.squander.options.GlobalOptions Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.options.GlobalOptions:



Public Types

- enum Engine {
 [Forge](#), [Kodkod](#), [Kodkod2](#), [KodkodPart](#), [KodkodPart2](#) }

Public Member Functions

- [ISquander getSquanderImpl\(\)](#)

Public Attributes

- [Level log_level = Level.NONE](#)
- [Engine engine = Engine.Kodkod](#)
- [SATFactory sat_solver = SATFactory.MiniSat](#)
- [int min_bitwidth = 5](#)
- [boolean unsat_core = false](#)
- [boolean desugar_quants = true](#)
- [SquanderReporter reporter = SquanderReporter.INSTANCE](#)

Static Public Attributes

- static [GlobalOptions INSTANCE = new GlobalOptions\(\)](#)

9.97.1 Detailed Description

Various general options, not related to particular specification executions

Author:

Aleksandar Milicevic

Definition at line 22 of file GlobalOptions.java.

9.97.2 Member Enumeration Documentation

9.97.2.1 enum edu::mit::csail::sdg::squander::options::GlobalOptions::Engine

Enumerator:

Forge

Kodkod

Kodkod2

KodkodPart

KodkodPart2

Definition at line 24 of file GlobalOptions.java.

9.97.3 Member Function Documentation

9.97.3.1 ISquander edu.mit.csail.sdg.squander.options.GlobalOptions.getsquanderImpl()

Definition at line 43 of file GlobalOptions.java.

References edu.mit.csail.sdg.squander.options.GlobalOptions.engine.

9.97.4 Member Data Documentation

9.97.4.1 boolean edu.mit.csail.sdg.squander.options.GlobalOptions.desugar_quants = true

no need to change this

Definition at line 39 of file GlobalOptions.java.

9.97.4.2 Engine edu.mit.csail.sdg.squander.options.GlobalOptions.engine = Engine.Kodkod

Definition at line 31 of file GlobalOptions.java.

Referenced by edu.mit.csail.sdg.squander.options.GlobalOptions.getsquanderImpl().

9.97.4.3 GlobalOptions edu.mit.csail.sdg.squander.options.GlobalOptions.INSTANCE = new GlobalOptions() [static]

Definition at line 28 of file GlobalOptions.java.

9.97.4.4 Level edu.mit.csail.sdg.squander.options.GlobalOptions.log_level = Level.NONE

Definition at line 30 of file GlobalOptions.java.

9.97.4.5 int edu.mit.csail.sdg.squander.options.GlobalOptions.min_bitwidth = 5

minimum bitwidth to use

Definition at line 35 of file GlobalOptions.java.

9.97.4.6 SquanderReporter edu.mit.csail.sdg.squander.options.GlobalOptions.reporter = SquanderReporter.INSTANCE

Definition at line 41 of file GlobalOptions.java.

9.97.4.7 SATFactory edu.mit.csail.sdg.squander.options.GlobalOptions.sat_solver = SATFactory.MiniSat

Definition at line 32 of file GlobalOptions.java.

9.97.4.8 boolean edu.mit.csail.sdg.squander.options.GlobalOptions.unsat_core = false

should the unsat core be computed in case of no solution (it potentially degrades performance)

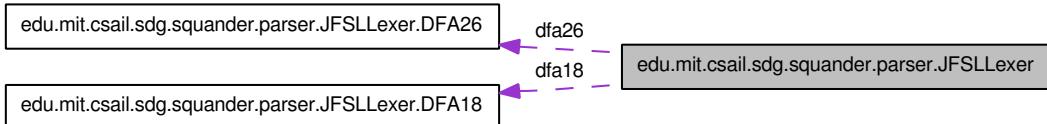
Definition at line 37 of file GlobalOptions.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/options/[GlobalOptions.java](#)

9.98 edu.mit.csail.sdg.squander.parser.JFSLLexer Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.parser.JFSLLexer:



Classes

- class [DFA18](#)
- class [DFA26](#)

Public Member Functions

- [`JFSLLexer \(\)`](#)
- [`JFSLLexer \(CharStream input\)`](#)
- [`JFSLLexer \(CharStream input, RecognizerSharedState state\)`](#)
- String [`getGrammarFileName \(\)`](#)
- final void [`mT_127 \(\) throws RecognitionException`](#)
- final void [`mT_128 \(\) throws RecognitionException`](#)
- final void [`mT_129 \(\) throws RecognitionException`](#)
- final void [`mT_130 \(\) throws RecognitionException`](#)
- final void [`mT_131 \(\) throws RecognitionException`](#)
- final void [`mT_132 \(\) throws RecognitionException`](#)
- final void [`mT_133 \(\) throws RecognitionException`](#)
- final void [`mT_134 \(\) throws RecognitionException`](#)
- final void [`mT_135 \(\) throws RecognitionException`](#)
- final void [`mT_136 \(\) throws RecognitionException`](#)
- final void [`mT_137 \(\) throws RecognitionException`](#)
- final void [`mT_138 \(\) throws RecognitionException`](#)
- final void [`mT_139 \(\) throws RecognitionException`](#)
- final void [`mT_140 \(\) throws RecognitionException`](#)
- final void [`mT_141 \(\) throws RecognitionException`](#)
- final void [`mT_142 \(\) throws RecognitionException`](#)
- final void [`mT_143 \(\) throws RecognitionException`](#)
- final void [`mT_144 \(\) throws RecognitionException`](#)
- final void [`mT_145 \(\) throws RecognitionException`](#)
- final void [`mT_146 \(\) throws RecognitionException`](#)
- final void [`mT_147 \(\) throws RecognitionException`](#)
- final void [`mT_148 \(\) throws RecognitionException`](#)
- final void [`mT_149 \(\) throws RecognitionException`](#)
- final void [`mT_150 \(\) throws RecognitionException`](#)
- final void [`mT_151 \(\) throws RecognitionException`](#)
- final void [`mT_152 \(\) throws RecognitionException`](#)
- final void [`mT_153 \(\) throws RecognitionException`](#)
- final void [`mT_154 \(\) throws RecognitionException`](#)

- final void `mT_155` () throws RecognitionException
- final void `mT_156` () throws RecognitionException
- final void `mT_157` () throws RecognitionException
- final void `mT_158` () throws RecognitionException
- final void `mT_159` () throws RecognitionException
- final void `mT_160` () throws RecognitionException
- final void `mT_161` () throws RecognitionException
- final void `mT_162` () throws RecognitionException
- final void `mT_163` () throws RecognitionException
- final void `mT_164` () throws RecognitionException
- final void `mT_165` () throws RecognitionException
- final void `mT_166` () throws RecognitionException
- final void `mT_167` () throws RecognitionException
- final void `mT_168` () throws RecognitionException
- final void `mT_169` () throws RecognitionException
- final void `mT_170` () throws RecognitionException
- final void `mT_171` () throws RecognitionException
- final void `mT_172` () throws RecognitionException
- final void `mT_173` () throws RecognitionException
- final void `mT_174` () throws RecognitionException
- final void `mT_175` () throws RecognitionException
- final void `mT_176` () throws RecognitionException
- final void `mT_177` () throws RecognitionException
- final void `mT_178` () throws RecognitionException
- final void `mT_179` () throws RecognitionException
- final void `mT_180` () throws RecognitionException
- final void `mT_181` () throws RecognitionException
- final void `mT_182` () throws RecognitionException
- final void `mT_183` () throws RecognitionException
- final void `mT_184` () throws RecognitionException
- final void `mT_185` () throws RecognitionException
- final void `mT_186` () throws RecognitionException
- final void `mT_187` () throws RecognitionException
- final void `mT_188` () throws RecognitionException
- final void `mT_189` () throws RecognitionException
- final void `mT_190` () throws RecognitionException
- final void `mT_191` () throws RecognitionException
- final void `mT_192` () throws RecognitionException
- final void `mT_193` () throws RecognitionException
- final void `mT_194` () throws RecognitionException
- final void `mT_195` () throws RecognitionException
- final void `mT_196` () throws RecognitionException
- final void `mT_197` () throws RecognitionException
- final void `mT_198` () throws RecognitionException
- final void `mT_199` () throws RecognitionException
- final void `mHexLiteral` () throws RecognitionException
- final void `mDecimalLiteral` () throws RecognitionException
- final void `mOctalLiteral` () throws RecognitionException
- final void `mHexDigit` () throws RecognitionException
- final void `mIntegerTypeSuffix` () throws RecognitionException

- final void `mFloatingPointLiteral` () throws RecognitionException
- final void `mExponent` () throws RecognitionException
- final void `mFloatTypeSuffix` () throws RecognitionException
- final void `mCharacterLiteral` () throws RecognitionException
- final void `mStringLiteral` () throws RecognitionException
- final void `mEscapeSequence` () throws RecognitionException
- final void `mOctalEscape` () throws RecognitionException
- final void `mUnicodeEscape` () throws RecognitionException
- final void `mIdentifier` () throws RecognitionException
- final void `mLetter` () throws RecognitionException
- final void `mJavaIDDigit` () throws RecognitionException
- final void `mWS` () throws RecognitionException
- void `mTokens` () throws RecognitionException

Static Public Attributes

- static final int `PACKAGE` = 96
- static final int `T_159` = 159
- static final int `OP_SET_ALL` = 75
- static final int `T_158` = 158
- static final int `OP_INSTANCEOF` = 54
- static final int `TYPE_INT` = 87
- static final int `OP_GEQ` = 49
- static final int `OP_SET_LONE` = 72
- static final int `OP_SET_NO` = 71
- static final int `T_160` = 160
- static final int `OP_INTERSECTION` = 42
- static final int `T_167` = 167
- static final int `LIT_FALSE` = 81
- static final int `T_168` = 168
- static final int `EOF` = -1
- static final int `T_165` = 165
- static final int `T_166` = 166
- static final int `T_163` = 163
- static final int `T_164` = 164
- static final int `T_161` = 161
- static final int `T_162` = 162
- static final int `OP_MOD` = 65
- static final int `OP_EQ` = 35
- static final int `IMPORT` = 99
- static final int `T_148` = 148
- static final int `T_147` = 147
- static final int `T_149` = 149
- static final int `TYPE_BYTE` = 85
- static final int `DECL_SET` = 7
- static final int `DECL_SEQ` = 8
- static final int `TYPE_PARAMETERS` = 98
- static final int `T_154` = 154
- static final int `T_155` = 155
- static final int `T_156` = 156

- static final int **T_157** = 157
- static final int **T_150** = 150
- static final int **T_151** = 151
- static final int **T_152** = 152
- static final int **T_153** = 153
- static final int **T_139** = 139
- static final int **T_138** = 138
- static final int **T_137** = 137
- static final int **T_136** = 136
- static final int **THIS_VAR** = 28
- static final int **IntegerTypeSuffix** = 118
- static final int **OP_DIFFERENCE** = 59
- static final int **T_141** = 141
- static final int **FILE** = 93
- static final int **T_142** = 142
- static final int **T_140** = 140
- static final int **T_145** = 145
- static final int **T_146** = 146
- static final int **T_143** = 143
- static final int **T_144** = 144
- static final int **METHOD_PARAMETERS** = 101
- static final int **OP_SHL** = 51
- static final int **T_128** = 128
- static final int **TYPE_REF** = 91
- static final int **T_127** = 127
- static final int **WS** = 126
- static final int **T_129** = 129
- static final int **OP_SHR** = 52
- static final int **SPECFIELD** = 95
- static final int **TYPE_CHAR** = 84
- static final int **FloatingPointLiteral** = 111
- static final int **JavaIDDigit** = 125
- static final int **CALL** = 21
- static final int **SPECIFICATION** = 103
- static final int **T_130** = 130
- static final int **T_131** = 131
- static final int **T_132** = 132
- static final int **CLASS_DESIGNATOR** = 27
- static final int **T_133** = 133
- static final int **T_134** = 134
- static final int **CHAIN** = 17
- static final int **T_135** = 135
- static final int **OP_OR** = 37
- static final int **AMBIGUOUS** = 24
- static final int **TYPE_LONG** = 88
- static final int **DECLARATION** = 4
- static final int **HexDigit** = 117
- static final int **ENSURES** = 105
- static final int **OP_USHR** = 53
- static final int **ARGUMENT** = 23

- static final int `OP_NOT` = 39
- static final int `OP_EQUIV` = 66
- static final int `OP_SET_SOME` = 70
- static final int `UNARY` = 13
- static final int `OP_NEQUIV` = 67
- static final int `HexLiteral` = 114
- static final int `OP_DIVIDE` = 64
- static final int `THROW_VAR` = 33
- static final int `StringLiteral` = 113
- static final int `OP_SET_COMPREHENSION` = 77
- static final int `OP_MINUS_OR_DIFFERENCE` = 60
- static final int `OctalEscape` = 123
- static final int `CAST` = 26
- static final int `OP_BIT_AND_OR_INTERSECTION` = 43
- static final int `JOIN_REFLEXIVE` = 19
- static final int `OP_AND` = 38
- static final int `FloatTypeSuffix` = 120
- static final int `OctalLiteral` = 115
- static final int `BRACKET` = 20
- static final int `OP_RELATIONAL_COMPOSE` = 62
- static final int `OP_BIT_XOR` = 41
- static final int `LIT_NULL` = 82
- static final int `MODIFIES` = 106
- static final int `TYPE_DOUBLE` = 90
- static final int `Identifier` = 110
- static final int `QUANTIFY` = 14
- static final int `OP_MINUS` = 58
- static final int `VOID` = 31
- static final int `OP_LT` = 48
- static final int `OP_CLOSURE` = 46
- static final int `DECL_NONE` = 9
- static final int `OP_SET_SUM` = 74
- static final int `ARGUMENTS` = 16
- static final int `NULL` = 6
- static final int `CONDITIONAL` = 15
- static final int `INVARIANT` = 94
- static final int `OLD` = 22
- static final int `THROWS` = 107
- static final int `FRAME_LOCATION` = 10
- static final int `FIELD` = 25
- static final int `OP_RELATIONAL_OVERRIDE` = 61
- static final int `OP_PLUS_OR_UNION` = 57
- static final int `Letter` = 124
- static final int `EscapeSequence` = 121
- static final int `TYPE_BOOLEAN` = 83
- static final int `OP_TRANSPOSE` = 44
- static final int `CharacterLiteral` = 112
- static final int `SUPER_VAR` = 29
- static final int `OP_GT` = 47
- static final int `Exponent` = 119

- static final int `LIT_TRUE` = 80
- static final int `OP_BIT_NOT_OR_TRANSPOSE` = 45
- static final int `T_199` = 199
- static final int `TYPE_DECLARATION` = 97
- static final int `T_198` = 198
- static final int `PURE` = 109
- static final int `T_197` = 197
- static final int `T_196` = 196
- static final int `T_195` = 195
- static final int `T_194` = 194
- static final int `T_193` = 193
- static final int `T_192` = 192
- static final int `T_191` = 191
- static final int `T_190` = 190
- static final int `IDENTIFIER` = 30
- static final int `OP_BIT_OR` = 40
- static final int `OP_SET_SUBSET` = 78
- static final int `SPECCASE` = 102
- static final int `T_184` = 184
- static final int `T_183` = 183
- static final int `T_186` = 186
- static final int `T_185` = 185
- static final int `T_188` = 188
- static final int `T_187` = 187
- static final int `TYPE_SHORT` = 86
- static final int `T_189` = 189
- static final int `OP_PLUS` = 55
- static final int `HELPER` = 108
- static final int `T_180` = 180
- static final int `TYPE_FLOAT` = 89
- static final int `OP_SET_EXISTS` = 76
- static final int `T_182` = 182
- static final int `OP_NSET_SUBSET` = 79
- static final int `T_181` = 181
- static final int `DECLS` = 34
- static final int `DecimalLiteral` = 116
- static final int `JOIN` = 18
- static final int `T_175` = 175
- static final int `T_174` = 174
- static final int `OP_SET_NUM` = 73
- static final int `T_173` = 173
- static final int `T_172` = 172
- static final int `TYPE_ARRAY` = 92
- static final int `T_179` = 179
- static final int `T_178` = 178
- static final int `OP_SET_ONE` = 69
- static final int `REQUIRES` = 104
- static final int `T_177` = 177
- static final int `T_176` = 176
- static final int `UnicodeEscape` = 122

- static final int `OP_NEQ` = 36
- static final int `T_171` = 171
- static final int `T_170` = 170
- static final int `OP_TIMES` = 63
- static final int `OP_LEQ` = 50
- static final int `FRAME` = 5
- static final int `FRAME_ALL` = 11
- static final int `BINARY` = 12
- static final int `OP_UNION` = 56
- static final int `T_169` = 169
- static final int `METHOD` = 100
- static final int `RETURN_VAR` = 32
- static final int `OP_IMPLIES` = 68

Protected Attributes

- `DFA18 dfa18 = new DFA18(this)`
- `DFA26 dfa26 = new DFA26(this)`

Static Package Functions

- [static initializer]
- [static initializer]

Static Package Attributes

- static final String `DFA18_eotS`
- static final String `DFA18_eofS`
- static final String `DFA18_minS`
- static final String `DFA18_maxS`
- static final String `DFA18_acceptS`
- static final String `DFA18_specialS`
- static final String[] `DFA18_transitionS`
- static final short[] `DFA18_eot` = DFA.unpackEncodedString(`DFA18_eotS`)
- static final short[] `DFA18_eof` = DFA.unpackEncodedString(`DFA18_eofS`)
- static final char[] `DFA18_min` = DFA.unpackEncodedStringToUnsignedChars(`DFA18_minS`)
- static final char[] `DFA18_max` = DFA.unpackEncodedStringToUnsignedChars(`DFA18_maxS`)
- static final short[] `DFA18_accept` = DFA.unpackEncodedString(`DFA18_acceptS`)
- static final short[] `DFA18_special` = DFA.unpackEncodedString(`DFA18_specialS`)
- static final short[][] `DFA18_transition`
- static final String `DFA26_eotS`
- static final String `DFA26_eofS`
- static final String `DFA26_minS`
- static final String `DFA26_maxS`
- static final String `DFA26_acceptS`
- static final String `DFA26_specialS`
- static final String[] `DFA26_transitionS`
- static final short[] `DFA26_eot` = DFA.unpackEncodedString(`DFA26_eotS`)
- static final short[] `DFA26_eof` = DFA.unpackEncodedString(`DFA26_eofS`)

- static final char[] **DFA26_min** = DFA.unpackEncodedStringToUnsignedChars(**DFA26_minS**)
- static final char[] **DFA26_max** = DFA.unpackEncodedStringToUnsignedChars(**DFA26_maxS**)
- static final short[] **DFA26_accept** = DFA.unpackEncodedString(**DFA26_acceptS**)
- static final short[] **DFA26_special** = DFA.unpackEncodedString(**DFA26_specialS**)
- static final short[][] **DFA26_transition**

9.98.1 Detailed Description

Definition at line 12 of file JFSLLexer.java.

9.98.2 Constructor & Destructor Documentation

9.98.2.1 **edu.mit.csail.sdg.squander.parser.JFSLLexer.JFSLLexer ()**

Definition at line 214 of file JFSLLexer.java.

9.98.2.2 **edu.mit.csail.sdg.squander.parser.JFSLLexer.JFSLLexer (CharStream *input*)**

Definition at line 215 of file JFSLLexer.java.

9.98.2.3 **edu.mit.csail.sdg.squander.parser.JFSLLexer.JFSLLexer (CharStream *input*, RecognizerSharedState *state*)**

Definition at line 218 of file JFSLLexer.java.

9.98.3 Member Function Documentation

9.98.3.1 **edu.mit.csail.sdg.squander.parser.JFSLLexer.[static initializer] () [static, package]**

9.98.3.2 **edu.mit.csail.sdg.squander.parser.JFSLLexer.[static initializer] () [static, package]**

9.98.3.3 **String edu.mit.csail.sdg.squander.parser.JFSLLexer.getGrammarFileName ()**

Definition at line 222 of file JFSLLexer.java.

9.98.3.4 **final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mCharacterLiteral () throws RecognitionException**

Definition at line 2407 of file JFSLLexer.java.

9.98.3.5 **final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mDecimalLiteral () throws RecognitionException**

Definition at line 1809 of file JFSLLexer.java.

9.98.3.6 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mEscapeSequence () throws RecognitionException

Definition at line 2534 of file JFSLLexer.java.

9.98.3.7 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mExponent () throws RecognitionException

Definition at line 2303 of file JFSLLexer.java.

9.98.3.8 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mFloatingPointLiteral () throws RecognitionException

Definition at line 2021 of file JFSLLexer.java.

9.98.3.9 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mFloatTypeSuffix () throws RecognitionException

Definition at line 2383 of file JFSLLexer.java.

9.98.3.10 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mHexDigit () throws RecognitionException

Definition at line 1973 of file JFSLLexer.java.

9.98.3.11 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mHexLiteral () throws RecognitionException

Definition at line 1732 of file JFSLLexer.java.

9.98.3.12 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mIdentifier () throws RecognitionException

Definition at line 2765 of file JFSLLexer.java.

9.98.3.13 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mIntegerTypeSuffix () throws RecognitionException

Definition at line 1997 of file JFSLLexer.java.

9.98.3.14 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mJavaIDDigit () throws RecognitionException

Definition at line 2842 of file JFSLLexer.java.

9.98.3.15 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mLetter () throws RecognitionException

Definition at line 2818 of file JFSLLexer.java.

9.98.3.16 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mOctalEscape () throws RecognitionException

Definition at line 2625 of file JFSLLexer.java.

9.98.3.17 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mOctalLiteral () throws RecognitionException

Definition at line 1905 of file JFSLLexer.java.

9.98.3.18 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mStringLiteral () throws RecognitionException

Definition at line 2470 of file JFSLLexer.java.

9.98.3.19 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__127 () throws RecognitionException

Definition at line 225 of file JFSLLexer.java.

9.98.3.20 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__128 () throws RecognitionException

Definition at line 246 of file JFSLLexer.java.

9.98.3.21 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__129 () throws RecognitionException

Definition at line 266 of file JFSLLexer.java.

9.98.3.22 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__130 () throws RecognitionException

Definition at line 286 of file JFSLLexer.java.

9.98.3.23 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__131 () throws RecognitionException

Definition at line 307 of file JFSLLexer.java.

9.98.3.24 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__132 () throws RecognitionException

Definition at line 328 of file JFSLLexer.java.

9.98.3.25 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__133 () throws RecognitionException

Definition at line 349 of file JFSLLexer.java.

9.98.3.26 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__134 () throws RecognitionException

Definition at line 369 of file JFSLLexer.java.

9.98.3.27 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__135 () throws RecognitionException

Definition at line 389 of file JFSLLexer.java.

9.98.3.28 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__136 () throws RecognitionException

Definition at line 409 of file JFSLLexer.java.

9.98.3.29 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__137 () throws RecognitionException

Definition at line 429 of file JFSLLexer.java.

9.98.3.30 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__138 () throws RecognitionException

Definition at line 449 of file JFSLLexer.java.

9.98.3.31 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__139 () throws RecognitionException

Definition at line 470 of file JFSLLexer.java.

9.98.3.32 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__140 () throws RecognitionException

Definition at line 490 of file JFSLLexer.java.

9.98.3.33 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__141 () throws RecognitionException

Definition at line 510 of file JFSLLexer.java.

9.98.3.34 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__142 () throws RecognitionException

Definition at line 531 of file JFSLLexer.java.

9.98.3.35 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__143 () throws RecognitionException

Definition at line 552 of file JFSLLexer.java.

9.98.3.36 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__144 () throws RecognitionException

Definition at line 573 of file JFSLLexer.java.

9.98.3.37 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__145 () throws RecognitionException

Definition at line 594 of file JFSLLexer.java.

9.98.3.38 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__146 () throws RecognitionException

Definition at line 615 of file JFSLLexer.java.

9.98.3.39 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__147 () throws RecognitionException

Definition at line 636 of file JFSLLexer.java.

9.98.3.40 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__148 () throws RecognitionException

Definition at line 657 of file JFSLLexer.java.

9.98.3.41 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__149 () throws RecognitionException

Definition at line 678 of file JFSLLexer.java.

9.98.3.42 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__150 () throws RecognitionException

Definition at line 699 of file JFSLLexer.java.

9.98.3.43 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__151 () throws RecognitionException

Definition at line 719 of file JFSLLexer.java.

9.98.3.44 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__152 () throws RecognitionException

Definition at line 740 of file JFSLLexer.java.

9.98.3.45 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__153 () throws RecognitionException

Definition at line 760 of file JFSLLexer.java.

9.98.3.46 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__154 () throws RecognitionException

Definition at line 781 of file JFSLLexer.java.

9.98.3.47 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__155 () throws RecognitionException

Definition at line 802 of file JFSLLexer.java.

9.98.3.48 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__156 () throws RecognitionException

Definition at line 822 of file JFSLLexer.java.

9.98.3.49 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__157 () throws RecognitionException

Definition at line 843 of file JFSLLexer.java.

9.98.3.50 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__158 () throws RecognitionException

Definition at line 864 of file JFSLLexer.java.

9.98.3.51 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__159 () throws RecognitionException

Definition at line 885 of file JFSLLexer.java.

9.98.3.52 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__160 () throws RecognitionException

Definition at line 906 of file JFSLLexer.java.

9.98.3.53 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__161 () throws RecognitionException

Definition at line 927 of file JFSLLexer.java.

9.98.3.54 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__162 () throws RecognitionException

Definition at line 948 of file JFSLLexer.java.

9.98.3.55 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__163 () throws RecognitionException

Definition at line 969 of file JFSLLexer.java.

9.98.3.56 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__164 () throws RecognitionException

Definition at line 990 of file JFSLLexer.java.

9.98.3.57 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__165 () throws RecognitionException

Definition at line 1011 of file JFSLLexer.java.

9.98.3.58 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__166 () throws RecognitionException

Definition at line 1032 of file JFSLLexer.java.

9.98.3.59 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__167 () throws RecognitionException

Definition at line 1053 of file JFSLLexer.java.

9.98.3.60 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__168 () throws RecognitionException

Definition at line 1073 of file JFSLLexer.java.

9.98.3.61 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__169 () throws RecognitionException

Definition at line 1093 of file JFSLLexer.java.

9.98.3.62 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__170 () throws RecognitionException

Definition at line 1113 of file JFSLLexer.java.

9.98.3.63 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__171 () throws RecognitionException

Definition at line 1133 of file JFSLLexer.java.

9.98.3.64 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__172 () throws RecognitionException

Definition at line 1153 of file JFSLLexer.java.

9.98.3.65 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__173 () throws RecognitionException

Definition at line 1174 of file JFSLLexer.java.

9.98.3.66 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__174 () throws RecognitionException

Definition at line 1195 of file JFSLLexer.java.

9.98.3.67 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__175 () throws RecognitionException

Definition at line 1215 of file JFSLLexer.java.

9.98.3.68 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__176 () throws RecognitionException

Definition at line 1235 of file JFSLLexer.java.

9.98.3.69 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__177 () throws RecognitionException

Definition at line 1256 of file JFSLLexer.java.

9.98.3.70 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__178 () throws RecognitionException

Definition at line 1277 of file JFSLLexer.java.

9.98.3.71 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__179 () throws RecognitionException

Definition at line 1297 of file JFSLLexer.java.

9.98.3.72 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__180 () throws RecognitionException

Definition at line 1317 of file JFSLLexer.java.

9.98.3.73 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__181 () throws RecognitionException

Definition at line 1337 of file JFSLLexer.java.

9.98.3.74 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__182 () throws RecognitionException

Definition at line 1357 of file JFSLLexer.java.

9.98.3.75 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__183 () throws RecognitionException

Definition at line 1377 of file JFSLLexer.java.

9.98.3.76 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__184 () throws RecognitionException

Definition at line 1397 of file JFSLLexer.java.

9.98.3.77 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__185 () throws RecognitionException

Definition at line 1418 of file JFSLLexer.java.

9.98.3.78 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__186 () throws RecognitionException

Definition at line 1439 of file JFSLLexer.java.

9.98.3.79 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__187 () throws RecognitionException

Definition at line 1459 of file JFSLLexer.java.

9.98.3.80 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__188 () throws RecognitionException

Definition at line 1480 of file JFSLLexer.java.

9.98.3.81 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__189 () throws RecognitionException

Definition at line 1501 of file JFSLLexer.java.

9.98.3.82 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__190 () throws RecognitionException

Definition at line 1522 of file JFSLLexer.java.

9.98.3.83 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__191 () throws RecognitionException

Definition at line 1543 of file JFSLLexer.java.

9.98.3.84 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__192 () throws RecognitionException

Definition at line 1564 of file JFSLLexer.java.

9.98.3.85 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__193 () throws RecognitionException

Definition at line 1585 of file JFSLLexer.java.

9.98.3.86 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__194 () throws RecognitionException

Definition at line 1606 of file JFSLLexer.java.

9.98.3.87 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__195 () throws RecognitionException

Definition at line 1627 of file JFSLLexer.java.

9.98.3.88 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__196 () throws RecognitionException

Definition at line 1648 of file JFSLLexer.java.

9.98.3.89 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__197 () throws RecognitionException

Definition at line 1669 of file JFSLLexer.java.

9.98.3.90 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__198 () throws RecognitionException

Definition at line 1690 of file JFSLLexer.java.

9.98.3.91 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mT__199 () throws RecognitionException

Definition at line 1711 of file JFSLLexer.java.

9.98.3.92 void edu.mit.csail.sdg.squander.parser.JFSLLexer.mTokens () throws RecognitionException

Definition at line 2894 of file JFSLLexer.java.

9.98.3.93 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mUnicodeEscape () throws RecognitionException

Definition at line 2744 of file JFSLLexer.java.

9.98.3.94 final void edu.mit.csail.sdg.squander.parser.JFSLLexer.mWS () throws RecognitionException

Definition at line 2866 of file JFSLLexer.java.

9.98.4 Member Data Documentation

9.98.4.1 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.AMBIGUOUS = 24 [static]

Definition at line 90 of file JFSLLexer.java.

9.98.4.2 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.ARGUMENT = 23 [static]

Definition at line 96 of file JFSLLexer.java.

9.98.4.3 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.ARGS = 16 [static]

Definition at line 129 of file JFSLLexer.java.

9.98.4.4 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.BIN = 12 [static]

Definition at line 204 of file JFSLLexer.java.

9.98.4.5 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.BRACKET = 20 [static]

Definition at line 115 of file JFSLLexer.java.

9.98.4.6 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CALL = 21 [static]

Definition at line 79 of file JFSLLexer.java.

9.98.4.7 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CAST = 26 [static]

Definition at line 109 of file JFSLLexer.java.

9.98.4.8 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CHAIN = 17 [static]

Definition at line 87 of file JFSLLexer.java.

9.98.4.9 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CharacterLiteral = 112 [static]

Definition at line 143 of file JFSLLexer.java.

9.98.4.10 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CLASS_DESIGNATOR = 27 [static]

Definition at line 84 of file JFSLLexer.java.

9.98.4.11 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.CONDITIONAL = 15 [static]

Definition at line 131 of file JFSLLexer.java.

9.98.4.12 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DecimalLiteral = 116 [static]

Definition at line 182 of file JFSLLexer.java.

9.98.4.13 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DECL_NONE = 9 [static]

Definition at line 127 of file JFSLLexer.java.

9.98.4.14 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DECL_SEQ = 8 [static]

Definition at line 42 of file JFSLLexer.java.

9.98.4.15 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DECL_SET = 7 [static]

Definition at line 41 of file JFSLLexer.java.

9.98.4.16 final int edu.mit.csail.sdg.squander.parser.JFSLLexerDECLARATION = 4 [static]

Definition at line 92 of file JFSLLexer.java.

9.98.4.17 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.DECLS = 34 [static]

Definition at line 181 of file JFSLLexer.java.

9.98.4.18 DFA18 edu.mit.csail.sdg.squander.parser.JFSLLexer.dfa18 = new DFA18(this) [protected]

Definition at line 3472 of file JFSLLexer.java.

9.98.4.19 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_accept = DFA.unpackEncodedString(DFA18_acceptS) [static, package]

Definition at line 3499 of file JFSLLexer.java.

9.98.4.20 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_acceptS [static, package]

Initial value:

```
"\2\ffff\1\2\1\4\1\1\1\3"
```

Definition at line 3482 of file JFSLLexer.java.

9.98.4.21 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_eof = DFA.unpackEncodedString(DFA18_eofS) [static, package]

Definition at line 3496 of file JFSLLexer.java.

9.98.4.22 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_eofS [static, package]

Initial value:

```
"\6\uffff"
```

Definition at line 3476 of file JFSLLexer.java.

**9.98.4.23 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_eot =
DFA.unpackEncodedString(DFA18_eofS) [static, package]**

Definition at line 3495 of file JFSLLexer.java.

9.98.4.24 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_eotS [static, package]

Initial value:

```
"\6\uffff"
```

Definition at line 3474 of file JFSLLexer.java.

**9.98.4.25 final char [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_max =
DFA.unpackEncodedStringToUnsignedChars(DFA18_maxS) [static, package]**

Definition at line 3498 of file JFSLLexer.java.

9.98.4.26 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_maxS [static, package]

Initial value:

```
"\1\71\1\146\4\uffff"
```

Definition at line 3480 of file JFSLLexer.java.

**9.98.4.27 final char [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_min =
DFA.unpackEncodedStringToUnsignedChars(DFA18_minS) [static, package]**

Definition at line 3497 of file JFSLLexer.java.

9.98.4.28 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_minS [static, package]

Initial value:

```
"\2\56\4\uffff"
```

Definition at line 3478 of file JFSLLexer.java.

**9.98.4.29 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_special =
DFA.unpackEncodedString(DFA18_specialS) [static, package]**

Definition at line 3500 of file JFSLLexer.java.

**9.98.4.30 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_specialS [static,
package]**

Initial value:

```
"\6\uffff}>"
```

Definition at line 3484 of file JFSLLexer.java.

**9.98.4.31 final short [][] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_transition
[static, package]**

Definition at line 3501 of file JFSLLexer.java.

**9.98.4.32 final String [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18_transitionS
[static, package]**

Initial value:

```
{
    "\1\2\1\uffff\12\1",
    "\1\4\1\uffff\12\1\12\uffff\1\3\1\5\1\3\35\ffff\1\3\1\5\1\3",
    "",
    "",
    "",
    ""
}
```

Definition at line 3486 of file JFSLLexer.java.

**9.98.4.33 DFA26 edu.mit.csail.sdg.squander.parser.JFSLLexer.dfa26 = new DFA26(this)
[protected]**

Definition at line 3473 of file JFSLLexer.java.

**9.98.4.34 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_accept =
DFA.unpackEncodedString(DFA26_acceptS) [static, package]**

Definition at line 3927 of file JFSLLexer.java.

**9.98.4.35 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_acceptS [static,
package]**

Initial value:

```

"\2\uffff\1\2\3\uffff\1\7\1\10\1\11\1\12\1\13\1\uffff\1\15\1\16\1"+
"\30\3\uffff\1\35\5\uffff\1\51\1\52\1\53\1\54\1\55\1\uffff\1\60\2"+
"\uffff\1\66\1\67\1\70\1\74\6\uffff\1\116\1\117\1\120\1\121\3\uffff"+
"\1\115\1\3\4\uffff\1\14\1\17\1\20\1\21\1\22\1\23\1\24\1\25\1\101"+
"\1\102\1\71\3\uffff\1\56\1\32\14\uffff\1\57\1\61\1\72\1\64\1\73"+
"\1\65\4\uffff\1\112\1\uffff\1\113\7\uffff\1\63\17\uffff\1\106\10"+
"\uffff\1\114\5\uffff\1\45\6\uffff\1\33\1\34\2\uffff\1\107\13\uffff"+
"\1\103\1\110\10\uffff\1\42\1\31\4\uffff\1\104\1\36\1\uffff\1\77"+
"\1\40\1\uffff\1\43\1\46\1\105\11\uffff\1\5\1\37\1\47\1\44\1\100"+
"\1\76\5\uffff\1\26\1\uffff\1\4\3\uffff\1\50\1\75\1\111\1\1\1\27"+
"\2\uffff\1\41\2\uffff\1\6\1\uffff\1\62"

```

Definition at line 3576 of file JFSLLexer.java.

9.98.4.36 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_eof = DFA.unpackEncodedString(DFA26_eofS) [static, package]

Definition at line 3924 of file JFSLLexer.java.

9.98.4.37 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_eofS [static, package]

Initial value:

```
"\u00de\uffff"
```

Definition at line 3541 of file JFSLLexer.java.

9.98.4.38 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_eot = DFA.unpackEncodedString(DFA26_eotS) [static, package]

Definition at line 3923 of file JFSLLexer.java.

9.98.4.39 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_eotS [static, package]

Initial value:

```

"\1\ffff\1\55\1\ffff\1\63\2\55\5\ffff\1\102\3\ffff\1\55\1\107"+
"\1\55\1\ffff\5\55\5\ffff\1\125\1\ffff\1\127\1\131\4\ffff\4\55"+
"\2\140\4\ffff\3\55\2\ffff\1\55\1\150\2\55\13\ffff\3\55\2\ffff"+
"\7\55\1\170\4\55\6\ffff\4\55\1\ffff\1\u0081\1\ffff\1\140\4\55"+
"\1\u0087\1\55\1\ffff\5\55\1\u008e\1\u008f\2\55\1\u0092\5\55\1\ffff"+
"\5\55\1\u009e\1\u009f\1\55\1\ffff\5\55\1\ffff\2\55\1\u00a8\1\u00a9"+
"\2\55\2\ffff\2\55\1\ffff\1\u00ae\1\u00af\1\55\1\u00b1\1\u00b2"+
"\1\55\1\u00b4\1\u00b5\1\u00b6\2\55\2\ffff\7\55\1\u00c0\2\ffff"+
"\1\u00c1\1\u00c2\1\u00c3\1\u00c4\2\ffff\1\u00c5\2\ffff\1\55\3"+
"\ffff\4\55\1\u00cb\1\55\1\u00cd\2\55\6\ffff\1\55\1\u00d1\1\u00d2"+
"\1\u00d3\1\u00d4\1\ffff\1\u00d5\1\ffff\2\55\1\u00d8\5\ffff\2"+
"\55\1\ffff\1\u00db\1\55\1\ffff\1\u00dd\1\ffff"

```

Definition at line 3528 of file JFSLLexer.java.

**9.98.4.40 final char [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_max =
DFA.unpackEncodedStringToUnsignedChars(DFA26_maxS) [static, package]**

Definition at line 3926 of file JFSLLexer.java.

9.98.4.41 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_maxS [static, package]

Initial value:

```
"\1\ufaff\1\165\1\uffff\1\71\1\156\1\154\5\uffff\1\157\3\uffff\1"+
"\162\1\174\1\165\1\uffff\1\162\1\165\1\171\2\157\5\uffff\1\46\1"+
"\uffff\1\53\1\76\4\uffff\1\145\1\156\1\154\2\170\1\146\4\uffff\1"+
"\143\1\142\1\151\2\uffff\1\160\1\ufaff\2\141\13\uffff\1\157\1\154"+
"\1\157\2\uffff\1\164\1\157\1\160\1\155\1\165\1\162\1\154\1\ufaff"+
"\1\157\1\164\1\156\1\165\6\uffff\1\164\1\145\1\154\1\151\1\uffff"+
"\1\146\1\uffff\1\146\1\153\1\154\1\166\1\157\1\ufaff\1\164\1\uffff"+
"\1\163\1\162\1\155\1\163\1\141\2\ufaff\1\162\1\145\1\ufaff\2\145"+
"\1\157\1\163\1\154\1\uffff\1\154\1\145\1\147\1\142\1\165\2\ufaff"+
"\1\163\1\uffff\1\141\1\151\1\141\2\162\1\uffff\1\141\1\163\2\ufaff"+
"\1\145\1\164\2\uffff\1\164\1\162\1\uffff\2\ufaff\1\167\2\ufaff\1"+
"\145\3\ufaff\1\154\1\162\2\uffff\1\164\1\147\1\143\2\164\1\146\1"+
"\156\1\ufaff\2\uffff\4\ufaff\2\uffff\1\ufaff\2\uffff\1\141\3\uffff"+
"\1\145\1\156\1\163\1\145\1\ufaff\1\145\1\ufaff\1\141\1\143\6\uffff"+
"\1\156\4\ufaff\1\uffff\1\ufaff\1\uffff\1\143\1\145\1\ufaff\5\uffff"+
"\1\145\1\157\1\uffff\1\ufaff\1\146\1\uffff\1\ufaff\1\uffff"
```

Definition at line 3559 of file JFSLLexer.java.

**9.98.4.42 final char [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_min =
DFA.unpackEncodedStringToUnsignedChars(DFA26_minS) [static, package]**

Definition at line 3925 of file JFSLLexer.java.

9.98.4.43 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_minS [static, package]

Initial value:

```
"\1\11\1\141\1\uffff\1\60\1\155\1\150\5\uffff\1\105\3\uffff\1\141"+
"\1\174\1\145\1\uffff\1\150\4\157\5\uffff\1\46\1\uffff\1\53\1\76"+
"\4\uffff\1\145\1\156\1\154\1\170\2\56\4\uffff\1\143\1\142\1\151"+
"\2\uffff\1\160\1\44\2\141\13\uffff\1\157\1\154\1\157\2\uffff\1\161"+
"\1\157\2\155\1\165\1\151\1\154\1\44\1\157\1\164\1\156\1\165\6\uffff"+
"\1\164\1\145\1\154\1\151\1\uffff\1\156\1\156\1\153\1\154\1"+
"\166\1\157\1\44\1\164\1\uffff\1\163\1\162\1\155\1\163\1\141\2\44"+
"\1\162\1\145\1\44\2\145\1\157\1\163\1\154\1\uffff\1\154\2\145\1"+
"\142\1\165\2\44\1\163\1\uffff\1\141\1\151\1\141\2\162\1\uffff\1"+
"\141\1\163\2\44\1\145\1\164\2\uffff\1\164\1\162\1\uffff\2\44\1\167"+
"\2\44\1\145\3\44\1\154\1\162\2\uffff\1\164\1\147\1\143\2\164\1\146"+
"\1\156\1\44\2\uffff\4\44\2\uffff\1\44\2\uffff\1\141\3\uffff\1\145"+
"\1\156\1\163\1\145\1\44\1\145\1\44\1\141\1\143\6\uffff\1\156\4\44"+
"\1\uffff\1\44\1\uffff\1\143\1\145\1\44\5\uffff\1\145\1\157\1\uffff"+
"\1\44\1\146\1\uffff\1\44\1\uffff"
```

Definition at line 3543 of file JFSLLexer.java.

**9.98.4.44 final short [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_special =
DFA.unpackEncodedString(DFA26_specialS) [static, package]**

Definition at line 3928 of file JFSLLexer.java.

**9.98.4.45 final String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_specialS [static,
package]**

Initial value:

```
"\u00de\xff")>"
```

Definition at line 3588 of file JFSLLexer.java.

**9.98.4.46 final short [][] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_transition
[static, package]**

Definition at line 3929 of file JFSLLexer.java.

**9.98.4.47 final String [] edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26_transitionS
[static, package]**

Definition at line 3590 of file JFSLLexer.java.

9.98.4.48 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.ENSURES = 105 [static]

Definition at line 94 of file JFSLLexer.java.

9.98.4.49 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.EOF = -1 [static]

Definition at line 27 of file JFSLLexer.java.

**9.98.4.50 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.EscapeSequence = 121
[static]**

Definition at line 140 of file JFSLLexer.java.

9.98.4.51 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.Exponent = 119 [static]

Definition at line 146 of file JFSLLexer.java.

9.98.4.52 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FIELD = 25 [static]

Definition at line 136 of file JFSLLexer.java.

9.98.4.53 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FILE = 93 [static]

Definition at line 60 of file JFSLLexer.java.

9.98.4.54 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FloatingPointLiteral = 111 [static]

Definition at line 77 of file JFSLLexer.java.

9.98.4.55 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FloatTypeSuffix = 120 [static]

Definition at line 113 of file JFSLLexer.java.

9.98.4.56 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FRAME = 5 [static]

Definition at line 202 of file JFSLLexer.java.

9.98.4.57 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FRAME_ALL = 11 [static]

Definition at line 203 of file JFSLLexer.java.

9.98.4.58 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.FRAME_LOCATION = 10 [static]

Definition at line 135 of file JFSLLexer.java.

9.98.4.59 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.HELPER = 108 [static]

Definition at line 174 of file JFSLLexer.java.

9.98.4.60 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.HexDigit = 117 [static]

Definition at line 93 of file JFSLLexer.java.

9.98.4.61 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.HexLiteral = 114 [static]

Definition at line 102 of file JFSLLexer.java.

9.98.4.62 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.IDENTIFIER = 30 [static]

Definition at line 161 of file JFSLLexer.java.

9.98.4.63 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.Identifier = 110 [static]

Definition at line 121 of file JFSLLexer.java.

9.98.4.64 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.IMPORT = 99 [static]

Definition at line 36 of file JFSLLexer.java.

9.98.4.65 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.IntegerTypeSuffix = 118 [static]

Definition at line 57 of file JFSLLexer.java.

9.98.4.66 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.INVARIANT = 94 [static]

Definition at line 132 of file JFSLLexer.java.

9.98.4.67 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.JavaIDDigit = 125 [static]

Definition at line 78 of file JFSLLexer.java.

9.98.4.68 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.JOIN = 18 [static]

Definition at line 183 of file JFSLLexer.java.

9.98.4.69 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.JOIN_REFLEXIVE = 19 [static]

Definition at line 111 of file JFSLLexer.java.

9.98.4.70 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.Letter = 124 [static]

Definition at line 139 of file JFSLLexer.java.

9.98.4.71 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.LIT_FALSE = 81 [static]

Definition at line 25 of file JFSLLexer.java.

9.98.4.72 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.LIT_NULL = 82 [static]

Definition at line 118 of file JFSLLexer.java.

9.98.4.73 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.LIT_TRUE = 80 [static]

Definition at line 147 of file JFSLLexer.java.

9.98.4.74 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.METHOD = 100 [static]

Definition at line 207 of file JFSLLexer.java.

9.98.4.75 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.METHOD_PARAMETERS = 101 [static]

Definition at line 67 of file JFSLLexer.java.

9.98.4.76 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.MODIFIES = 106 [static]

Definition at line 119 of file JFSLLexer.java.

9.98.4.77 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.NULL = 6 [static]

Definition at line 130 of file JFSLLexer.java.

9.98.4.78 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OctalEscape = 123 [static]

Definition at line 108 of file JFSLLexer.java.

9.98.4.79 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OctalLiteral = 115 [static]

Definition at line 114 of file JFSLLexer.java.

9.98.4.80 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OLD = 22 [static]

Definition at line 133 of file JFSLLexer.java.

9.98.4.81 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_AND = 38 [static]

Definition at line 112 of file JFSLLexer.java.

9.98.4.82 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_BIT_AND_OR_-INTERSECTION = 43 [static]

Definition at line 110 of file JFSLLexer.java.

9.98.4.83 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_BIT_NOT_OR_TRANSPOSE = 45 [static]

Definition at line 148 of file JFSLLexer.java.

9.98.4.84 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_BIT_OR = 40 [static]

Definition at line 162 of file JFSLLexer.java.

9.98.4.85 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_BIT_XOR = 41 [static]

Definition at line 117 of file JFSLLexer.java.

9.98.4.86 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_CLOSURE = 46 [static]

Definition at line 126 of file JFSLLexer.java.

9.98.4.87 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_DIFFERENCE = 59 [static]

Definition at line 58 of file JFSLLexer.java.

9.98.4.88 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_DIVIDE = 64 [static]

Definition at line 103 of file JFSLLexer.java.

9.98.4.89 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_EQ = 35 [static]

Definition at line 35 of file JFSLLexer.java.

9.98.4.90 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_EQUIV = 66 [static]

Definition at line 98 of file JFSLLexer.java.

9.98.4.91 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_GEQ = 49 [static]

Definition at line 19 of file JFSLLexer.java.

9.98.4.92 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_GT = 47 [static]

Definition at line 145 of file JFSLLexer.java.

9.98.4.93 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_IMPLIES = 68 [static]

Definition at line 209 of file JFSLLexer.java.

9.98.4.94 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_INSTANCEOF = 54 [static]

Definition at line 17 of file JFSLLexer.java.

9.98.4.95 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_INTERSECTION = 42 [static]

Definition at line 23 of file JFSLLexer.java.

9.98.4.96 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_LEQ = 50 [static]

Definition at line 201 of file JFSLLexer.java.

9.98.4.97 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_LT = 48 [static]

Definition at line 125 of file JFSLLexer.java.

9.98.4.98 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_MINUS = 58 [static]

Definition at line 123 of file JFSLLexer.java.

9.98.4.99 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_MINUS_OR_DIFFERENCE = 60 [static]

Definition at line 107 of file JFSLLexer.java.

9.98.4.100 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_MOD = 65 [static]

Definition at line 34 of file JFSLLexer.java.

9.98.4.101 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_NEQ = 36 [static]

Definition at line 197 of file JFSLLexer.java.

9.98.4.102 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_NEQUIV = 67 [static]

Definition at line 101 of file JFSLLexer.java.

9.98.4.103 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_NOT = 39 [static]

Definition at line 97 of file JFSLLexer.java.

9.98.4.104 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_NSET_SUBSET = 79 [static]

Definition at line 179 of file JFSLLexer.java.

9.98.4.105 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_OR = 37 [static]

Definition at line 89 of file JFSLLexer.java.

9.98.4.106 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_PLUS = 55 [static]

Definition at line 173 of file JFSLLexer.java.

9.98.4.107 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_PLUS_OR_UNION = 57 [static]

Definition at line 138 of file JFSLLexer.java.

9.98.4.108 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_RELATIONAL_COMPOSE = 62 [static]

Definition at line 116 of file JFSLLexer.java.

9.98.4.109 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_RELATIONAL_OVERRIDE = 61 [static]

Definition at line 137 of file JFSLLexer.java.

9.98.4.110 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_ALL = 75 [static]

Definition at line 15 of file JFSLLexer.java.

9.98.4.111 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_COMPREHENSION = 77 [static]

Definition at line 106 of file JFSLLexer.java.

9.98.4.112 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_EXISTS = 76 [static]

Definition at line 177 of file JFSLLexer.java.

9.98.4.113 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_LONE = 72 [static]

Definition at line 20 of file JFSLLexer.java.

9.98.4.114 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_NO = 71 [static]

Definition at line 21 of file JFSLLexer.java.

9.98.4.115 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_NUM = 73 [static]

Definition at line 186 of file JFSLLexer.java.

9.98.4.116 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_ONE = 69 [static]

Definition at line 192 of file JFSLLexer.java.

9.98.4.117 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_SOME = 70 [static]

Definition at line 99 of file JFSLLexer.java.

9.98.4.118 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_SUBSET = 78 [static]

Definition at line 163 of file JFSLLexer.java.

9.98.4.119 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SET_SUM = 74 [static]

Definition at line 128 of file JFSLLexer.java.

9.98.4.120 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SHL = 51 [static]

Definition at line 68 of file JFSLLexer.java.

9.98.4.121 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_SHR = 52 [static]

Definition at line 74 of file JFSLLexer.java.

9.98.4.122 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_TIMES = 63 [static]

Definition at line 200 of file JFSLLexer.java.

9.98.4.123 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_TRANSPOSE = 44 [static]

Definition at line 142 of file JFSLLexer.java.

9.98.4.124 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_UNION = 56 [static]

Definition at line 205 of file JFSLLexer.java.

9.98.4.125 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.OP_USHR = 53 [static]

Definition at line 95 of file JFSLLexer.java.

9.98.4.126 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.PACKAGE = 96 [static]

Definition at line 13 of file JFSLLexer.java.

9.98.4.127 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.PURE = 109 [static]

Definition at line 152 of file JFSLLexer.java.

9.98.4.128 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.QUANTIFY = 14 [static]

Definition at line 122 of file JFSLLexer.java.

9.98.4.129 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.REQUIRES = 104 [static]

Definition at line 193 of file JFSLLexer.java.

9.98.4.130 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.RETURN_VAR = 32 [static]

Definition at line 208 of file JFSLLexer.java.

9.98.4.131 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.SPECCASE = 102 [static]

Definition at line 164 of file JFSLLexer.java.

9.98.4.132 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.SPECFIELD = 95 [static]

Definition at line 75 of file JFSLLexer.java.

9.98.4.133 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.SPECIFICATION = 103 [static]

Definition at line 80 of file JFSLLexer.java.

9.98.4.134 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.StringLiteral = 113 [static]

Definition at line 105 of file JFSLLexer.java.

9.98.4.135 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.SUPER_VAR = 29 [static]

Definition at line 144 of file JFSLLexer.java.

9.98.4.136 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__127 = 127 [static]

Definition at line 71 of file JFSLLexer.java.

9.98.4.137 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__128 = 128 [static]

Definition at line 69 of file JFSLLexer.java.

9.98.4.138 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__129 = 129 [static]

Definition at line 73 of file JFSLLexer.java.

9.98.4.139 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__130 = 130 [static]

Definition at line 81 of file JFSLLexer.java.

9.98.4.140 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__131 = 131 [static]

Definition at line 82 of file JFSLLexer.java.

9.98.4.141 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__132 = 132 [static]

Definition at line 83 of file JFSLLexer.java.

9.98.4.142 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__133 = 133 [static]

Definition at line 85 of file JFSLLexer.java.

9.98.4.143 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__134 = 134 [static]

Definition at line 86 of file JFSLLexer.java.

9.98.4.144 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__135 = 135 [static]

Definition at line 88 of file JFSLLexer.java.

9.98.4.145 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__136 = 136 [static]

Definition at line 55 of file JFSLLexer.java.

9.98.4.146 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__137 = 137 [static]

Definition at line 54 of file JFSLLexer.java.

9.98.4.147 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__138 = 138 [static]

Definition at line 53 of file JFSLLexer.java.

9.98.4.148 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__139 = 139 [static]

Definition at line 52 of file JFSLLexer.java.

9.98.4.149 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__140 = 140 [static]

Definition at line 62 of file JFSLLexer.java.

9.98.4.150 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__141 = 141 [static]

Definition at line 59 of file JFSLLexer.java.

9.98.4.151 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__142 = 142 [static]

Definition at line 61 of file JFSLLexer.java.

9.98.4.152 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__143 = 143 [static]

Definition at line 65 of file JFSLLexer.java.

9.98.4.153 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__144 = 144 [static]

Definition at line 66 of file JFSLLexer.java.

9.98.4.154 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__145 = 145 [static]

Definition at line 63 of file JFSLLexer.java.

9.98.4.155 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__146 = 146 [static]

Definition at line 64 of file JFSLLexer.java.

9.98.4.156 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__147 = 147 [static]

Definition at line 38 of file JFSLLexer.java.

9.98.4.157 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__148 = 148 [static]

Definition at line 37 of file JFSLLexer.java.

9.98.4.158 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__149 = 149 [static]

Definition at line 39 of file JFSLLexer.java.

9.98.4.159 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__150 = 150 [static]

Definition at line 48 of file JFSLLexer.java.

9.98.4.160 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__151 = 151 [static]

Definition at line 49 of file JFSLLexer.java.

9.98.4.161 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__152 = 152 [static]

Definition at line 50 of file JFSLLexer.java.

9.98.4.162 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__153 = 153 [static]

Definition at line 51 of file JFSLLexer.java.

9.98.4.163 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__154 = 154 [static]

Definition at line 44 of file JFSLLexer.java.

9.98.4.164 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__155 = 155 [static]

Definition at line 45 of file JFSLLexer.java.

9.98.4.165 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__156 = 156 [static]

Definition at line 46 of file JFSLLexer.java.

9.98.4.166 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__157 = 157 [static]

Definition at line 47 of file JFSLLexer.java.

9.98.4.167 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__158 = 158 [static]

Definition at line 16 of file JFSLLexer.java.

9.98.4.168 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__159 = 159 [static]

Definition at line 14 of file JFSLLexer.java.

9.98.4.169 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__160 = 160 [static]

Definition at line 22 of file JFSLLexer.java.

9.98.4.170 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__161 = 161 [static]

Definition at line 32 of file JFSLLexer.java.

9.98.4.171 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__162 = 162 [static]

Definition at line 33 of file JFSLLexer.java.

9.98.4.172 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__163 = 163 [static]

Definition at line 30 of file JFSLLexer.java.

9.98.4.173 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__164 = 164 [static]

Definition at line 31 of file JFSLLexer.java.

9.98.4.174 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__165 = 165 [static]

Definition at line 28 of file JFSLLexer.java.

9.98.4.175 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__166 = 166 [static]

Definition at line 29 of file JFSLLexer.java.

9.98.4.176 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__167 = 167 [static]

Definition at line 24 of file JFSLLexer.java.

9.98.4.177 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__168 = 168 [static]

Definition at line 26 of file JFSLLexer.java.

9.98.4.178 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__169 = 169 [static]

Definition at line 206 of file JFSLLexer.java.

9.98.4.179 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__170 = 170 [static]

Definition at line 199 of file JFSLLexer.java.

9.98.4.180 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__171 = 171 [static]

Definition at line 198 of file JFSLLexer.java.

9.98.4.181 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__172 = 172 [static]

Definition at line 188 of file JFSLLexer.java.

9.98.4.182 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__173 = 173 [static]

Definition at line 187 of file JFSLLexer.java.

9.98.4.183 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__174 = 174 [static]

Definition at line 185 of file JFSLLexer.java.

9.98.4.184 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__175 = 175 [static]

Definition at line 184 of file JFSLLexer.java.

9.98.4.185 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__176 = 176 [static]

Definition at line 195 of file JFSLLexer.java.

9.98.4.186 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__177 = 177 [static]

Definition at line 194 of file JFSLLexer.java.

9.98.4.187 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__178 = 178 [static]

Definition at line 191 of file JFSLLexer.java.

9.98.4.188 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__179 = 179 [static]

Definition at line 190 of file JFSLLexer.java.

9.98.4.189 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__180 = 180 [static]

Definition at line 175 of file JFSLLexer.java.

9.98.4.190 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__181 = 181 [static]

Definition at line 180 of file JFSLLexer.java.

9.98.4.191 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__182 = 182 [static]

Definition at line 178 of file JFSLLexer.java.

9.98.4.192 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__183 = 183 [static]

Definition at line 166 of file JFSLLexer.java.

9.98.4.193 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__184 = 184 [static]

Definition at line 165 of file JFSLLexer.java.

9.98.4.194 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__185 = 185 [static]

Definition at line 168 of file JFSLLexer.java.

9.98.4.195 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__186 = 186 [static]

Definition at line 167 of file JFSLLexer.java.

9.98.4.196 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__187 = 187 [static]

Definition at line 170 of file JFSLLexer.java.

9.98.4.197 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__188 = 188 [static]

Definition at line 169 of file JFSLLexer.java.

9.98.4.198 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__189 = 189 [static]

Definition at line 172 of file JFSLLexer.java.

9.98.4.199 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__190 = 190 [static]

Definition at line 160 of file JFSLLexer.java.

9.98.4.200 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__191 = 191 [static]

Definition at line 159 of file JFSLLexer.java.

9.98.4.201 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__192 = 192 [static]

Definition at line 158 of file JFSLLexer.java.

9.98.4.202 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__193 = 193 [static]

Definition at line 157 of file JFSLLexer.java.

9.98.4.203 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__194 = 194 [static]

Definition at line 156 of file JFSLLexer.java.

9.98.4.204 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__195 = 195 [static]

Definition at line 155 of file JFSLLexer.java.

9.98.4.205 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__196 = 196 [static]

Definition at line 154 of file JFSLLexer.java.

9.98.4.206 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__197 = 197 [static]

Definition at line 153 of file JFSLLexer.java.

9.98.4.207 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__198 = 198 [static]

Definition at line 151 of file JFSLLexer.java.

9.98.4.208 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.T__199 = 199 [static]

Definition at line 149 of file JFSLLexer.java.

9.98.4.209 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.THIS_VAR = 28 [static]

Definition at line 56 of file JFSLLexer.java.

9.98.4.210 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.THROW_VAR = 33 [static]

Definition at line 104 of file JFSLLexer.java.

9.98.4.211 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.THROWS = 107 [static]

Definition at line 134 of file JFSLLexer.java.

9.98.4.212 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_ARRAY = 92 [static]

Definition at line 189 of file JFSLLexer.java.

9.98.4.213 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_BOOLEAN = 83 [static]

Definition at line 141 of file JFSLLexer.java.

9.98.4.214 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_BYTE = 85 [static]

Definition at line 40 of file JFSLLexer.java.

9.98.4.215 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_CHAR = 84 [static]

Definition at line 76 of file JFSLLexer.java.

9.98.4.216 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_DECLARATION = 97 [static]

Definition at line 150 of file JFSLLexer.java.

9.98.4.217 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_DOUBLE = 90 [static]

Definition at line 120 of file JFSLLexer.java.

9.98.4.218 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_FLOAT = 89 [static]

Definition at line 176 of file JFSLLexer.java.

9.98.4.219 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_INT = 87 [static]

Definition at line 18 of file JFSLLexer.java.

9.98.4.220 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_LONG = 88 [static]

Definition at line 91 of file JFSLLexer.java.

9.98.4.221 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_PARAMETERS = 98 [static]

Definition at line 43 of file JFSLLexer.java.

9.98.4.222 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_REF = 91 [static]

Definition at line 70 of file JFSLLexer.java.

9.98.4.223 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.TYPE_SHORT = 86 [static]

Definition at line 171 of file JFSLLexer.java.

9.98.4.224 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.UNARY = 13 [static]

Definition at line 100 of file JFSLLexer.java.

9.98.4.225 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.UnicodeEscape = 122 [static]

Definition at line 196 of file JFSLLexer.java.

9.98.4.226 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.VOID = 31 [static]

Definition at line 124 of file JFSLLexer.java.

9.98.4.227 final int edu.mit.csail.sdg.squander.parser.JFSLLexer.WS = 126 [static]

Definition at line 72 of file JFSLLexer.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/parser/[JFSLLexer.java](#)

9.99 edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18 Class Reference

Public Member Functions

- [DFA18](#) (BaseRecognizer recognizer)
- String [getDescription \(\)](#)

9.99.1 Detailed Description

Definition at line 3511 of file JFSLLexer.java.

9.99.2 Constructor & Destructor Documentation

9.99.2.1 edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18 (BaseRecognizer *recognizer*)

Definition at line 3513 of file JFSLLexer.java.

9.99.3 Member Function Documentation

9.99.3.1 String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18.getDescription ()

Definition at line 3524 of file JFSLLexer.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/parser/[JFSLLexer.java](#)

9.100 edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26 Class Reference

Public Member Functions

- [DFA26](#) (BaseRecognizer recognizer)
- String [getDescription \(\)](#)

9.100.1 Detailed Description

Definition at line 3939 of file JFSLLexer.java.

9.100.2 Constructor & Destructor Documentation

9.100.2.1 edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26 (BaseRecognizer recognizer)

Definition at line 3941 of file JFSLLexer.java.

9.100.3 Member Function Documentation

9.100.3.1 String edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26.getDescription ()

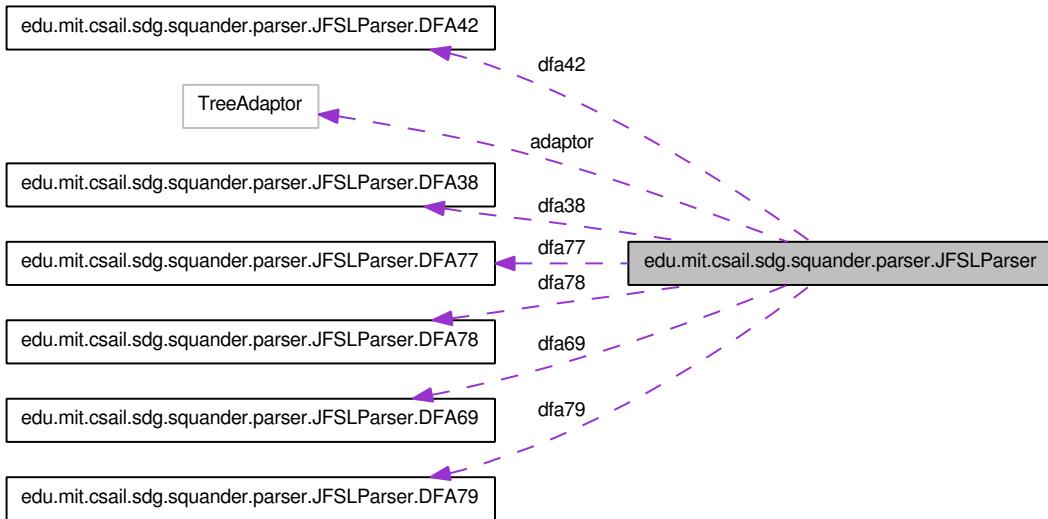
Definition at line 3952 of file JFSLLexer.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/parser/[JFSLLexer.java](#)

9.101 edu.mit.csail.sdg.squander.parser.JFSLParser Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.parser.JFSLParser:



Classes

- class **additiveExpression_return**
- class **additiveOp_return**
- class **andExpression_return**
- class **arguments_return**
- class **bitAndOp_return**
- class **castExpression_return**
- class **clause_return**
- class **common_return**
- class **compilationUnit_return**
- class **composeExpression_return**
- class **conditionalAndExpression_return**
- class **conditionalExpression_return**
- class **conditionalOrExpression_return**
- class **declaration_return**
- class **declarationMult_return**
- class **decls_return**
- class **DFA38**
- class **DFA42**
- class **DFA69**
- class **DFA77**
- class **DFA78**
- class **DFA79**
- class **equalityExpression_return**
- class **equalityOp_return**
- class **exclusiveOrExpression_return**

- class **expression_return**
- class **expressionList_return**
- class **frame_return**
- class **importDeclaration_return**
- class **inclusiveOrExpression_return**
- class **inOp_return**
- class **instanceOfExpression_return**
- class **integerLiteral_return**
- class **intersectionExpression_return**
- class **joinExpression_return**
- class **keywordLiteral_return**
- class **literal_return**
- class **logicalExpression_return**
- class **logicalOp_return**
- class **methodParameters_return**
- class **modifies_return**
- class **multiplicativeExpression_return**
- class **multOp_return**
- class **Node**
- class **NodeAdaptor**
- class **overrideExpression_return**
- class **packageName_return**
- class **parExpression_return**
- class **primary_return**
- class **primitiveType_return**
- class **quantifiedExpression_return**
- class **relationalExpression_return**
- class **relationalOp_return**
- class **relationalUnaryExpression_return**
- class **selector_return**
- class **setAdditiveExpression_return**
- class **setAdditiveOp_return**
- class **setDeclOp_return**
- class **setQuantOp_return**
- class **setUnaryExpression_return**
- class **setUnaryOp_return**
- class **shiftExpression_return**
- class **shiftOp_return**
- class **sizeExpression_return**
- class **specCase_return**
- class **specField_return**
- class **specUnaryOp_return**
- class **storePrimary_return**
- class **storeRef_return**
- class **storeSelectors_return**
- class **storeWildCard_return**
- class **type_return**
- class **typeBodyDeclaration_return**
- class **typeDeclaration_return**
- class **typeDisambigous_return**

- class **typeName_return**
- class **typeParameters2_return**
- class **typeParameters_return**
- class **unaryExpression_return**
- class **unaryExpressionNotPlusMinus_return**

Public Types

- enum **Decision** {

 LOCAL, GLOBAL, TYPE, FRAGMENT,

 CONST
 }

Public Member Functions

- **JFSLParser** (TokenStream input)
- **JFSLParser** (TokenStream input, RecognizerSharedState state)
- void **setTreeAdaptor** (TreeAdaptor adaptor)
- TreeAdaptor **getTreeAdaptor** ()
- String[] **getTokenNames** ()
- String **getGrammarFileName** ()
- void **displayRecognitionError** (String[] tokenNames, RecognitionException e)
- final JFSLParser.clause_return **clause** () throws RecognitionException
- final JFSLParser.specField_return **specField** () throws RecognitionException
- final JFSLParser.modifies_return **modifies** () throws RecognitionException
- final JFSLParser.compilationUnit_return **compilationUnit** () throws RecognitionException
- final JFSLParser.packageName_return **packageName** () throws RecognitionException
- final JFSLParser.importDeclaration_return **importDeclaration** () throws RecognitionException
- final JFSLParser.typeDeclaration_return **typeDeclaration** () throws RecognitionException
- final JFSLParser.typeParameters_return **typeParameters** () throws RecognitionException
- final JFSLParser.typeParameters2_return **typeParameters2** () throws RecognitionException
- final JFSLParser.typeBodyDeclaration_return **typeBodyDeclaration** () throws RecognitionException
- final JFSLParser.methodParameters_return **methodParameters** () throws RecognitionException
- final JFSLParser.specCase_return **specCase** () throws RecognitionException
- final JFSLParser.declaration_return **declaration** () throws RecognitionException
- final JFSLParser.declarationMult_return **declarationMult** () throws RecognitionException
- final JFSLParser.frame_return **frame** () throws RecognitionException
- final JFSLParser.storeRef_return **storeRef** () throws RecognitionException
- final JFSLParser.storePrimary_return **storePrimary** () throws RecognitionException
- final JFSLParser.storeSelectors_return **storeSelectors** () throws RecognitionException
- final JFSLParser.storeWildCard_return **storeWildCard** () throws RecognitionException
- final JFSLParser.keywordLiteral_return **keywordLiteral** () throws RecognitionException
- final JFSLParser.literal_return **literal** () throws RecognitionException
- final JFSLParser.integerLiteral_return **integerLiteral** () throws RecognitionException
- final JFSLParser.primitiveType_return **primitiveType** () throws RecognitionException
- final JFSLParser.typeName_return **typeName** () throws RecognitionException
- final JFSLParser.typeDisambigous_return **typeDisambigous** () throws RecognitionException
- final JFSLParser.type_return **type** () throws RecognitionException
- final JFSLParser.parExpression_return **parExpression** () throws RecognitionException
- final JFSLParser.expressionList_return **expressionList** () throws RecognitionException

- final JFSLParser.arguments_return `arguments` () throws RecognitionException
- final JFSLParser.expression_return `expression` () throws RecognitionException
- final JFSLParser.conditionalExpression_return `conditionalExpression` () throws RecognitionException
- final JFSLParser.quantifiedExpression_return `quantifiedExpression` () throws RecognitionException
- final JFSLParser.logicalExpression_return `logicalExpression` () throws RecognitionException
- final JFSLParser.logicalOp_return `logicalOp` () throws RecognitionException
- final JFSLParser.conditionalOrExpression_return `conditionalOrExpression` () throws RecognitionException
- final JFSLParser.conditionalAndExpression_return `conditionalAndExpression` () throws RecognitionException
- final JFSLParser.inclusiveOrExpression_return `inclusiveOrExpression` () throws RecognitionException
- final JFSLParser.exclusiveOrExpression_return `exclusiveOrExpression` () throws RecognitionException
- final JFSLParser.andExpression_return `andExpression` () throws RecognitionException
- final JFSLParser.bitAndOp_return `bitAndOp` () throws RecognitionException
- final JFSLParser.equalityExpression_return `equalityExpression` () throws RecognitionException
- final JFSLParser.equalityOp_return `equalityOp` () throws RecognitionException
- final JFSLParser.instanceOfExpression_return `instanceOfExpression` () throws RecognitionException
- final JFSLParser.relationalExpression_return `relationalExpression` () throws RecognitionException
- final JFSLParser.inOp_return `inOp` () throws RecognitionException
- final JFSLParser.relationalOp_return `relationalOp` () throws RecognitionException
- final JFSLParser.setUnaryExpression_return `setUnaryExpression` () throws RecognitionException
- final JFSLParser.shiftExpression_return `shiftExpression` () throws RecognitionException
- final JFSLParser.shiftOp_return `shiftOp` () throws RecognitionException
- final JFSLParser.additiveExpression_return `additiveExpression` () throws RecognitionException
- final JFSLParser.additiveOp_return `additiveOp` () throws RecognitionException
- final JFSLParser.sizeExpression_return `sizeExpression` () throws RecognitionException
- final JFSLParser.multiplicativeExpression_return `multiplicativeExpression` () throws RecognitionException
- final JFSLParser.multOp_return `multOp` () throws RecognitionException
- final JFSLParser.setAdditiveExpression_return `setAdditiveExpression` () throws RecognitionException
- final JFSLParser.setAdditiveOp_return `setAdditiveOp` () throws RecognitionException
- final JFSLParser.overrideExpression_return `overrideExpression` () throws RecognitionException
- final JFSLParser.intersectionExpression_return `intersectionExpression` () throws RecognitionException
- final JFSLParser.composeExpression_return `composeExpression` () throws RecognitionException
- final JFSLParser.unaryExpression_return `unaryExpression` () throws RecognitionException
- final JFSLParser.unaryExpressionNotPlusMinus_return `unaryExpressionNotPlusMinus` () throws RecognitionException
- final JFSLParser.castExpression_return `castExpression` () throws RecognitionException
- final JFSLParser.decls_return `decls` () throws RecognitionException
- final JFSLParser.relationalUnaryExpression_return `relationalUnaryExpression` () throws RecognitionException
- final JFSLParser.joinExpression_return `joinExpression` () throws RecognitionException
- final JFSLParser.common_return `common` () throws RecognitionException
- final JFSLParser.primary_return `primary` () throws RecognitionException
- final JFSLParser.selector_return `selector` () throws RecognitionException

- final JFSLParser.specUnaryOp_return [specUnaryOp](#) () throws RecognitionException
- final JFSLParser.setDeclOp_return [setDeclOp](#) () throws RecognitionException
- final JFSLParser.setUnaryOp_return [setUnaryOp](#) () throws RecognitionException
- final JFSLParser.setQuantOp_return [setQuantOp](#) () throws RecognitionException
- final void [synpred13_JFSL_fragment](#) () throws RecognitionException
- final void [synpred26_JFSL_fragment](#) () throws RecognitionException
- final void [synpred37_JFSL_fragment](#) () throws RecognitionException
- final void [synpred56_JFSL_fragment](#) () throws RecognitionException
- final void [synpred58_JFSL_fragment](#) () throws RecognitionException
- final void [synpred62_JFSL_fragment](#) () throws RecognitionException
- final void [synpred63_JFSL_fragment](#) () throws RecognitionException
- final void [synpred99_JFSL_fragment](#) () throws RecognitionException
- final void [synpred101_JFSL_fragment](#) () throws RecognitionException
- final void [synpred117_JFSL_fragment](#) () throws RecognitionException
- final void [synpred118_JFSL_fragment](#) () throws RecognitionException
- final void [synpred119_JFSL_fragment](#) () throws RecognitionException
- final void [synpred120_JFSL_fragment](#) () throws RecognitionException
- final boolean [synpred99_JFSL](#) ()
- final boolean [synpred117_JFSL](#) ()
- final boolean [synpred62_JFSL](#) ()
- final boolean [synpred118_JFSL](#) ()
- final boolean [synpred63_JFSL](#) ()
- final boolean [synpred119_JFSL](#) ()
- final boolean [synpred56_JFSL](#) ()
- final boolean [synpred58_JFSL](#) ()
- final boolean [synpred13_JFSL](#) ()
- final boolean [synpred26_JFSL](#) ()
- final boolean [synpred37_JFSL](#) ()
- final boolean [synpred101_JFSL](#) ()
- final boolean [synpred120_JFSL](#) ()

Static Public Attributes

- static final String[] [tokenNames](#)
- static final int [PACKAGE](#) = 96
- static final int [T_159](#) = 159
- static final int [T_158](#) = 158
- static final int [OP_INSTANCEOF](#) = 54
- static final int [OP_SET_ALL](#) = 75
- static final int [OP_GEQ](#) = 49
- static final int [TYPE_INT](#) = 87
- static final int [OP_SET_LONE](#) = 72
- static final int [OP_SET_NO](#) = 71
- static final int [T_160](#) = 160
- static final int [T_167](#) = 167
- static final int [OP_INTERSECTION](#) = 42
- static final int [T_168](#) = 168
- static final int [EOF](#) = -1
- static final int [LIT_FALSE](#) = 81
- static final int [T_165](#) = 165

- static final int `T_166` = 166
- static final int `T_163` = 163
- static final int `T_164` = 164
- static final int `T_161` = 161
- static final int `T_162` = 162
- static final int `OP_MOD` = 65
- static final int `OP_EQ` = 35
- static final int `IMPORT` = 99
- static final int `T_148` = 148
- static final int `T_147` = 147
- static final int `T_149` = 149
- static final int `TYPE_BYTE` = 85
- static final int `DECL_SET` = 7
- static final int `DECL_SEQ` = 8
- static final int `TYPE_PARAMETERS` = 98
- static final int `T_154` = 154
- static final int `T_155` = 155
- static final int `T_156` = 156
- static final int `T_157` = 157
- static final int `T_150` = 150
- static final int `T_151` = 151
- static final int `T_152` = 152
- static final int `T_153` = 153
- static final int `T_139` = 139
- static final int `T_138` = 138
- static final int `T_137` = 137
- static final int `T_136` = 136
- static final int `THIS_VAR` = 28
- static final int `IntegerTypeSuffix` = 118
- static final int `OP_DIFFERENCE` = 59
- static final int `T_141` = 141
- static final int `T_142` = 142
- static final int `FILE` = 93
- static final int `T_140` = 140
- static final int `T_145` = 145
- static final int `T_146` = 146
- static final int `T_143` = 143
- static final int `T_144` = 144
- static final int `OP_SHL` = 51
- static final int `METHOD_PARAMETERS` = 101
- static final int `T_128` = 128
- static final int `T_127` = 127
- static final int `TYPE_REF` = 91
- static final int `WS` = 126
- static final int `T_129` = 129
- static final int `OP_SHR` = 52
- static final int `SPECFIELD` = 95
- static final int `TYPE_CHAR` = 84
- static final int `FloatingPointLiteral` = 111
- static final int `JavaIDDigit` = 125

- static final int `CALL` = 21
- static final int `SPECIFICATION` = 103
- static final int `T_130` = 130
- static final int `T_131` = 131
- static final int `T_132` = 132
- static final int `T_133` = 133
- static final int `CLASS_DESIGNATOR` = 27
- static final int `CHAIN` = 17
- static final int `T_134` = 134
- static final int `T_135` = 135
- static final int `OP_OR` = 37
- static final int `AMBIGUOUS` = 24
- static final int `TYPE_LONG` = 88
- static final int `HexDigit` = 117
- static final int `DECLARATION` = 4
- static final int `ENSURES` = 105
- static final int `OP_USHR` = 53
- static final int `ARGUMENT` = 23
- static final int `OP_NOT` = 39
- static final int `OP_EQUIV` = 66
- static final int `OP_SET_SOME` = 70
- static final int `UNARY` = 13
- static final int `OP_NEQUIV` = 67
- static final int `HexLiteral` = 114
- static final int `OP_DIVIDE` = 64
- static final int `THROW_VAR` = 33
- static final int `StringLiteral` = 113
- static final int `OP_SET_COMPREHENSION` = 77
- static final int `OP_MINUS_OR_DIFFERENCE` = 60
- static final int `OctalEscape` = 123
- static final int `CAST` = 26
- static final int `OP_BIT_AND_OR_INTERSECTION` = 43
- static final int `JOIN_REFLEXIVE` = 19
- static final int `OP_AND` = 38
- static final int `FloatTypeSuffix` = 120
- static final int `OctalLiteral` = 115
- static final int `BRACKET` = 20
- static final int `OP_RELATIONAL_COMPOSE` = 62
- static final int `OP_BIT_XOR` = 41
- static final int `LIT_NULL` = 82
- static final int `MODIFIES` = 106
- static final int `TYPE_DOUBLE` = 90
- static final int `Identifier` = 110
- static final int `QUANTIFY` = 14
- static final int `OP_MINUS` = 58
- static final int `VOID` = 31
- static final int `OP_LT` = 48
- static final int `OP_CLOSURE` = 46
- static final int `DECL_NONE` = 9
- static final int `OP_SET_SUM` = 74

- static final int ARGUMENTS = 16
- static final int NULL = 6
- static final int CONDITIONAL = 15
- static final int INVARIANT = 94
- static final int OLD = 22
- static final int THROWS = 107
- static final int FRAME_LOCATION = 10
- static final int FIELD = 25
- static final int OP_RELATIONAL_OVERRIDE = 61
- static final int OP_PLUS_OR_UNION = 57
- static final int Letter = 124
- static final int EscapeSequence = 121
- static final int TYPE_BOOLEAN = 83
- static final int OP_TRANSPOSE = 44
- static final int CharacterLiteral = 112
- static final int SUPER_VAR = 29
- static final int OP_GT = 47
- static final int Exponent = 119
- static final int LIT_TRUE = 80
- static final int OP_BIT_NOT_OR_TRANSPOSE = 45
- static final int T_199 = 199
- static final int TYPE_DECLARATION = 97
- static final int T_198 = 198
- static final int PURE = 109
- static final int T_197 = 197
- static final int T_196 = 196
- static final int T_195 = 195
- static final int T_194 = 194
- static final int T_193 = 193
- static final int T_192 = 192
- static final int T_191 = 191
- static final int T_190 = 190
- static final int IDENTIFIER = 30
- static final int OP_BIT_OR = 40
- static final int OP_SET_SUBSET = 78
- static final int SPECCASE = 102
- static final int T_184 = 184
- static final int T_183 = 183
- static final int T_186 = 186
- static final int T_185 = 185
- static final int T_188 = 188
- static final int T_187 = 187
- static final int TYPE_SHORT = 86
- static final int T_189 = 189
- static final int OP_PLUS = 55
- static final int HELPER = 108
- static final int T_180 = 180
- static final int TYPE_FLOAT = 89
- static final int OP_SET_EXISTS = 76
- static final int T_182 = 182

- static final int `OP_NSET_SUBSET` = 79
- static final int `T_181` = 181
- static final int `DECLS` = 34
- static final int `DecimalLiteral` = 116
- static final int `JOIN` = 18
- static final int `T_175` = 175
- static final int `T_174` = 174
- static final int `OP_SET_NUM` = 73
- static final int `T_173` = 173
- static final int `T_172` = 172
- static final int `TYPE_ARRAY` = 92
- static final int `T_179` = 179
- static final int `T_178` = 178
- static final int `OP_SET_ONE` = 69
- static final int `REQUIRES` = 104
- static final int `T_177` = 177
- static final int `T_176` = 176
- static final int `UnicodeEscape` = 122
- static final int `OP_NEQ` = 36
- static final int `T_171` = 171
- static final int `T_170` = 170
- static final int `FRAME` = 5
- static final int `OP_LEQ` = 50
- static final int `OP_TIMES` = 63
- static final int `FRAME_ALL` = 11
- static final int `BINARY` = 12
- static final int `T_169` = 169
- static final int `OP_UNION` = 56
- static final int `METHOD` = 100
- static final int `RETURN_VAR` = 32
- static final int `OP_IMPLIES` = 68
- static final BitSet `FOLLOW_expression_in_clause720` = new BitSet(new long[]{0x0000000000000000L})
- static final BitSet `FOLLOW_EOF_in_clause722` = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet `FOLLOW_declaration_in_specField729` = new BitSet(new long[]{0x0000000000000000L})
- static final BitSet `FOLLOW_EOF_in_specField731` = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet `FOLLOW_frame_in_modifies738` = new BitSet(new long[]{0x0000000000000000L})
- static final BitSet `FOLLOW_EOF_in_modifies740` = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet `FOLLOW_127_in_compilationUnit760` = new BitSet(new long[]{0x0000000000000000L,0x0000400000000000L})
- static final BitSet `FOLLOW_packageName_in_compilationUnit762` = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000001L})
- static final BitSet `FOLLOW_128_in_compilationUnit764` = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000001CL})
- static final BitSet `FOLLOW_importDeclaration_in_compilationUnit770` = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000001CL})

- static final BitSet FOLLOW_typeDeclaration_in_compilationUnit776 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000000000000001L})
- static final BitSet FOLLOW_128_in_compilationUnit778 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000000000000001L})
- static final BitSet FOLLOW_EOF_in_compilationUnit785 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_packageName810 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x0000000000000002L})
- static final BitSet FOLLOW_129_in_packageName813 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})
- static final BitSet FOLLOW_Identifier_in_packageName815 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x0000000000000002L})
- static final BitSet FOLLOW_130_in_importDeclaration843 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})
- static final BitSet FOLLOW_packageName_in_importDeclaration845 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000000000000001L})
- static final BitSet FOLLOW_128_in_importDeclaration847 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x0000000000000004L})
- static final BitSet FOLLOW_131_in_typeDefinition874 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})
- static final BitSet FOLLOW_132_in_typeDefinition878 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})
- static final BitSet FOLLOW_Identifier_in_typeDefinition881 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000A0L})
- static final BitSet FOLLOW_typeDefinitionParameters_in_typeDefinition883 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000020L})
- static final BitSet FOLLOW_133_in_typeDefinition890 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L,0x000000000000245DL})
- static final BitSet FOLLOW_typeDefinitionBodyDeclaration_in_typeDefinition892 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L,0x000000000000245DL})
- static final BitSet FOLLOW_134_in_typeDefinition895 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_135_in_typeDefinitionParameters926 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})
- static final BitSet FOLLOW_Identifier_in_typeDefinitionParameters928 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000300L})
- static final BitSet FOLLOW_136_in_typeDefinitionParameters931 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})
- static final BitSet FOLLOW_Identifier_in_typeDefinitionParameters933 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000300L})
- static final BitSet FOLLOW_137_in_typeDefinitionParameters937 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_135_in_typeDefinitionParameters2959 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC80407FF0000820L,0x0000000000000001L})
- static final BitSet FOLLOW_primary_in_typeDefinitionParameters2961 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000300L})
- static final BitSet FOLLOW_136_in_typeDefinitionParameters2964 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC80407FF0000820L,0x0000000000000001L})
- static final BitSet FOLLOW_primary_in_typeDefinitionParameters2966 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000300L})
- static final BitSet FOLLOW_137_in_typeDefinitionParameters2970 = new BitSet(new long[]{0x0000000000000002L})

- static final BitSet FOLLOW_128_in_typeBodyDeclaration988 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_typeDeclaration_in_typeBodyDeclaration995 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_138_in_typeBodyDeclaration1002 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_139_in_typeBodyDeclaration1004 = new BitSet(new long[]{0x0000000000000000L,0x001FC000000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_typeBodyDeclaration1006 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
- static final BitSet FOLLOW_140_in_typeBodyDeclaration1008 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_141_in_typeBodyDeclaration1022 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_139_in_typeBodyDeclaration1024 = new BitSet(new long[]{0x0000000000000000L,0x0004000000000000L,0x00000000030000L})
- static final BitSet FOLLOW_declaration_in_typeBodyDeclaration1026 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
- static final BitSet FOLLOW_140_in_typeBodyDeclaration1028 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_typeBodyDeclaration1042 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_139_in_typeBodyDeclaration1044 = new BitSet(new long[]{0x0000000000000000L,0x0004000000000000L,0x0000007F80001000L})
- static final BitSet FOLLOW_methodParameters_in_typeBodyDeclaration1046 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
- static final BitSet FOLLOW_140_in_typeBodyDeclaration1048 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000020L})
- static final BitSet FOLLOW_133_in_typeBodyDeclaration1050 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000FC041L})
- static final BitSet FOLLOW_specCase_in_typeBodyDeclaration1052 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000041L})
- static final BitSet FOLLOW_128_in_typeBodyDeclaration1055 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000FC041L})
- static final BitSet FOLLOW_specCase_in_typeBodyDeclaration1057 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000041L})
- static final BitSet FOLLOW_128_in_typeBodyDeclaration1062 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000041L})
- static final BitSet FOLLOW_134_in_typeBodyDeclaration1066 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_type_in_methodParameters1104 = new BitSet(new long[]{0x0000000000000000L,0x0004000000000000L})
- static final BitSet FOLLOW_Identifier_in_methodParameters1106 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})
- static final BitSet FOLLOW_136_in_methodParameters1109 = new BitSet(new long[]{0x0000000000000000L,0x0004000000000000L,0x0000007F80000000L})
- static final BitSet FOLLOW_type_in_methodParameters1111 = new BitSet(new long[]{0x0000000000000000L,0x0004000000000000L})
- static final BitSet FOLLOW_Identifier_in_methodParameters1113 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})
- static final BitSet FOLLOW_142_in_specCase1149 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})

- static final BitSet FOLLOW_139_in_specCase1151 = new BitSet(new long[]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_expression_in_specCase1157 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000001000L})
- static final BitSet FOLLOW_140_in_specCase1159 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x0000000000038000L})
- static final BitSet FOLLOW_143_in_specCase1170 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000000800L})
- static final BitSet FOLLOW_139_in_specCase1172 = new BitSet(new long[]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_expression_in_specCase1178 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000001000L})
- static final BitSet FOLLOW_140_in_specCase1180 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x0000000000020000L})
- static final BitSet FOLLOW_144_in_specCase1185 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000000800L})
- static final BitSet FOLLOW_139_in_specCase1187 = new BitSet(new long[]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_expression_in_specCase1193 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000001000L})
- static final BitSet FOLLOW_140_in_specCase1195 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x0000000000020000L})
- static final BitSet FOLLOW_145_in_specCase1206 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000000800L})
- static final BitSet FOLLOW_139_in_specCase1208 = new BitSet(new long[]{0x000000000000000L,0x000040000000000L,0xFC80400000001820L,0x0000000000000001L})
- static final BitSet FOLLOW_frame_in_specCase1214 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000001000L})
- static final BitSet FOLLOW_140_in_specCase1216 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_146_in_specCase1267 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_147_in_specCase1282 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_148_in_declaration1306 = new BitSet(new long[]{0x000000000000000L,0x000040000000000L})
- static final BitSet FOLLOW_149_in_declaration1310 = new BitSet(new long[]{0x000000000000000L,0x000040000000000L})
- static final BitSet FOLLOW_Identifier_in_declaration1314 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000000000400000L})
- static final BitSet FOLLOW_150_in_declaration1316 = new BitSet(new long[]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF6000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_declarationMult_in_declaration1318 = new BitSet(new long[]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_declaration1320 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000000000800000L})
- static final BitSet FOLLOW_151_in_declaration1322 = new BitSet(new long[]{0x000000000000000L,0x000040000000000L,0xFC80400001000820L,0x0000000000000001L})
- static final BitSet FOLLOW_frame_in_declaration1324 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x0000000001000000L})
- static final BitSet FOLLOW_152_in_declaration1327 = new BitSet(new long[]{0x000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})

- static final BitSet FOLLOW_expression_in_declaration1329 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_148_in_declaration1361 = new BitSet(new long[]{0x000000000000000L, 0x000040000000000L})
- static final BitSet FOLLOW_149_in_declaration1365 = new BitSet(new long[]{0x000000000000000L, 0x000040000000000L})
- static final BitSet FOLLOW_Identifier_in_declaration1369 = new BitSet(new long[]{0x000000000000000L, 0x000000000000000L, 0x000000000040000L})
- static final BitSet FOLLOW_150_in_declaration1371 = new BitSet(new long[]{0x000000000000000L, 0x001FC00000000000L, 0xFC9C487FF6000820L, 0x000000000000000FFL})
- static final BitSet FOLLOW_declarationMult_in_declaration1373 = new BitSet(new long[]{0x000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x000000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_declaration1375 = new BitSet(new long[]{0x0000000000000002L, 0x000000000000000L, 0x000000000100000L})
- static final BitSet FOLLOW_152_in_declaration1378 = new BitSet(new long[]{0x000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x000000000000000FFL})
- static final BitSet FOLLOW_expression_in_declaration1380 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_setDeclOp_in_declarationMult1420 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_153_in_declarationMult1426 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_154_in_declarationMult1436 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_storeRef_in_frame1467 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000000000000100L})
- static final BitSet FOLLOW_136_in_frame1470 = new BitSet(new long[]{0x0000000000000000L, 0x0000400000000000L, 0xFC80400000000920L, 0x0000000000000001L})
- static final BitSet FOLLOW_storeRef_in_frame1472 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000000000000100L})
- static final BitSet FOLLOW_storePrimary_in_storeRef1497 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000080000000002L})
- static final BitSet FOLLOW_storeSelectors_in_storeRef1499 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_storePrimary1532 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_common_in_storePrimary1547 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_selector_in_storeSelectors1562 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000080000000002L})
- static final BitSet FOLLOW_storeWildCard_in_storeSelectors1565 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_selector_in_storeSelectors1572 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000080000000002L})
- static final BitSet FOLLOW_129_in_storeWildCard1593 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000000008000000L})
- static final BitSet FOLLOW_155_in_storeWildCard1595 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_156_in_keywordLiteral1616 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_157_in_keywordLiteral1628 = new BitSet(new long[]{0x0000000000000002L})

- static final BitSet FOLLOW_158_in_keywordLiteral1639 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_integerLiteral_in_literal1663 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_FloatingPointLiteral_in_literal1669 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_CharacterLiteral_in_literal1675 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_StringLiteral_in_literal1681 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_keywordLiteral_in_literal1687 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_set_in_integerLiteral0 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_159_in_primitiveType1741 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_160_in_primitiveType1750 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_161_in_primitiveType1760 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_162_in_primitiveType1772 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_163_in_primitiveType1783 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_164_in_primitiveType1794 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_165_in_primitiveType1804 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_166_in_primitiveType1815 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_typeName1832 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000000000000082L})
- static final BitSet FOLLOW_129_in_typeName1835 = new BitSet(new long[]{0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_typeName1837 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000000000000082L})
- static final BitSet FOLLOW_typeParameters_in_typeName1841 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_primitiveType_in_typeDisambigous1878 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000008000000000L})
- static final BitSet FOLLOW_167_in_typeDisambigous1887 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000010000000000L})
- static final BitSet FOLLOW_168_in_typeDisambigous1889 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000008000000000L})
- static final BitSet FOLLOW_typeName_in_typeDisambigous1908 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000008000000000L})
- static final BitSet FOLLOW_167_in_typeDisambigous1917 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000010000000000L})
- static final BitSet FOLLOW_168_in_typeDisambigous1919 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000008000000000L})
- static final BitSet FOLLOW_typeDisambigous_in_type1944 = new BitSet(new long[]{0x0000000000000002L})

- static final BitSet FOLLOW_typeName_in_type1950 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_139_in_parExpression1984 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_parExpression1987 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
- static final BitSet FOLLOW_140_in_parExpression1989 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_expression_in_expressionList2019 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x000000000000100L})
- static final BitSet FOLLOW_136_in_expressionList2022 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_expressionList2025 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x000000000000100L})
- static final BitSet FOLLOW_139_in_arguments2046 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0001820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expressionList_in_arguments2048 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
- static final BitSet FOLLOW_140_in_arguments2051 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_conditionalExpression_in_expression2075 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_quantifiedExpression_in_conditionalExpression2092 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000020000000000L})
- static final BitSet FOLLOW_169_in_conditionalExpression2105 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_conditionalExpression2107 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000400000L})
- static final BitSet FOLLOW_150_in_conditionalExpression2109 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_conditionalExpression2111 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_setQuantOp_in_quantifiedExpression2147 = new BitSet(new long[]{0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_decls_in_quantifiedExpression2149 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000001000000L})
- static final BitSet FOLLOW_152_in_quantifiedExpression2151 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_quantifiedExpression2153 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_logicalExpression_in_quantifiedExpression2171 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_conditionalOrExpression_in_logicalExpression2187 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000040000000080L})
- static final BitSet FOLLOW_logicalOp_in_logicalExpression2200 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_conditionalOrExpression_in_logicalExpression2202 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_135_in_logicalOp2239 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})
- static final BitSet FOLLOW_170_in_logicalOp2241 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000200L})

- static final BitSet FOLLOW_137_in_logicalOp2243 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_135_in_logicalOp2251 = new BitSet(new long[]{0x000000000000000L, 0x0000000000000000L, 0x000080000000000L})
- static final BitSet FOLLOW_171_in_logicalOp2253 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x000000000000200L})
- static final BitSet FOLLOW_137_in_logicalOp2255 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_170_in_logicalOp2263 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x000000000000200L})
- static final BitSet FOLLOW_137_in_logicalOp2265 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_conditionalAndExpression_in_conditionalOrExpression2285 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000100000000000L})
- static final BitSet FOLLOW_172_in_conditionalOrExpression2300 = new BitSet(new long[]{0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_conditionalAndExpression_in_conditionalOrExpression2304 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000100000000000L})
- static final BitSet FOLLOW_inclusiveOrExpression_in_conditionalAndExpression2341 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000200000000000L})
- static final BitSet FOLLOW_173_in_conditionalAndExpression2356 = new BitSet(new long[]{0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_inclusiveOrExpression_in_conditionalAndExpression2360 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000200000000000L})
- static final BitSet FOLLOW_exclusiveOrExpression_in_inclusiveOrExpression2402 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000000000100000L})
- static final BitSet FOLLOW_152_in_inclusiveOrExpression2417 = new BitSet(new long[]{0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_exclusiveOrExpression_in_inclusiveOrExpression2421 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000000000100000L})
- static final BitSet FOLLOW_andExpression_in_exclusiveOrExpression2458 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000400000000000L})
- static final BitSet FOLLOW_174_in_exclusiveOrExpression2473 = new BitSet(new long[]{0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_andExpression_in_exclusiveOrExpression2477 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000400000000000L})
- static final BitSet FOLLOW_equalityExpression_in_andExpression2516 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000800000000000L})
- static final BitSet FOLLOW_bitAndOp_in_andExpression2531 = new BitSet(new long[]{0x000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_equalityExpression_in_andExpression2535 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x000800000000000L})
- static final BitSet FOLLOW_175_in_bitAndOp2572 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_instanceOfExpression_in_equalityExpression2594 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000C0000000000L})
- static final BitSet FOLLOW_equalityOp_in_equalityExpression2611 = new BitSet(new long[]{0x000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_instanceOfExpression_in_equalityExpression2615 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000C0000000000L})
- static final BitSet FOLLOW_170_in_equalityOp2656 = new BitSet(new long[]{0x000000000000000L, 0x0000000000000000L, 0x000040000000000L})

- static final BitSet FOLLOW_170_in_equalityOp2658 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_171_in_equalityOp2666 = new BitSet(new long[]{0x000000000000000L, 0x000000000000000L, 0x0000040000000000L})
- static final BitSet FOLLOW_170_in_equalityOp2668 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_170_in_equalityOp2676 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_relationalExpression_in_instanceOfExpression2698 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0001000000000000L})
- static final BitSet FOLLOW_176_in_instanceOfExpression2713 = new BitSet(new long[]{0x0000000000000000L, 0x0000400000000000L, 0x0000007F80000000L})
- static final BitSet FOLLOW_type_in_instanceOfExpression2717 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_setUnaryExpression_in_relationalExpression2756 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0002080000000280L})
- static final BitSet FOLLOW_relationalOp_in_relationalExpression2773 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_setUnaryExpression_in_relationalExpression2777 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0002080000000280L})
- static final BitSet FOLLOW_177_in_inOp2816 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_135_in_relationalOp2835 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000040000000000L})
- static final BitSet FOLLOW_170_in_relationalOp2837 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_137_in_relationalOp2845 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000040000000000L})
- static final BitSet FOLLOW_170_in_relationalOp2847 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_135_in_relationalOp2855 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_137_in_relationalOp2863 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_inOp_in_relationalOp2871 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_171_in_relationalOp2875 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0002000000000000L})
- static final BitSet FOLLOW_177_in_relationalOp2877 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_setUnaryOp_in_setUnaryExpression2896 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_joinExpression_in_setUnaryExpression2898 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_shiftExpression_in_setUnaryExpression2914 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_additiveExpression_in_shiftExpression2932 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x00000000000000280L})
- static final BitSet FOLLOW_shiftOp_in_shiftExpression2949 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_shiftExpression2953 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x00000000000000280L})

- static final BitSet FOLLOW_135_in_shiftOp2990 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000000000000080L})
- static final BitSet FOLLOW_135_in_shiftOp2992 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_137_in_shiftOp3000 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000200L})
- static final BitSet FOLLOW_137_in_shiftOp3002 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000200L})
- static final BitSet FOLLOW_137_in_shiftOp3004 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_137_in_shiftOp3012 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000200L})
- static final BitSet FOLLOW_137_in_shiftOp3014 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_sizeExpression_in_additiveExpression3034 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x000C00000000000L})
- static final BitSet FOLLOW_additiveOp_in_additiveExpression3052 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})
- static final BitSet FOLLOW_sizeExpression_in_additiveExpression3056 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x000C00000000000L})
- static final BitSet FOLLOW_178_in_additiveOp3097 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_179_in_additiveOp3110 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_180_in_sizeExpression3130 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})
- static final BitSet FOLLOW_joinExpression_in_sizeExpression3132 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_multiplicativeExpression_in_sizeExpression3148 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_setAdditiveExpression_in_multiplicativeExpression3166 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x006000000800000L})
- static final BitSet FOLLOW_multOp_in_multiplicativeExpression3183 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})
- static final BitSet FOLLOW_setAdditiveExpression_in_multiplicativeExpression3187 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x006000000800000L})
- static final BitSet FOLLOW_155_in_multOp3217 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_181_in_multOp3230 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_182_in_multOp3243 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_overrideExpression_in_setAdditiveExpression3266 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x0080000000000000L})
- static final BitSet FOLLOW_setAdditiveOp_in_setAdditiveExpression3286 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000FFL})
- static final BitSet FOLLOW_overrideExpression_in_setAdditiveExpression3290 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x008000000000000L})
- static final BitSet FOLLOW_183_in_setAdditiveOp3332 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x004000000000000L})
- static final BitSet FOLLOW_178_in_setAdditiveOp3334 = new BitSet(new long[]{0x0000000000000002L})

- static final BitSet FOLLOW_183_in_setAdditiveOp3345 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x008000000000000L})
- static final BitSet FOLLOW_179_in_setAdditiveOp3347 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_intersectionExpression_in_overrideExpression3370 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x100000000000000L})
- static final BitSet FOLLOW_184_in_overrideExpression3385 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_intersectionExpression_in_overrideExpression3389 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x010000000000000L})
- static final BitSet FOLLOW_composeExpression_in_intersectionExpression3433 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x080000000000000L})
- static final BitSet FOLLOW_183_in_intersectionExpression3448 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000800000000000L})
- static final BitSet FOLLOW_175_in_intersectionExpression3450 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_composeExpression_in_intersectionExpression3454 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x080000000000000L})
- static final BitSet FOLLOW_unaryExpression_in_composeExpression3494 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x020000000000000L})
- static final BitSet FOLLOW_185_in_composeExpression3509 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_composeExpression3513 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x020000000000000L})
- static final BitSet FOLLOW_178_in_unaryExpression3556 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_unaryExpression3558 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_179_in_unaryExpression3574 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_unaryExpression3576 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_unaryExpressionNotPlusMinus_in_unaryExpression3592 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_186_in_unaryExpressionNotPlusMinus3605 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_unaryExpressionNotPlusMinus3607 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_171_in_unaryExpressionNotPlusMinus3623 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_unaryExpressionNotPlusMinus3625 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_castExpression_in_unaryExpressionNotPlusMinus3645 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_joinExpression_in_unaryExpressionNotPlusMinus3651 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_139_in_castExpression3671 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000007F8000000L})
- static final BitSet FOLLOW_primitiveType_in_castExpression3673 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000000000001000L})
- static final BitSet FOLLOW_140_in_castExpression3675 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x000000000000000FFL})

- static final BitSet FOLLOW_unaryExpression_in_castExpression3677 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_decls3703 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0002000000400000L})
- static final BitSet FOLLOW_inOp_in_decls3706 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
- static final BitSet FOLLOW_150_in_decls3710 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
- static final BitSet FOLLOW_declarationMult_in_decls3713 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_decls3715 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000000000000000100L})
- static final BitSet FOLLOW_136_in_decls3719 = new BitSet(new long[]{0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_decls3722 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0002000000400000L})
- static final BitSet FOLLOW_inOp_in_decls3725 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
- static final BitSet FOLLOW_150_in_decls3729 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_decls3732 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000000000000000100L})
- static final BitSet FOLLOW_specUnaryOp_in_relationalUnaryExpression3773 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000000000000000800L})
- static final BitSet FOLLOW_parExpression_in_relationalUnaryExpression3775 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_specUnaryOp_in_relationalUnaryExpression3791 = new BitSet(new long[]{0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_relationalUnaryExpression3793 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_primary_in_joinExpression3826 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000008000000002L})
- static final BitSet FOLLOW_selector_in_joinExpression3828 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000008000000002L})
- static final BitSet FOLLOW_parExpression_in_common3858 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_187_in_common3864 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_188_in_common3874 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_189_in_common3884 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_190_in_common3895 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_191_in_common3905 = new BitSet(new long[]{0x000000000000000L, 0x0000000000000000L, 0x0000000000000000800L})
- static final BitSet FOLLOW_139_in_common3907 = new BitSet(new long[]{0x000000000000000L, 0x001FC000000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
- static final BitSet FOLLOW_expression_in_common3909 = new BitSet(new long[]{0x000000000000000L, 0x0000000000000000L, 0x00000000000000001000L})
- static final BitSet FOLLOW_140_in_common3911 = new BitSet(new long[]{0x0000000000000002L})

- static final BitSet FOLLOW_192_in_common3925 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_139_in_common3927 = new BitSet(new long[]{0x000000000000000L,0x001C00000000000L})
- static final BitSet FOLLOW_integerLiteral_in_common3929 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000001000L})
- static final BitSet FOLLOW_140_in_common3931 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_relationalUnaryExpression_in_common3945 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_133_in_common3951 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})
- static final BitSet FOLLOW_decls_in_common3953 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000100000L})
- static final BitSet FOLLOW_152_in_common3955 = new BitSet(new long[]{0x000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_common3957 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x000000000000040L})
- static final BitSet FOLLOW_134_in_common3959 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_common_in_primary3984 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_literal_in_primary3990 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_typeDisambiguous_in_primary3996 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_primary4002 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x000000000000082L})
- static final BitSet FOLLOW_129_in_primary4005 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})
- static final BitSet FOLLOW_Identifier_in_primary4007 = new BitSet(new long[]{0x0000000000000002L,0x000000000000000L,0x000000000000082L})
- static final BitSet FOLLOW_typeParameters2_in_primary4011 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_typeName_in_primary4038 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0080000000000000L})
- static final BitSet FOLLOW_183_in_primary4040 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})
- static final BitSet FOLLOW_Identifier_in_primary4042 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_primary4062 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_arguments_in_primary4064 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4090 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})
- static final BitSet FOLLOW_Identifier_in_selector4092 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000000000000800L})
- static final BitSet FOLLOW_arguments_in_selector4094 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4110 = new BitSet(new long[]{0x000000000000000L,0x000400000000000L})

- static final BitSet FOLLOW_Identifier_in_selector4112 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4130 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000007F80000000L})
- static final BitSet FOLLOW_primitiveType_in_selector4132 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4146 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0xFC8040000000820L,0x0000000000000001L})
- static final BitSet FOLLOW_common_in_selector4148 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4162 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000080000000L})
- static final BitSet FOLLOW_155_in_selector4164 = new BitSet(new long[]{0x0000000000000000L,0x0004000000000000L})
- static final BitSet FOLLOW_Identifier_in_selector4166 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_129_in_selector4184 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000080000000L})
- static final BitSet FOLLOW_155_in_selector4186 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0xFC8040000000820L,0x0000000000000001L})
- static final BitSet FOLLOW_common_in_selector4188 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_167_in_selector4202 = new BitSet(new long[]{0x0000000000000000L,0x001FC000000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_selector4203 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
- static final BitSet FOLLOW_168_in_selector4205 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_167_in_selector4221 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
- static final BitSet FOLLOW_168_in_selector4223 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_183_in_specUnaryOp4245 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0004000000000000L})
- static final BitSet FOLLOW_174_in_specUnaryOp4247 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_174_in_specUnaryOp4251 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_183_in_specUnaryOp4263 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0400000000000000L})
- static final BitSet FOLLOW_186_in_specUnaryOp4265 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_186_in_specUnaryOp4269 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_193_in_setDeclOp4294 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_194_in_setDeclOp4306 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_195_in_setDeclOp4318 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_setDeclOp_in_setUnaryOp4341 = new BitSet(new long[]{0x0000000000000002L})

- static final BitSet FOLLOW_196_in_setUnaryOp4347 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_197_in_setUnaryOp4358 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_setUnaryOp_in_setQuantOp4380 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_180_in_setQuantOp4386 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_198_in_setQuantOp4397 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_199_in_setQuantOp4410 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_128_in_synpred13_JFSL1055 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x00000000000FC000L})
- static final BitSet FOLLOW_specCase_in_synpred13_JFSL1057 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_set_in_synpred26_JFSL1305 = new BitSet(new long[]{0x0000000000000000L, 0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_synpred26_JFSL1314 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000000000400000L})
- static final BitSet FOLLOW_150_in_synpred26_JFSL1316 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
- static final BitSet FOLLOW_declarationMult_in_synpred26_JFSL1318 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
- static final BitSet FOLLOW_additiveExpression_in_synpred26_JFSL1320 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000000000800000L})
- static final BitSet FOLLOW_151_in_synpred26_JFSL1322 = new BitSet(new long[]{0x0000000000000000L, 0x0000400000000000L, 0xFC80400001000820L, 0x0000000000000001L})
- static final BitSet FOLLOW_frame_in_synpred26_JFSL1324 = new BitSet(new long[]{0x0000000000000002L, 0x0000000000000000L, 0x0000000001000000L})
- static final BitSet FOLLOW_152_in_synpred26_JFSL1327 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
- static final BitSet FOLLOW_expression_in_synpred26_JFSL1329 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_selector_in_synpred37_JFSL1562 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000008000000002L})
- static final BitSet FOLLOW_storeWildCard_in_synpred37_JFSL1565 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_167_in_synpred56_JFSL1887 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000010000000000L})
- static final BitSet FOLLOW_168_in_synpred56_JFSL1889 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_167_in_synpred58_JFSL1917 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000010000000000L})
- static final BitSet FOLLOW_168_in_synpred58_JFSL1919 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_169_in_synpred62_JFSL2105 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
- static final BitSet FOLLOW_expression_in_synpred62_JFSL2107 = new BitSet(new long[]{0x0000000000000000L, 0x0000000000000000L, 0x0000000000400000L})
- static final BitSet FOLLOW_150_in_synpred62_JFSL2109 = new BitSet(new long[]{0x0000000000000000L, 0x001FC000000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})

- static final BitSet FOLLOW_expression_in_synpred62_JFSL2111 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_setQuantOp_in_synpred63_JFSL2147 = new BitSet(new long[]{0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_decls_in_synpred63_JFSL2149 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000001000000L})
- static final BitSet FOLLOW_152_in_synpred63_JFSL2151 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_expression_in_synpred63_JFSL2153 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_186_in_synpred99_JFSL3605 = new BitSet(new long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
- static final BitSet FOLLOW_unaryExpression_in_synpred99_JFSL3607 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_castExpression_in_synpred101_JFSL3645 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_typeDisambigous_in_synpred117_JFSL3996 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_129_in_synpred118_JFSL4005 = new BitSet(new long[]{0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_synpred118_JFSL4007 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_typeParameters2_in_synpred119_JFSL4011 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_synpred120_JFSL4002 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000000000000082L})
- static final BitSet FOLLOW_129_in_synpred120_JFSL4005 = new BitSet(new long[]{0x0000000000000000L,0x0000400000000000L})
- static final BitSet FOLLOW_Identifier_in_synpred120_JFSL4007 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000000000000082L})
- static final BitSet FOLLOW_typeParameters2_in_synpred120_JFSL4011 = new BitSet(new long[]{0x0000000000000002L})

Protected Attributes

- TreeAdaptor adaptor = new CommonTreeAdaptor()
- DFA38 dfa38 = new DFA38(this)
- DFA42 dfa42 = new DFA42(this)
- DFA69 dfa69 = new DFA69(this)
- DFA78 dfa78 = new DFA78(this)
- DFA77 dfa77 = new DFA77(this)
- DFA79 dfa79 = new DFA79(this)

Static Package Functions

- [static initializer]

Static Package Attributes

- static final String `DFA38_eotS`
- static final String `DFA38_eofS`
- static final String `DFA38_minS`
- static final String `DFA38_maxS`
- static final String `DFA38_acceptS`
- static final String `DFA38_specialS`
- static final String[] `DFA38_transitionS`
- static final short[] `DFA38_eot` = DFA.unpackEncodedString(`DFA38_eotS`)
- static final short[] `DFA38_eof` = DFA.unpackEncodedString(`DFA38_eofS`)
- static final char[] `DFA38_min` = DFA.unpackEncodedStringToUnsignedChars(`DFA38_minS`)
- static final char[] `DFA38_max` = DFA.unpackEncodedStringToUnsignedChars(`DFA38_maxS`)
- static final short[] `DFA38_accept` = DFA.unpackEncodedString(`DFA38_acceptS`)
- static final short[] `DFA38_special` = DFA.unpackEncodedString(`DFA38_specialS`)
- static final short[][] `DFA38_transition`
- static final String `DFA42_eotS`
- static final String `DFA42_eofS`
- static final String `DFA42_minS`
- static final String `DFA42_maxS`
- static final String `DFA42_acceptS`
- static final String `DFA42_specialS`
- static final String[] `DFA42_transitionS`
- static final short[] `DFA42_eot` = DFA.unpackEncodedString(`DFA42_eotS`)
- static final short[] `DFA42_eof` = DFA.unpackEncodedString(`DFA42_eofS`)
- static final char[] `DFA42_min` = DFA.unpackEncodedStringToUnsignedChars(`DFA42_minS`)
- static final char[] `DFA42_max` = DFA.unpackEncodedStringToUnsignedChars(`DFA42_maxS`)
- static final short[] `DFA42_accept` = DFA.unpackEncodedString(`DFA42_acceptS`)
- static final short[] `DFA42_special` = DFA.unpackEncodedString(`DFA42_specialS`)
- static final short[][] `DFA42_transition`
- static final String `DFA69_eotS`
- static final String `DFA69_eofS`
- static final String `DFA69_minS`
- static final String `DFA69_maxS`
- static final String `DFA69_acceptS`
- static final String `DFA69_specialS`
- static final String[] `DFA69_transitionS`
- static final short[] `DFA69_eot` = DFA.unpackEncodedString(`DFA69_eotS`)
- static final short[] `DFA69_eof` = DFA.unpackEncodedString(`DFA69_eofS`)
- static final char[] `DFA69_min` = DFA.unpackEncodedStringToUnsignedChars(`DFA69_minS`)
- static final char[] `DFA69_max` = DFA.unpackEncodedStringToUnsignedChars(`DFA69_maxS`)
- static final short[] `DFA69_accept` = DFA.unpackEncodedString(`DFA69_acceptS`)
- static final short[] `DFA69_special` = DFA.unpackEncodedString(`DFA69_specialS`)
- static final short[][] `DFA69_transition`
- static final String `DFA78_eotS`
- static final String `DFA78_eofS`
- static final String `DFA78_minS`
- static final String `DFA78_maxS`
- static final String `DFA78_acceptS`
- static final String `DFA78_specialS`

- static final String[] [DFA78_transitionS](#)
- static final short[] [DFA78_eot](#) = DFA.unpackEncodedString([DFA78_eotS](#))
- static final short[] [DFA78_eof](#) = DFA.unpackEncodedString([DFA78_eofS](#))
- static final char[] [DFA78_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA78_minS](#))
- static final char[] [DFA78_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA78_maxS](#))
- static final short[] [DFA78_accept](#) = DFA.unpackEncodedString([DFA78_acceptS](#))
- static final short[] [DFA78_special](#) = DFA.unpackEncodedString([DFA78_specialS](#))
- static final short[][] [DFA78_transition](#)
- static final String [DFA77_eotS](#)
- static final String [DFA77_eofS](#)
- static final String [DFA77_minS](#)
- static final String [DFA77_maxS](#)
- static final String [DFA77_acceptS](#)
- static final String [DFA77_specialS](#)
- static final String[] [DFA77_transitionS](#)
- static final short[] [DFA77_eot](#) = DFA.unpackEncodedString([DFA77_eotS](#))
- static final short[] [DFA77_eof](#) = DFA.unpackEncodedString([DFA77_eofS](#))
- static final char[] [DFA77_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA77_minS](#))
- static final char[] [DFA77_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA77_maxS](#))
- static final short[] [DFA77_accept](#) = DFA.unpackEncodedString([DFA77_acceptS](#))
- static final short[] [DFA77_special](#) = DFA.unpackEncodedString([DFA77_specialS](#))
- static final short[][] [DFA77_transition](#)
- static final String [DFA79_eotS](#)
- static final String [DFA79_eofS](#)
- static final String [DFA79_minS](#)
- static final String [DFA79_maxS](#)
- static final String [DFA79_acceptS](#)
- static final String [DFA79_specialS](#)
- static final String[] [DFA79_transitionS](#)
- static final short[] [DFA79_eot](#) = DFA.unpackEncodedString([DFA79_eotS](#))
- static final short[] [DFA79_eof](#) = DFA.unpackEncodedString([DFA79_eofS](#))
- static final char[] [DFA79_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA79_minS](#))
- static final char[] [DFA79_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA79_maxS](#))
- static final short[] [DFA79_accept](#) = DFA.unpackEncodedString([DFA79_acceptS](#))
- static final short[] [DFA79_special](#) = DFA.unpackEncodedString([DFA79_specialS](#))
- static final short[][] [DFA79_transition](#)

9.101.1 Detailed Description

A Java 1.5 grammar for ANTLR v3 derived from the spec

This is a very close representation of the spec; the changes are cosmetic (remove left recursion) and also fixes (the spec isn't exactly perfect). I have run this on the 1.4.2 source and some nasty looking enums from 1.5, but have not really tested for 1.5 compatibility.

I built this with: java -Xmx100M org.antlr.Tool java.g and got two errors that are ok (for now): java.g:691:9: Decision can match input such as "'0'..9'{E, 'e'}{'+', '-'}'0'..9'{D, 'F', 'd', 'f'}" using multiple alternatives: 3, 4 As a result, alternative(s) 4 were disabled for that input java.g:734:35: Decision can match input such as "{\$', 'A'..'Z', '_', 'a'..'z', '.', "..", "...", "....", "....", "....", "...."}" using multiple alternatives: 1, 2 As a result, alternative(s) 2 were disabled for that input

You can turn enum on/off as a keyword :)

Version 1.0 -- initial release July 5, 2006 (requires 3.0b2 or higher)

Primary author: Terence Parr, July 2006

Version 1.0.1 -- corrections by Koen Vanderkimp & Marko van Dooren, October 25, 2006; fixed normalInterfaceDeclaration: now uses typeParameters instead of typeParameter (according to JLS, 3rd edition) fixed castExpression: no longer allows expression next to type (according to semantics in JLS, in contrast with syntax in JLS)

Version 1.0.2 -- Terence Parr, Nov 27, 2006 java spec I built this from had some bizarre for-loop control. Looked weird and so I looked elsewhere... Yep, it's messed up. simplified.

Version 1.0.3 -- Chris Hogue, Feb 26, 2007 Factored out an annotationName rule and used it in the annotation rule. Not sure why, but typeName wasn't recognizing references to inner annotations (e.g. .InnerAnnotation()) Factored out the elementValue section of an annotation reference. Created elementValuePair and elementValuePairs rules, then used them in the annotation rule. Allows it to recognize annotation references with multiple, comma separated attributes. Updated elementValueArrayInitializer so that it allows multiple elements. (It was only allowing 0 or 1 element). Updated localVariableDeclaration to allow annotations. Interestingly the JLS doesn't appear to indicate this is legal, but it does work as of at least JDK 1.5.0_06. Moved the Identifier portion of annotationTypeElementRest to annotationMethodRest. Because annotationConstantRest already references variableDeclarator which has the Identifier portion in it, the parser would fail on constants in annotation definitions because it expected two identifiers. Added optional trailing ';' to the alternatives in annotationTypeElementRest. Wouldn't handle an inner interface that has a trailing ';'. Swapped the expression and type rule reference order in castExpression to make it check for genericized casts first. It was failing to recognize a statement like "Class<Byte> TYPE = (Class<Byte>)...;" because it was seeing 'Class<Byte>' in the cast expression as a less than expression, then failing on the '>'. Changed createdName to use typeArguments instead of nonWildcardTypeArguments. Again, JLS doesn't seem to allow this, but java.lang.Class has an example of this construct. Changed the 'this' alternative in primary to allow 'identifierSuffix' rather than just 'arguments'. The case it couldn't handle was a call to an explicit generic method invocation (e.g. this.<E>doSomething()). Using identifierSuffix may be overly aggressive--perhaps should create a more constrained thisSuffix rule?

Version 1.0.4 -- Hiroaki Nakamura, May 3, 2007

Fixed formalParameterDecls, localVariableDeclaration, forInit, and forVarControl to use variableModifier* not 'final'? (annotation)?

Version 1.0.5 -- Terence, June 21, 2007 --a[i].foo didn't work. Fixed unaryExpression

Version 1.0.6 -- John Ridgway, March 17, 2008 Made "assert" a switchable keyword like "enum". Fixed compilationUnit to disallow "annotation importDeclaration ...". Changed "Identifier ('.' Identifier)*" to "qualifiedName" in more places. Changed modifier* and/or variableModifier* to classOrInterfaceModifiers, modifiers or variableModifiers, as appropriate. Renamed "bound" to "typeBound" to better match language in the JLS. Added "memberDeclaration" which rewrites to methodDeclaration or fieldDeclaration and pulled type into memberDeclaration. So we parse type and then move on to decide whether we're dealing with a field or a method. Modified "constructorDeclaration" to use "constructorBody" instead of "methodBody". constructorBody starts with explicitConstructorInvocation, then goes on to blockStatement*. Pulling explicitConstructorInvocation out of expressions allowed me to simplify "primary". Changed variableDeclarator to simplify it. Changed type to use classOrInterfaceType, thus simplifying it; of course I then had to add classOrInterfaceType, but it is used in several places. Fixed annotations, old version allowed "@X(y,z)", which is illegal. Added optional comma to end of "elementValueArrayInitializer"; as per JLS. Changed annotationTypeElementRest to use normalClassDeclaration and normalInterfaceDeclaration rather than classDeclaration and interfaceDeclaration, thus getting rid of a couple of grammar ambiguities. Split localVariableDeclaration into localVariableDeclarationStatement (includes the terminating semi-colon) and localVariableDeclaration. This allowed me to use localVariableDeclaration in "forInit" clauses, simplifying them. Changed switchBlockStatementGroup to use multiple labels. This adds an ambiguity, but if one uses appropriately greedy parsing it yields the parse that is closest to the meaning of the switch statement. Renamed "forVarControl" to "enhancedForControl" -- JLS language.

Added semantic predicates to test for shift operations rather than other things. Thus, for instance, the string "< <" will never be treated as a left-shift operator. In "creator" we rule out "nonWildcardTypeArguments" on arrayCreation, which are illegal. Moved "nonWildcardTypeArguments" into innerCreator. Removed 'super' superSuffix from explicitGenericInvocation, since that is only used in explicitConstructorInvocation at the beginning of a constructorBody. (This is part of the simplification of expressions mentioned earlier.) Simplified primary (got rid of those things that are only used in explicitConstructorInvocation). Lexer -- removed "Exponent?" from FloatingPointLiteral choice 4, since it led to an ambiguity.

This grammar successfully parses every .java file in the JDK 1.5 source tree (excluding those whose file names include '-' , which are not valid Java compilation units).

Known remaining problems: "Letter" and "JavaIDDigit" are wrong. The actual specification of "Letter" should be "a character for which the method Character.isJavaIdentifierStart(int) returns true." A "Java letter-or-digit" is a character for which the method Character.isJavaIdentifierPart(int) returns true."

Definition at line 156 of file JFSLParser.java.

9.101.2 Member Enumeration Documentation

9.101.2.1 enum edu::mit::csail::sdg::squander::parser::JFSLParser::Decision

Enumerator:

LOCAL

GLOBAL

TYPE

FRAGMENT

CONST

Definition at line 432 of file JFSLParser.java.

9.101.3 Constructor & Destructor Documentation

9.101.3.1 edu.mit.csail.sdg.squander.parser.JFSLParser.JFSLParser (*TokenStream input*)

Definition at line 362 of file JFSLParser.java.

9.101.3.2 edu.mit.csail.sdg.squander.parser.JFSLParser.JFSLParser (*TokenStream input, RecognizerSharedState state*)

Definition at line 365 of file JFSLParser.java.

9.101.4 Member Function Documentation

9.101.4.1 `edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]`

9.101.4.2 `edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]`

9.101.4.3 `edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]`

9.101.4.4 `edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]`

9.101.4.5 `edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]`

9.101.4.6 `edu.mit.csail.sdg.squander.parser.JFSLParser.[static initializer] () [static, package]`

9.101.4.7 `final JFSLParser.additiveExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.additiveExpression ()
throws RecognitionException`

Definition at line 8291 of file JFSLParser.java.

9.101.4.8 `final JFSLParser.additiveOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.additiveOp () throws
RecognitionException`

Definition at line 8442 of file JFSLParser.java.

9.101.4.9 `final JFSLParser.andExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.andExpression () throws
RecognitionException`

Definition at line 6506 of file JFSLParser.java.

9.101.4.10 `final JFSLParser.arguments_return
edu.mit.csail.sdg.squander.parser.JFSLParser.arguments () throws
RecognitionException`

Definition at line 5128 of file JFSLParser.java.

9.101.4.11 `final JFSLParser.bitAndOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.bitAndOp () throws
RecognitionException`

Definition at line 6656 of file JFSLParser.java.

**9.101.4.12 final JFSLParser.castExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.castExpression ()
throws RecognitionException**

Definition at line 10133 of file JFSLParser.java.

**9.101.4.13 final JFSLParser.clause_return edu.mit.csail.sdg.squander.parser.JFSLParser.clause ()
throws RecognitionException**

Definition at line 446 of file JFSLParser.java.

Referenced by edu.mit.csail.sdg.squander.spec.Source.parse().

**9.101.4.14 final JFSLParser.common_return
edu.mit.csail.sdg.squander.parser.JFSLParser.common () throws
RecognitionException**

Definition at line 10855 of file JFSLParser.java.

**9.101.4.15 final JFSLParser.compilationUnit_return
edu.mit.csail.sdg.squander.parser.JFSLParser.compilationUnit ()
throws RecognitionException**

Definition at line 617 of file JFSLParser.java.

**9.101.4.16 final JFSLParser.composeExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.composeExpression ()
throws RecognitionException**

Definition at line 9602 of file JFSLParser.java.

**9.101.4.17 final JFSLParser.conditionalAndExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalAndExpression () throws
RecognitionException**

Definition at line 6065 of file JFSLParser.java.

**9.101.4.18 final JFSLParser.conditionalExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalExpression
() throws RecognitionException**

Definition at line 5296 of file JFSLParser.java.

**9.101.4.19 final JFSLParser.conditionalOrExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalOrExpression () throws
RecognitionException**

Definition at line 5918 of file JFSLParser.java.

**9.101.4.20 final JFSLParser.declaration_return
edu.mit.csail.sdg.squander.parser.JFSLParser.declaration () throws
RecognitionException**

Definition at line 2429 of file JFSLParser.java.

**9.101.4.21 final JFSLParser.declarationMult_return
edu.mit.csail.sdg.squander.parser.JFSLParser.declarationMult ()
throws RecognitionException**

Definition at line 2846 of file JFSLParser.java.

**9.101.4.22 final JFSLParser.decls_return edu.mit.csail.sdg.squander.parser.JFSLParser.decls ()
throws RecognitionException**

Definition at line 10235 of file JFSLParser.java.

**9.101.4.23 void edu.mit.csail.sdg.squander.parser.JFSLParser.displayRecognitionError (String[]
tokenNames, RecognitionException e)**

Definition at line 434 of file JFSLParser.java.

**9.101.4.24 final JFSLParser.equalityExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.equalityExpression ()
throws RecognitionException**

Definition at line 6726 of file JFSLParser.java.

**9.101.4.25 final JFSLParser.equalityOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.equalityOp () throws
RecognitionException**

Definition at line 6886 of file JFSLParser.java.

**9.101.4.26 final JFSLParser.exclusiveOrExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.exclusiveOrExpression
() throws RecognitionException**

Definition at line 6359 of file JFSLParser.java.

**9.101.4.27 final JFSLParser.expression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.expression () throws
RecognitionException**

Definition at line 5242 of file JFSLParser.java.

**9.101.4.28 final JFSLParser.expressionList_return
edu.mit.csail.sdg.squander.parser.JFSLParser.expressionList ()
throws RecognitionException**

Definition at line 5039 of file JFSLParser.java.

**9.101.4.29 final JFSLParser.frame_return edu.mit.csail.sdg.squander.parser.JFSLParser.frame ()
throws RecognitionException**

Definition at line 3057 of file JFSLParser.java.

9.101.4.30 String edu.mit.csail.sdg.squander.parser.JFSLParser.getGrammarFileName ()

Definition at line 382 of file JFSLParser.java.

9.101.4.31 String [] edu.mit.csail.sdg.squander.parser.JFSLParser.getTokenNames ()

Definition at line 381 of file JFSLParser.java.

9.101.4.32 TreeAdaptor edu.mit.csail.sdg.squander.parser.JFSLParser.getTreeAdaptor ()

Definition at line 377 of file JFSLParser.java.

**9.101.4.33 final JFSLParser.importDeclaration_return
edu.mit.csail.sdg.squander.parser.JFSLParser.importDeclaration ()
throws RecognitionException**

Definition at line 884 of file JFSLParser.java.

**9.101.4.34 final JFSLParser.inclusiveOrExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.inclusiveOrExpression
() throws RecognitionException**

Definition at line 6212 of file JFSLParser.java.

**9.101.4.35 final JFSLParser.inOp_return edu.mit.csail.sdg.squander.parser.JFSLParser.inOp ()
throws RecognitionException**

Definition at line 7440 of file JFSLParser.java.

**9.101.4.36 final JFSLParser.instanceOfExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.instanceOfExpression ()
throws RecognitionException**

Definition at line 7063 of file JFSLParser.java.

**9.101.4.37 final JFSLParser.integerLiteral_return
edu.mit.csail.sdg.squander.parser.JFSLParser.integerLiteral () throws
RecognitionException**

Definition at line 4017 of file JFSLParser.java.

**9.101.4.38 final JFSLParser.intersectionExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.intersectionExpression
() throws RecognitionException**

Definition at line 9443 of file JFSLParser.java.

**9.101.4.39 final JFSLParser.joinExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.joinExpression ()
throws RecognitionException**

Definition at line 10736 of file JFSLParser.java.

**9.101.4.40 final JFSLParser.keywordLiteral_return
edu.mit.csail.sdg.squander.parser.JFSLParser.keywordLiteral ()
throws RecognitionException**

Definition at line 3696 of file JFSLParser.java.

**9.101.4.41 final JFSLParser.literal_return edu.mit.csail.sdg.squander.parser.JFSLParser.literal ()
throws RecognitionException**

Definition at line 3859 of file JFSLParser.java.

**9.101.4.42 final JFSLParser.logicalExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.logicalExpression ()
throws RecognitionException**

Definition at line 5582 of file JFSLParser.java.

**9.101.4.43 final JFSLParser.logicalOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.logicalOp () throws
RecognitionException**

Definition at line 5724 of file JFSLParser.java.

**9.101.4.44 final JFSLParser.methodParameters_return
edu.mit.csail.sdg.squander.parser.JFSLParser.methodParameters ()
throws RecognitionException**

Definition at line 1865 of file JFSLParser.java.

**9.101.4.45 final JFSLParser.modifies_return
edu.mit.csail.sdg.squander.parser.JFSLParser.modifies () throws
RecognitionException**

Definition at line 560 of file JFSLParser.java.

Referenced by edu.mit.csail.sdg.squander.spec.Source.parse().

**9.101.4.46 final JFSLParser.multiplicativeExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.multiplicativeExpression () throws
RecognitionException**

Definition at line 8687 of file JFSLParser.java.

**9.101.4.47 final JFSLParser.multOp_return edu.mit.csail.sdg.squander.parser.JFSLParser.multOp
() throws RecognitionException**

Definition at line 8838 of file JFSLParser.java.

**9.101.4.48 final JFSLParser.overrideExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.overrideExpression ()
throws RecognitionException**

Definition at line 9296 of file JFSLParser.java.

**9.101.4.49 final JFSLParser.packageName_return
edu.mit.csail.sdg.squander.parser.JFSLParser.packageName () throws
RecognitionException**

Definition at line 764 of file JFSLParser.java.

**9.101.4.50 final JFSLParser.parExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.parExpression ()
throws RecognitionException**

Definition at line 4979 of file JFSLParser.java.

**9.101.4.51 final JFSLParser.primary_return
edu.mit.csail.sdg.squander.parser.JFSLParser.primary () throws
RecognitionException**

Definition at line 11304 of file JFSLParser.java.

**9.101.4.52 final JFSLParser.primitiveType_return
edu.mit.csail.sdg.squander.parser.JFSLParser.primitiveType () throws
RecognitionException**

Definition at line 4077 of file JFSLParser.java.

**9.101.4.53 final JFSLParser.quantifiedExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.quantifiedExpression ()
throws RecognitionException**

Definition at line 5454 of file JFSLParser.java.

**9.101.4.54 final JFSLParser.relationalExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.relationalExpression ()
throws RecognitionException**

Definition at line 7204 of file JFSLParser.java.

**9.101.4.55 final JFSLParser.relationalOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.relationalOp () throws
RecognitionException**

Definition at line 7510 of file JFSLParser.java.

**9.101.4.56 final JFSLParser.relationalUnaryExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.relationalUnaryExpression () throws
RecognitionException**

Definition at line 10490 of file JFSLParser.java.

**9.101.4.57 final JFSLParser.selector_return edu.mit.csail.sdg.squander.parser.JFSLParser.selector
() throws RecognitionException**

Definition at line 11645 of file JFSLParser.java.

**9.101.4.58 final JFSLParser.setAdditiveExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.setAdditiveExpression
() throws RecognitionException**

Definition at line 9001 of file JFSLParser.java.

**9.101.4.59 final JFSLParser.setAdditiveOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.setAdditiveOp ()
throws RecognitionException**

Definition at line 9152 of file JFSLParser.java.

**9.101.4.60 final JFSLParser.setDeclOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.setDeclOp () throws
RecognitionException**

Definition at line 12331 of file JFSLParser.java.

**9.101.4.61 final JFSLParser.setQuantOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.setQuantOp () throws
RecognitionException**

Definition at line 12643 of file JFSLParser.java.

**9.101.4.62 void edu.mit.csail.sdg.squander.parser.JFSLParser.setTreeAdaptor (TreeAdaptor
adaptor)**

Definition at line 374 of file JFSLParser.java.

Referenced by edu.mit.csail.sdg.squander.spec.Source.parse().

**9.101.4.63 final JFSLParser.setUnaryExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.setUnaryExpression ()
throws RecognitionException**

Definition at line 7801 of file JFSLParser.java.

**9.101.4.64 final JFSLParser.setUnaryOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.setUnaryOp () throws
RecognitionException**

Definition at line 12494 of file JFSLParser.java.

**9.101.4.65 final JFSLParser.shiftExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.shiftExpression ()
throws RecognitionException**

Definition at line 7927 of file JFSLParser.java.

**9.101.4.66 final JFSLParser.shiftOp_return edu.mit.csail.sdg.squander.parser.JFSLParser.shiftOp
() throws RecognitionException**

Definition at line 8093 of file JFSLParser.java.

**9.101.4.67 final JFSLParser.sizeExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.sizeExpression ()
throws RecognitionException**

Definition at line 8564 of file JFSLParser.java.

**9.101.4.68 final JFSLParser.specCase_return
edu.mit.csail.sdg.squander.parser.JFSLParser.specCase () throws
RecognitionException**

Definition at line 2022 of file JFSLParser.java.

**9.101.4.69 final JFSLParser.specField_return
edu.mit.csail.sdg.squander.parser.JFSLParser.specField () throws
RecognitionException**

Definition at line 503 of file JFSLParser.java.

Referenced by edu.mit.csail.sdg.squander.spec.Source.parse().

**9.101.4.70 final JFSLParser.specUnaryOp_return
edu.mit.csail.sdg.squander.parser.JFSLParser.specUnaryOp () throws
RecognitionException**

Definition at line 12099 of file JFSLParser.java.

**9.101.4.71 final JFSLParser.storePrimary_return
edu.mit.csail.sdg.squander.parser.JFSLParser.storePrimary () throws
RecognitionException**

Definition at line 3302 of file JFSLParser.java.

**9.101.4.72 final JFSLParser.storeRef_return
edu.mit.csail.sdg.squander.parser.JFSLParser.storeRef () throws
RecognitionException**

Definition at line 3212 of file JFSLParser.java.

**9.101.4.73 final JFSLParser.storeSelectors_return
edu.mit.csail.sdg.squander.parser.JFSLParser.storeSelectors () throws
RecognitionException**

Definition at line 3416 of file JFSLParser.java.

**9.101.4.74 final JFSLParser.storeWildCard_return
edu.mit.csail.sdg.squander.parser.JFSLParser.storeWildCard ()
throws RecognitionException**

Definition at line 3614 of file JFSLParser.java.

9.101.4.75 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred101_JFSL ()

Definition at line 13352 of file JFSLParser.java.

**9.101.4.76 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred101_JFSL_fragment ()
throws RecognitionException**

Definition at line 13081 of file JFSLParser.java.

9.101.4.77 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred117_JFSL ()

Definition at line 13212 of file JFSLParser.java.

9.101.4.78 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred117_JFSL_fragment () throws RecognitionException

Definition at line 13096 of file JFSLParser.java.

9.101.4.79 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred118_JFSL ()

Definition at line 13240 of file JFSLParser.java.

9.101.4.80 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred118_JFSL_fragment () throws RecognitionException

Definition at line 13111 of file JFSLParser.java.

9.101.4.81 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred119_JFSL ()

Definition at line 13268 of file JFSLParser.java.

9.101.4.82 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred119_JFSL_fragment () throws RecognitionException

Definition at line 13123 of file JFSLParser.java.

9.101.4.83 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred120_JFSL ()

Definition at line 13366 of file JFSLParser.java.

9.101.4.84 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred120_JFSL_fragment () throws RecognitionException

Definition at line 13138 of file JFSLParser.java.

9.101.4.85 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred13_JFSL ()

Definition at line 13310 of file JFSLParser.java.

9.101.4.86 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred13_JFSL_fragment () throws RecognitionException

Definition at line 12825 of file JFSLParser.java.

9.101.4.87 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred26_JFSL ()

Definition at line 13324 of file JFSLParser.java.

9.101.4.88 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred26_JFSL_fragment () throws RecognitionException

Definition at line 12841 of file JFSLParser.java.

9.101.4.89 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred37_JFSL ()

Definition at line 13338 of file JFSLParser.java.

9.101.4.90 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred37_JFSL_fragment () throws RecognitionException

Definition at line 12919 of file JFSLParser.java.

9.101.4.91 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred56_JFSL ()

Definition at line 13282 of file JFSLParser.java.

9.101.4.92 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred56_JFSL_fragment () throws RecognitionException

Definition at line 12981 of file JFSLParser.java.

9.101.4.93 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred58_JFSL ()

Definition at line 13296 of file JFSLParser.java.

9.101.4.94 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred58_JFSL_fragment () throws RecognitionException

Definition at line 12999 of file JFSLParser.java.

9.101.4.95 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred62_JFSL ()

Definition at line 13226 of file JFSLParser.java.

9.101.4.96 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred62_JFSL_fragment () throws RecognitionException

Definition at line 13017 of file JFSLParser.java.

9.101.4.97 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred63_JFSL ()

Definition at line 13254 of file JFSLParser.java.

9.101.4.98 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred63_JFSL_fragment () throws RecognitionException

Definition at line 13039 of file JFSLParser.java.

9.101.4.99 final boolean edu.mit.csail.sdg.squander.parser.JFSLParser.synpred99_JFSL ()

Definition at line 13198 of file JFSLParser.java.

9.101.4.100 final void edu.mit.csail.sdg.squander.parser.JFSLParser.synpred99_JFSL_fragment () throws RecognitionException

Definition at line 13065 of file JFSLParser.java.

9.101.4.101 final JFSLParser.type_return edu.mit.csail.sdg.squander.parser.JFSLParser.type () throws RecognitionException

Definition at line 4903 of file JFSLParser.java.

**9.101.4.102 final JFSLParser.typeBodyDeclaration_return
edu.mit.csail.sdg.squander.parser.JFSLParser.typeBodyDeclaration () throws RecognitionException**

Definition at line 1471 of file JFSLParser.java.

**9.101.4.103 final JFSLParser.typeDeclaration_return
edu.mit.csail.sdg.squander.parser.JFSLParser.typeDeclaration () throws RecognitionException**

Definition at line 1005 of file JFSLParser.java.

**9.101.4.104 final JFSLParser.typeDisambigous_return
edu.mit.csail.sdg.squander.parser.JFSLParser.typeDisambigous () throws RecognitionException**

Definition at line 4596 of file JFSLParser.java.

**9.101.4.105 final JFSLParser.typeName_return
edu.mit.csail.sdg.squander.parser.JFSLParser.typeName () throws RecognitionException**

Definition at line 4425 of file JFSLParser.java.

**9.101.4.106 final JFSLParser.typeParameters_return
edu.mit.csail.sdg.squander.parser.JFSLParser.typeParameters ()
throws RecognitionException**

Definition at line 1218 of file JFSLParser.java.

**9.101.4.107 final JFSLParser.typeParameters2_return
edu.mit.csail.sdg.squander.parser.JFSLParser.typeParameters2 ()
throws RecognitionException**

Definition at line 1342 of file JFSLParser.java.

**9.101.4.108 final JFSLParser.unaryExpression_return
edu.mit.csail.sdg.squander.parser.JFSLParser.unaryExpression ()
throws RecognitionException**

Definition at line 9749 of file JFSLParser.java.

**9.101.4.109 final JFSLParser.unaryExpressionNotPlusMinus_return
edu.mit.csail.sdg.squander.parser.JFSLParser.unaryExpressionNotPlusMinus ()
throws RecognitionException**

Definition at line 9959 of file JFSLParser.java.

9.101.5 Member Data Documentation

**9.101.5.1 TreeAdaptor edu.mit.csail.sdg.squander.parser.JFSLParser.adaptor = new
CommonTreeAdaptor() [protected]**

Definition at line 372 of file JFSLParser.java.

9.101.5.2 final int edu.mit.csail.sdg.squander.parser.JFSLParser.AMBIGUOUS = 24 [static]

Definition at line 237 of file JFSLParser.java.

9.101.5.3 final int edu.mit.csail.sdg.squander.parser.JFSLParser.ARGUMENT = 23 [static]

Definition at line 243 of file JFSLParser.java.

9.101.5.4 final int edu.mit.csail.sdg.squander.parser.JFSLParser.ARGS = 16 [static]

Definition at line 276 of file JFSLParser.java.

9.101.5.5 final int edu.mit.csail.sdg.squander.parser.JFSLParser.BINARY = 12 [static]

Definition at line 351 of file JFSLParser.java.

9.101.5.6 final int edu.mit.csail.sdg.squander.parser.JFSLParser.BRACKET = 20 [static]

Definition at line 262 of file JFSLParser.java.

9.101.5.7 final int edu.mit.csail.sdg.squander.parser.JFSLParser.CALL = 21 [static]

Definition at line 226 of file JFSLParser.java.

9.101.5.8 final int edu.mit.csail.sdg.squander.parser.JFSLParser.CAST = 26 [static]

Definition at line 256 of file JFSLParser.java.

9.101.5.9 final int edu.mit.csail.sdg.squander.parser.JFSLParser.CHAIN = 17 [static]

Definition at line 233 of file JFSLParser.java.

9.101.5.10 final int edu.mit.csail.sdg.squander.parser.JFSLParser.CharacterLiteral = 112 [static]

Definition at line 290 of file JFSLParser.java.

9.101.5.11 final int edu.mit.csail.sdg.squander.parser.JFSLParser.CLASS_DESIGNATOR = 27 [static]

Definition at line 232 of file JFSLParser.java.

9.101.5.12 final int edu.mit.csail.sdg.squander.parser.JFSLParser.CONDITIONAL = 15 [static]

Definition at line 278 of file JFSLParser.java.

9.101.5.13 final int edu.mit.csail.sdg.squander.parser.JFSLParser.DecimalLiteral = 116 [static]

Definition at line 329 of file JFSLParser.java.

9.101.5.14 final int edu.mit.csail.sdg.squander.parser.JFSLParser.DECL_NONE = 9 [static]

Definition at line 274 of file JFSLParser.java.

9.101.5.15 final int edu.mit.csail.sdg.squander.parser.JFSLParser.DECL_SEQ = 8 [static]

Definition at line 189 of file JFSLParser.java.

9.101.5.16 final int edu.mit.csail.sdg.squander.parser.JFSLParser.DECL_SET = 7 [static]

Definition at line 188 of file JFSLParser.java.

9.101.5.17 final int edu.mit.csail.sdg.squander.parser.JFSLParser.DECLARATION = 4 [static]

Definition at line 240 of file JFSLParser.java.

9.101.5.18 final int edu.mit.csail.sdg.squander.parser.JFSLParser.DECLS = 34 [static]

Definition at line 328 of file JFSLParser.java.

9.101.5.19 DFA38 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa38 = new DFA38(this) [protected]

Definition at line 13382 of file JFSLParser.java.

9.101.5.20 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_accept = DFA.unpackEncodedString(DFA38_acceptS) [static, package]

Definition at line 13422 of file JFSLParser.java.

9.101.5.21 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_acceptS [static, package]

Initial value:

"\1\uffff\1\1\3\uffff\1\2\5\uffff"

Definition at line 13397 of file JFSLParser.java.

9.101.5.22 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_eof = DFA.unpackEncodedString(DFA38_eofS) [static, package]

Definition at line 13419 of file JFSLParser.java.

9.101.5.23 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_eofS [static, package]

Initial value:

"\2\uffff\1\5\3\uffff\1\5\2\uffff\1\5\1\uffff"

Definition at line 13390 of file JFSLParser.java.

9.101.5.24 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_eot = DFA.unpackEncodedString(DFA38_eotS) [static, package]

Definition at line 13418 of file JFSLParser.java.

9.101.5.25 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_eotS [static, package]

Initial value:

```
"\13\uffff"
```

Definition at line 13388 of file JFSLParser.java.

**9.101.5.26 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_max =
DFA.unpackEncodedStringToUnsignedChars(DFA38_maxS) [static, package]**

Definition at line 13421 of file JFSLParser.java.

9.101.5.27 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_maxS [static, package]

Initial value:

```
"\1\u00a6\1\uffff\1\u00af\1\156\1\u00ab\1\uffff\1\u00af\1\u0089\1"+  
\156\1\u00af\1\u0089"
```

Definition at line 13394 of file JFSLParser.java.

**9.101.5.28 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_min =
DFA.unpackEncodedStringToUnsignedChars(DFA38_minS) [static, package]**

Definition at line 13420 of file JFSLParser.java.

9.101.5.29 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_minS [static, package]

Initial value:

```
"\1\156\1\uffff\3\156\1\uffff\1\156\1\u0088\2\156\1\u0088"
```

Definition at line 13392 of file JFSLParser.java.

**9.101.5.30 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_special =
DFA.unpackEncodedString(DFA38_specialS) [static, package]**

Definition at line 13423 of file JFSLParser.java.

9.101.5.31 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_specialS [static, package]

Initial value:

```
"\13\uffff}>"
```

Definition at line 13399 of file JFSLParser.java.

9.101.5.32 final short [][] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_transition [static, package]

Definition at line 13424 of file JFSLParser.java.

9.101.5.33 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38_transitionS [static, package]

Initial value:

```
{
    "\1\2\60\ffff\10\1",
    "",
    "\1\5\22\ffff\1\3\4\ffff\1\5\1\4\1\5\3\ffff\1\5\11\ffff"+
    "\1\5\1\ffff\1\5\16\ffff\1\1\10\5",
    "\1\6",
    "\1\7\73\ffff\2\5",
    "",
    "\1\5\22\ffff\1\3\4\ffff\1\5\1\4\1\5\3\ffff\1\5\11\ffff"+
    "\1\5\1\ffff\1\5\16\ffff\1\1\10\5",
    "\1\10\1\11",
    "\1\12",
    "\1\5\27\ffff\3\5\3\ffff\1\5\11\ffff\1\5\1\ffff\1\5\16\ffff"+
    "\1\1\10\5",
    "\1\10\1\11"
}
```

Definition at line 13401 of file JFSLParser.java.

9.101.5.34 DFA42 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa42 = new DFA42(this) [protected]

Definition at line 13383 of file JFSLParser.java.

9.101.5.35 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_accept = DFA.unpackEncodedString(DFA42_acceptS) [static, package]

Definition at line 13511 of file JFSLParser.java.

9.101.5.36 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_acceptS [static, package]

Initial value:

```
"\7\ffff\1\1\1\ffff\1\2\35\ffff"
```

Definition at line 13459 of file JFSLParser.java.

**9.101.5.37 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_eof =
DFA.unpackEncodedString(DFA42_eofS) [static, package]**

Definition at line 13508 of file JFSLParser.java.

**9.101.5.38 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_eofS [static,
package]**

Initial value:

"\u47\uffff"

Definition at line 13453 of file JFSLParser.java.

**9.101.5.39 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_eot =
DFA.unpackEncodedString(DFA42_eotS) [static, package]**

Definition at line 13507 of file JFSLParser.java.

**9.101.5.40 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_eotS [static,
package]**

Initial value:

"\u47\uffff"

Definition at line 13451 of file JFSLParser.java.

**9.101.5.41 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_max =
DFA.unpackEncodedStringToUnsignedChars(DFA42_maxS) [static, package]**

Definition at line 13510 of file JFSLParser.java.

**9.101.5.42 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_maxS [static,
package]**

Initial value:

"\u1\u00c7\6\0\40\uffff"

Definition at line 13457 of file JFSLParser.java.

**9.101.5.43 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_min =
DFA.unpackEncodedStringToUnsignedChars(DFA42_minS) [static, package]**

Definition at line 13509 of file JFSLParser.java.

9.101.5.44 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_minS [static, package]

Initial value:

```
"\1\156\6\0\40\uffff"
```

Definition at line 13455 of file JFSLParser.java.

9.101.5.45 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_special = DFA.unpackEncodedString(DFA42_specialS) [static, package]

Definition at line 13512 of file JFSLParser.java.

9.101.5.46 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_specialS [static, package]

Initial value:

```
"\1\ffff\1\0\1\1\1\2\1\3\1\4\1\5\40\ffff\}>"
```

Definition at line 13461 of file JFSLParser.java.

9.101.5.47 final short [][] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_transition [static, package]

Definition at line 13513 of file JFSLParser.java.

9.101.5.48 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42_transitionS [static, package]

Definition at line 13463 of file JFSLParser.java.

9.101.5.49 DFA69 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa69 = new DFA69(this) [protected]

Definition at line 13384 of file JFSLParser.java.

9.101.5.50 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_accept = DFA.unpackEncodedString(DFA69_acceptS) [static, package]

Definition at line 13692 of file JFSLParser.java.

9.101.5.51 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_acceptS [static, package]

Initial value:

```
"\2\uffff\1\2\1\uffff\1\4\30\uffff\1\1\1\3"
```

Definition at line 13649 of file JFSLParser.java.

**9.101.5.52 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_eof =
DFA.unpackEncodedString(DFA69_eofS) [static, package]**

Definition at line 13689 of file JFSLParser.java.

**9.101.5.53 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_eofS [static,
package]**

Initial value:

```
"\37\uffff"
```

Definition at line 13643 of file JFSLParser.java.

**9.101.5.54 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_eot =
DFA.unpackEncodedString(DFA69_eotS) [static, package]**

Definition at line 13688 of file JFSLParser.java.

**9.101.5.55 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_eotS [static,
package]**

Initial value:

```
"\37\uffff"
```

Definition at line 13641 of file JFSLParser.java.

**9.101.5.56 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_max =
DFA.unpackEncodedStringToUnsignedChars(DFA69_maxS) [static, package]**

Definition at line 13691 of file JFSLParser.java.

**9.101.5.57 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_maxS [static,
package]**

Initial value:

```
"\1\u00c0\1\0\1\uffff\1\0\33\uffff"
```

Definition at line 13647 of file JFSLParser.java.

**9.101.5.58 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_min =
DFA.unpackEncodedStringToUnsignedChars(DFA69_minS) [static, package]**

Definition at line 13690 of file JFSLParser.java.

**9.101.5.59 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_minS [static,
package]**

Initial value:

"\1\156\1\0\1\uffff\1\0\33\uffff"

Definition at line 13645 of file JFSLParser.java.

**9.101.5.60 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_special =
DFA.unpackEncodedString(DFA69_specialS) [static, package]**

Definition at line 13693 of file JFSLParser.java.

**9.101.5.61 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_specialS
[static, package]**

Initial value:

"\1\ffff\1\0\1\ffff\1\1\33\ffff}>"

Definition at line 13651 of file JFSLParser.java.

**9.101.5.62 final short [][] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_transition
[static, package]**

Definition at line 13694 of file JFSLParser.java.

**9.101.5.63 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69_transitionS
[static, package]**

Definition at line 13653 of file JFSLParser.java.

**9.101.5.64 DFA77 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa77 = new DFA77(this)
[protected]**

Definition at line 13386 of file JFSLParser.java.

**9.101.5.65 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_accept =
DFA.unpackEncodedString(DFA77_acceptS) [static, package]**

Definition at line 13923 of file JFSLParser.java.

9.101.5.66 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_acceptS [static, package]

Initial value:

"\2\uffff\1\2\33\ffff\1\1"

Definition at line 13880 of file JFSLParser.java.

9.101.5.67 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_eof = DFA.unpackEncodedString(DFA77_eofS) [static, package]

Definition at line 13920 of file JFSLParser.java.

9.101.5.68 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_eofS [static, package]

Initial value:

"\1\2\36\ffff"

Definition at line 13874 of file JFSLParser.java.

9.101.5.69 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_eot = DFA.unpackEncodedString(DFA77_eotS) [static, package]

Definition at line 13919 of file JFSLParser.java.

9.101.5.70 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_eotS [static, package]

Initial value:

"\37\ffff"

Definition at line 13872 of file JFSLParser.java.

9.101.5.71 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_max = DFA.unpackEncodedStringToUnsignedChars(DFA77_maxS) [static, package]

Definition at line 13922 of file JFSLParser.java.

9.101.5.72 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_maxS [static, package]

Initial value:

"\1\u00b9\1\0\35\ffff"

Definition at line 13878 of file JFSLParser.java.

**9.101.5.73 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_min =
DFA.unpackEncodedStringToUnsignedChars(DFA77_minS) [static, package]**

Definition at line 13921 of file JFSLParser.java.

**9.101.5.74 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_minS [static,
package]**

Initial value:

```
"\1\u0081\1\0\35\uffff"
```

Definition at line 13876 of file JFSLParser.java.

**9.101.5.75 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_special =
DFA.unpackEncodedString(DFA77_specialS) [static, package]**

Definition at line 13924 of file JFSLParser.java.

**9.101.5.76 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_specialS
[static, package]**

Initial value:

```
"\1\ffff\1\0\35\ffff}>"
```

Definition at line 13882 of file JFSLParser.java.

**9.101.5.77 final short [][] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_transition
[static, package]**

Definition at line 13925 of file JFSLParser.java.

**9.101.5.78 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77_transitionS
[static, package]**

Definition at line 13884 of file JFSLParser.java.

**9.101.5.79 DFA78 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa78 = new DFA78(this)
[protected]**

Definition at line 13385 of file JFSLParser.java.

**9.101.5.80 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_accept =
DFA.unpackEncodedString(DFA78_acceptS) [static, package]**

Definition at line 13817 of file JFSLParser.java.

9.101.5.81 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_acceptS [static, package]

Initial value:

```
"\1\ffff\1\1\1\2\1\3\3\ffff\1\4\2\ffff\1\6\3\ffff\1\5\6\ffff"
```

Definition at line 13773 of file JFSLParser.java.

9.101.5.82 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_eof = DFA.unpackEncodedString(DFA78_eofS) [static, package]

Definition at line 13814 of file JFSLParser.java.

9.101.5.83 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_eofS [static, package]

Initial value:

```
"\4\ffff\1\7\6\ffff\2\7\3\ffff\2\7\1\ffff\1\7\1\ffff"
```

Definition at line 13764 of file JFSLParser.java.

9.101.5.84 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_eot = DFA.unpackEncodedString(DFA78_eotS) [static, package]

Definition at line 13813 of file JFSLParser.java.

9.101.5.85 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_eotS [static, package]

Initial value:

```
"\25\ffff"
```

Definition at line 13762 of file JFSLParser.java.

9.101.5.86 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_max = DFA.unpackEncodedStringToUnsignedChars(DFA78_maxS) [static, package]

Definition at line 13816 of file JFSLParser.java.

9.101.5.87 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_maxS [static, package]

Initial value:

```
"\1\u00c0\3\uffff\1\u00b9\1\u00c0\1\u00c5\1\uffff\1\u00c7\1\u00b3"+  
"\1\uffff\2\u00b9\1\0\1\uffff\1\u00c7\1\u00c5\1\u00b9\1\u00ba\1\u00c5"+  
"\1\u00ba"
```

Definition at line 13769 of file JFSLParser.java.

**9.101.5.88 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_min =
DFA.unpackEncodedStringToUnsignedChars(DFA78_minS) [static, package]**

Definition at line 13815 of file JFSLParser.java.

**9.101.5.89 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_minS [static,
package]**

Initial value:

```
"\1\156\3\uffff\1\u0081\2\156\1\uffff\2\156\1\uffff\2\u0081\1\0\1"+  
"\uffff\2\156\1\u0081\3\156"
```

Definition at line 13766 of file JFSLParser.java.

**9.101.5.90 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_special =
DFA.unpackEncodedString(DFA78_specialS) [static, package]**

Definition at line 13818 of file JFSLParser.java.

**9.101.5.91 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_specialS
[static, package]**

Initial value:

\15\uffff\1\0\7\uffff}>"

Definition at line 13775 of file JFSLParser.java.

**9.101.5.92 final short [][] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_transition
[static, package]**

Definition at line 13819 of file JFSLParser.java.

**9.101.5.93 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78_transitionS
[static, package]**

Definition at line 13777 of file JFSLParser.java.

**9.101.5.94 DFA79 edu.mit.csail.sdg.squander.parser.JFSLParser.dfa79 = new DFA79(this)
[protected]**

Definition at line 13387 of file JFSLParser.java.

**9.101.5.95 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_accept =
DFA.unpackEncodedString(DFA79_acceptS) [static, package]**

Definition at line 14015 of file JFSLParser.java.

**9.101.5.96 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_acceptS [static,
package]**

Initial value:

"\5\uffff\1\4\1\3\1\10\1\7\1\2\1\1\1\5\1\6"

Definition at line 13986 of file JFSLParser.java.

**9.101.5.97 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_eof =
DFA.unpackEncodedString(DFA79_eofS) [static, package]**

Definition at line 14012 of file JFSLParser.java.

**9.101.5.98 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_eofS [static,
package]**

Initial value:

"\3\ffff\1\11\11\ffff"

Definition at line 13980 of file JFSLParser.java.

**9.101.5.99 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_eot =
DFA.unpackEncodedString(DFA79_eotS) [static, package]**

Definition at line 14011 of file JFSLParser.java.

**9.101.5.100 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_eotS [static,
package]**

Initial value:

"\15\ffff"

Definition at line 13978 of file JFSLParser.java.

**9.101.5.101 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_max =
DFA.unpackEncodedStringToUnsignedChars(DFA79_maxS) [static,
package]**

Definition at line 14014 of file JFSLParser.java.

9.101.5.102 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_maxS [static, package]

Initial value:

```
"\1\u00a7\1\u00c0\1\u00c7\1\u00b9\1\u00c0\10\uffff"
```

Definition at line 13984 of file JFSLParser.java.

9.101.5.103 final char [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_min = DFA.unpackEncodedStringToUnsignedChars(DFA79_minS) [static, package]

Definition at line 14013 of file JFSLParser.java.

9.101.5.104 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_minS [static, package]

Initial value:

```
"\1\u0081\2\156\1\u0081\1\156\10\uffff"
```

Definition at line 13982 of file JFSLParser.java.

9.101.5.105 final short [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_special = DFA.unpackEncodedString(DFA79_specialS) [static, package]

Definition at line 14016 of file JFSLParser.java.

9.101.5.106 final String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_specialS [static, package]

Initial value:

\15\uffff}>"

Definition at line 13988 of file JFSLParser.java.

9.101.5.107 final short [][] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_transition [static, package]

Definition at line 14017 of file JFSLParser.java.

9.101.5.108 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79_transitionS [static, package]

Initial value:

```
{
    "\1\1\45\uffff\1\2",
    "\1\3\26\uffff\1\5\5\uffff\1\5\17\uffff\1\4\3\uffff\10\6\7\uffff"+
    "\1\5\10\uffff\1\5\2\uffff\7\5",
    "\7\10\20\uffff\1\10\5\uffff\1\10\20\uffff\13\10\1\uffff\1\7"+
    "\2\uffff\1\10\2\uffff\1\10\3\uffff\3\10\2\uffff\1\10\2\uffff"+
    "\16\10",
    "\1\11\4\uffff\4\11\1\uffff\1\12\1\11\1\uffff\3\11\2\uffff"+
    "\1\11\13\uffff\15\11\1\uffff\5\11",
    "\1\13\26\uffff\1\14\5\uffff\1\14\42\uffff\1\14\10\uffff\1\14"+
    "\2\uffff\7\14",
    "",
    "",
    "",
    "",
    "",
    "",
    "",
    ""
}
```

Definition at line 13990 of file JFSLParser.java.

9.101.5.109 final int edu.mit.csail.sdg.squander.parser.JFSLParser.ENSURES = 105 [static]

Definition at line 241 of file JFSLParser.java.

9.101.5.110 final int edu.mit.csail.sdg.squander.parser.JFSLParser.EOF = -1 [static]

Definition at line 173 of file JFSLParser.java.

9.101.5.111 final int edu.mit.csail.sdg.squander.parser.JFSLParser.EscapeSequence = 121 [static]

Definition at line 287 of file JFSLParser.java.

9.101.5.112 final int edu.mit.csail.sdg.squander.parser.JFSLParser.Exponent = 119 [static]

Definition at line 293 of file JFSLParser.java.

9.101.5.113 final int edu.mit.csail.sdg.squander.parser.JFSLParser.FIELD = 25 [static]

Definition at line 283 of file JFSLParser.java.

9.101.5.114 final int edu.mit.csail.sdg.squander.parser.JFSLParser.FILE = 93 [static]

Definition at line 208 of file JFSLParser.java.

9.101.5.115 final int edu.mit.csail.sdg.squander.parser.JFSLParser.FloatingPointLiteral = 111 [static]

Definition at line 224 of file JFSLParser.java.

9.101.5.116 final int edu.mit.csail.sdg.squander.parser.JFSLParser.FloatTypeSuffix = 120
[**static**]

Definition at line 260 of file JFSLParser.java.

9.101.5.117 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
127_in_compilationUnit760 = new BitSet(new
long[] {0x0000000000000000L, 0x0000400000000000L})
[**static**]

Definition at line 14052 of file JFSLParser.java.

9.101.5.118 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
128_in_compilationUnit764 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000001CL})
[**static**]

Definition at line 14054 of file JFSLParser.java.

9.101.5.119 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
128_in_compilationUnit778 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000001L})
[**static**]

Definition at line 14057 of file JFSLParser.java.

9.101.5.120 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
128_in_importDeclaration847 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000004L})
[**static**]

Definition at line 14064 of file JFSLParser.java.

9.101.5.121 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
128_in_synpred13_JFSL1055 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x00000000000FC000L})
[**static**]

Definition at line 14400 of file JFSLParser.java.

9.101.5.122 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
128_in_typeBodyDeclaration1055 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x00000000000FC041L})
[**static**]

Definition at line 14098 of file JFSLParser.java.

9.101.5.123 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
128_in_typeBodyDeclaration1062 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000041L})
[static]

Definition at line 14100 of file JFSLParser.java.

9.101.5.124 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_128_in_-
typeBodyDeclaration988 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14082 of file JFSLParser.java.

9.101.5.125 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_packageName813 = new BitSet(new
long[]{0x0000000000000000L,0x0004000000000000L})
[static]

Definition at line 14060 of file JFSLParser.java.

9.101.5.126 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_129_in_-
primary4005 = new BitSet(new long[]{0x0000000000000000L,0x0004000000000000L})
[static]

Definition at line 14356 of file JFSLParser.java.

9.101.5.127 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_129_in_-
selector4090 = new BitSet(new long[]{0x0000000000000000L,0x0004000000000000L})
[static]

Definition at line 14364 of file JFSLParser.java.

9.101.5.128 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_129_in_-
selector4110 = new BitSet(new long[]{0x0000000000000000L,0x0004000000000000L})
[static]

Definition at line 14367 of file JFSLParser.java.

9.101.5.129 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_selector4130 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000007F80000000L})
[static]

Definition at line 14369 of file JFSLParser.java.

```
9.101.5.130 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_selector4146 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0xFC8040000000820L,0x0000000000000001L})
[static]
```

Definition at line 14371 of file JFSLParser.java.

```
9.101.5.131 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_selector4162 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000008000000L})
[static]
```

Definition at line 14373 of file JFSLParser.java.

```
9.101.5.132 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_selector4184 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000008000000L})
[static]
```

Definition at line 14376 of file JFSLParser.java.

```
9.101.5.133 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_storeWildCard1593 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000008000000L})
[static]
```

Definition at line 14156 of file JFSLParser.java.

```
9.101.5.134 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_synpred118_JFSL4005 = new BitSet(new
long[] {0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14429 of file JFSLParser.java.

```
9.101.5.135 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_synpred120_JFSL4005 = new BitSet(new
long[] {0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14433 of file JFSLParser.java.

```
9.101.5.136 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
129_in_typeName1835 = new BitSet(new
long[] {0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14176 of file JFSLParser.java.

```
9.101.5.137 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
130_in_importDeclaration843 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14062 of file JFSLParser.java.

```
9.101.5.138 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
131_in_typeDeclaration874 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14065 of file JFSLParser.java.

```
9.101.5.139 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
132_in_typeDeclaration878 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14066 of file JFSLParser.java.

```
9.101.5.140 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
133_in_common3951 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14347 of file JFSLParser.java.

```
9.101.5.141 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
133_in_typeBodyDeclaration1050 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000FC041L})
[static]
```

Definition at line 14096 of file JFSLParser.java.

```
9.101.5.142 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
133_in_typeDeclaration890 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L,0x000000000000245DL})
[static]
```

Definition at line 14069 of file JFSLParser.java.

```
9.101.5.143 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
134_in_common3959 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14351 of file JFSLParser.java.

**9.101.5.144 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_134_in_-
typeBodyDeclaration1066 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14101 of file JFSLParser.java.

**9.101.5.145 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_134_-
in_typeDeclaration895 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14071 of file JFSLParser.java.

**9.101.5.146 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
135_in_logicalOp2239 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})
[static]**

Definition at line 14210 of file JFSLParser.java.

**9.101.5.147 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
135_in_logicalOp2251 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000080000000000L})
[static]**

Definition at line 14213 of file JFSLParser.java.

**9.101.5.148 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
135_in_relationalOp2835 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})
[static]**

Definition at line 14249 of file JFSLParser.java.

**9.101.5.149 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_135_-
in_relationalOp2855 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14253 of file JFSLParser.java.

**9.101.5.150 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
135_in_shiftOp2990 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000080L})
[static]**

Definition at line 14264 of file JFSLParser.java.

9.101.5.151 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
135_in_shiftOp2992 = new BitSet(new long[] {0x0000000000000002L})
[static]

Definition at line 14265 of file JFSLParser.java.

9.101.5.152 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
135_in_typeParameters2959 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC80407FF0000820L, 0x0000000000000001L})
[static]

Definition at line 14077 of file JFSLParser.java.

9.101.5.153 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
135_in_typeParameters926 = new BitSet(new
long[] {0x0000000000000000L, 0x0000400000000000L})
[static]

Definition at line 14072 of file JFSLParser.java.

9.101.5.154 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_136_in_-
decls3719 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L})
[static]

Definition at line 14322 of file JFSLParser.java.

9.101.5.155 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
136_in_expressionList2022 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
[static]

Definition at line 14191 of file JFSLParser.java.

9.101.5.156 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
136_in_frame1470 = new BitSet(new
long[] {0x0000000000000000L, 0x0000400000000000L, 0xFC8040000000920L, 0x0000000000000001L})
[static]

Definition at line 14147 of file JFSLParser.java.

9.101.5.157 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
136_in_methodParameters1109 = new BitSet(new
long[] {0x0000000000000000L, 0x0000400000000000L, 0x0000007F8000000L})
[static]

Definition at line 14104 of file JFSLParser.java.

```
9.101.5.158 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
136_in_typeParameters2964 = new BitSet(new
long[ ]{0x0000000000000000L,0x001FC0000000000L,0xFC80407FF0000820L,0x0000000000000001L})
[static]
```

Definition at line 14079 of file JFSLParser.java.

```
9.101.5.159 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
136_in_typeParameters931 = new BitSet(new
long[ ]{0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14074 of file JFSLParser.java.

```
9.101.5.160 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
137_in_logicalOp2243 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14212 of file JFSLParser.java.

```
9.101.5.161 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
137_in_logicalOp2255 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14215 of file JFSLParser.java.

```
9.101.5.162 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
137_in_logicalOp2265 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14217 of file JFSLParser.java.

```
9.101.5.163 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
137_in_relationalOp2845 = new BitSet(new
long[ ]{0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})
[static]
```

Definition at line 14251 of file JFSLParser.java.

```
9.101.5.164 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_137_-
in_relationalOp2863 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14254 of file JFSLParser.java.

```
9.101.5.165 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
137_in_shiftOp3000 = new BitSet(new
long[ ]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000200L})
[static]
```

Definition at line 14266 of file JFSLParser.java.

```
9.101.5.166 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
137_in_shiftOp3002 = new BitSet(new
long[ ]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000200L})
[static]
```

Definition at line 14267 of file JFSLParser.java.

```
9.101.5.167 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
137_in_shiftOp3004 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14268 of file JFSLParser.java.

```
9.101.5.168 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
137_in_shiftOp3012 = new BitSet(new
long[ ]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000200L})
[static]
```

Definition at line 14269 of file JFSLParser.java.

```
9.101.5.169 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
137_in_shiftOp3014 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14270 of file JFSLParser.java.

```
9.101.5.170 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_137_-
in_typeParameters2970 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14081 of file JFSLParser.java.

```
9.101.5.171 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_137_-
in_typeParameters937 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14076 of file JFSLParser.java.

```
9.101.5.172 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
138_in_typeBodyDeclaration1002 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000000800L})
[static]
```

Definition at line 14084 of file JFSLParser.java.

```
9.101.5.173 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_arguments2046 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0001820L, 0x0000000000000000FFL})
[static]
```

Definition at line 14193 of file JFSLParser.java.

```
9.101.5.174 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_castExpression3671 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000007F80000000L})
[static]
```

Definition at line 14313 of file JFSLParser.java.

```
9.101.5.175 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_common3907 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
[static]
```

Definition at line 14339 of file JFSLParser.java.

```
9.101.5.176 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_common3927 = new BitSet(new
long[] {0x0000000000000000L, 0x001C000000000000L})
[static]
```

Definition at line 14343 of file JFSLParser.java.

```
9.101.5.177 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_parExpression1984 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
[static]
```

Definition at line 14187 of file JFSLParser.java.

```
9.101.5.178 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_specCase1151 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
[static]
```

Definition at line 14108 of file JFSLParser.java.

```
9.101.5.179 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_specCase1172 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14112 of file JFSLParser.java.

```
9.101.5.180 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_specCase1187 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14116 of file JFSLParser.java.

```
9.101.5.181 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_specCase1208 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L,0xFC8040000001820L,0x0000000000000001L})
[static]
```

Definition at line 14120 of file JFSLParser.java.

```
9.101.5.182 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_typeBodyDeclaration1004 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14085 of file JFSLParser.java.

```
9.101.5.183 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_typeBodyDeclaration1024 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L,0x0000000000300000L})
[static]
```

Definition at line 14089 of file JFSLParser.java.

```
9.101.5.184 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
139_in_typeBodyDeclaration1044 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L,0x0000007F80001000L})
[static]
```

Definition at line 14093 of file JFSLParser.java.

```
9.101.5.185 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
140_in_arguments2051 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14195 of file JFSLParser.java.

```
9.101.5.186 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
140_in_castExpression3675 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14315 of file JFSLParser.java.

```
9.101.5.187 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
140_in_common3911 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14341 of file JFSLParser.java.

```
9.101.5.188 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
140_in_common3931 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14345 of file JFSLParser.java.

```
9.101.5.189 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_140_-
in_parExpression1989 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14189 of file JFSLParser.java.

```
9.101.5.190 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
140_in_specCase1159 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x00000000000038000L})
[static]
```

Definition at line 14110 of file JFSLParser.java.

```
9.101.5.191 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
140_in_specCase1180 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x00000000000020000L})
[static]
```

Definition at line 14114 of file JFSLParser.java.

```
9.101.5.192 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
140_in_specCase1195 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x00000000000020000L})
[static]
```

Definition at line 14118 of file JFSLParser.java.

9.101.5.193 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
140_in_specCase1216 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14122 of file JFSLParser.java.

9.101.5.194 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_140_in_-
typeBodyDeclaration1008 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14087 of file JFSLParser.java.

9.101.5.195 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_140_in_-
typeBodyDeclaration1028 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14091 of file JFSLParser.java.

9.101.5.196 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
140_in_typeBodyDeclaration1048 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000020L})
[static]

Definition at line 14095 of file JFSLParser.java.

9.101.5.197 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
141_in_typeBodyDeclaration1022 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
[static]

Definition at line 14088 of file JFSLParser.java.

9.101.5.198 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
142_in_specCase1149 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
[static]

Definition at line 14107 of file JFSLParser.java.

9.101.5.199 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
143_in_specCase1170 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000800L})
[static]

Definition at line 14111 of file JFSLParser.java.

```
9.101.5.200 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
144_in_specCase1185 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000800L})
[static]
```

Definition at line 14115 of file JFSLParser.java.

```
9.101.5.201 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
145_in_specCase1206 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000800L})
[static]
```

Definition at line 14119 of file JFSLParser.java.

```
9.101.5.202 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
146_in_specCase1267 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14123 of file JFSLParser.java.

```
9.101.5.203 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
147_in_specCase1282 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14124 of file JFSLParser.java.

```
9.101.5.204 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
148_in_declarati1306 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14125 of file JFSLParser.java.

```
9.101.5.205 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
148_in_declarati1361 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14135 of file JFSLParser.java.

```
9.101.5.206 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
149_in_declarati1310 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14126 of file JFSLParser.java.

**9.101.5.207 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
149_in_declaration1365 = new BitSet(new
long[] {0x0000000000000000L, 0x0000400000000000L})
[static]**

Definition at line 14136 of file JFSLParser.java.

**9.101.5.208 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
150_in_conditionalExpression2109 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
[static]**

Definition at line 14200 of file JFSLParser.java.

**9.101.5.209 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
150_in_declaration1316 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
[static]**

Definition at line 14128 of file JFSLParser.java.

**9.101.5.210 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
150_in_declaration1371 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
[static]**

Definition at line 14138 of file JFSLParser.java.

**9.101.5.211 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
150_in_decls3710 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
[static]**

Definition at line 14319 of file JFSLParser.java.

**9.101.5.212 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
150_in_decls3729 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
[static]**

Definition at line 14325 of file JFSLParser.java.

**9.101.5.213 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
150_in_synpred26_JFSL1316 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF6000820L, 0x0000000000000000FFL})
[static]**

Definition at line 14404 of file JFSLParser.java.

```
9.101.5.214 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
150_in_synpred62_JFSL2109 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
[static]
```

Definition at line 14419 of file JFSLParser.java.

```
9.101.5.215 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
151_in_declaration1322 = new BitSet(new
long[] {0x0000000000000000L, 0x0000400000000000L, 0xFC80400001000820L, 0x0000000000000001L})
[static]
```

Definition at line 14131 of file JFSLParser.java.

```
9.101.5.216 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
151_in_synpred26_JFSL1322 = new BitSet(new
long[] {0x0000000000000000L, 0x0000400000000000L, 0xFC80400001000820L, 0x0000000000000001L})
[static]
```

Definition at line 14407 of file JFSLParser.java.

```
9.101.5.217 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
152_in_common3955 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
[static]
```

Definition at line 14349 of file JFSLParser.java.

```
9.101.5.218 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
152_in_declaration1327 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
[static]
```

Definition at line 14133 of file JFSLParser.java.

```
9.101.5.219 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
152_in_declaration1378 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
[static]
```

Definition at line 14141 of file JFSLParser.java.

```
9.101.5.220 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
152_in_inclusiveOrExpression2417 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x0000000000000000FFL})
[static]
```

Definition at line 14225 of file JFSLParser.java.

```
9.101.5.221 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
152_in_quantifiedExpression2151 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14204 of file JFSLParser.java.

```
9.101.5.222 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
152_in_synpred26_JFSL1327 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14409 of file JFSLParser.java.

```
9.101.5.223 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
152_in_synpred63_JFSL2151 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14423 of file JFSLParser.java.

```
9.101.5.224 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_153_-
in_declarationMult1426 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14144 of file JFSLParser.java.

```
9.101.5.225 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_154_-
in_declarationMult1436 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14145 of file JFSLParser.java.

```
9.101.5.226 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
155_in_multOp3217 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14282 of file JFSLParser.java.

```
9.101.5.227 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_155_in_-
selector4164 = new BitSet(new long[]{0x0000000000000000L,0x0000400000000000L})
[static]
```

Definition at line 14374 of file JFSLParser.java.

9.101.5.228 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
155_in_selector4186 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0xFC8040000000820L,0x0000000000000001L})
[static]

Definition at line 14377 of file JFSLParser.java.

9.101.5.229 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_155_-
in_storeWildCard1595 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14157 of file JFSLParser.java.

9.101.5.230 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_156_-
in_keywordLiteral1616 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14158 of file JFSLParser.java.

9.101.5.231 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_157_-
in_keywordLiteral1628 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14159 of file JFSLParser.java.

9.101.5.232 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_158_-
in_keywordLiteral1639 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14160 of file JFSLParser.java.

9.101.5.233 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_159_-
in_primitiveType1741 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14167 of file JFSLParser.java.

9.101.5.234 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_160_-
in_primitiveType1750 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14168 of file JFSLParser.java.

9.101.5.235 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_161_-
in_primitiveType1760 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14169 of file JFSLParser.java.

9.101.5.236 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_162_-
in_primitiveType1772 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14170 of file JFSLParser.java.

9.101.5.237 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_163_-
in_primitiveType1783 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14171 of file JFSLParser.java.

9.101.5.238 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_164_-
in_primitiveType1794 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14172 of file JFSLParser.java.

9.101.5.239 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_165_-
in_primitiveType1804 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14173 of file JFSLParser.java.

9.101.5.240 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_166_-
in_primitiveType1815 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14174 of file JFSLParser.java.

9.101.5.241 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
167_in_selector4202 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14379 of file JFSLParser.java.

9.101.5.242 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
167_in_selector4221 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
[static]

Definition at line 14382 of file JFSLParser.java.

```
9.101.5.243 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
167_in_synpred56_JFSL1887 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
[static]
```

Definition at line 14413 of file JFSLParser.java.

```
9.101.5.244 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
167_in_synpred58_JFSL1917 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
[static]
```

Definition at line 14415 of file JFSLParser.java.

```
9.101.5.245 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
167_in_typeDisambiguous1887 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
[static]
```

Definition at line 14180 of file JFSLParser.java.

```
9.101.5.246 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
167_in_typeDisambiguous1917 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000010000000000L})
[static]
```

Definition at line 14183 of file JFSLParser.java.

```
9.101.5.247 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
168_in_selector4205 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14381 of file JFSLParser.java.

```
9.101.5.248 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
168_in_selector4223 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14383 of file JFSLParser.java.

```
9.101.5.249 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_168_-
in_synpred56_JFSL1889 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14414 of file JFSLParser.java.

9.101.5.250 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_168_-
in_synpred58_JFSL1919 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14416 of file JFSLParser.java.

9.101.5.251 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
168_in_typeDisambiguous1889 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0000008000000000L})
[static]

Definition at line 14181 of file JFSLParser.java.

9.101.5.252 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
168_in_typeDisambiguous1919 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0000008000000000L})
[static]

Definition at line 14184 of file JFSLParser.java.

9.101.5.253 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
169_in_conditionalExpression2105 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]

Definition at line 14198 of file JFSLParser.java.

9.101.5.254 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
169_in_synpred62_JFSL2105 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]

Definition at line 14417 of file JFSLParser.java.

9.101.5.255 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
170_in_equalityOp2656 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})
[static]

Definition at line 14237 of file JFSLParser.java.

9.101.5.256 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
170_in_equalityOp2658 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14238 of file JFSLParser.java.

**9.101.5.257 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
170_in_equalityOp2668 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14240 of file JFSLParser.java.

**9.101.5.258 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
170_in_equalityOp2676 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14241 of file JFSLParser.java.

**9.101.5.259 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
170_in_logicalOp2241 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x00000000000000200L})
[static]**

Definition at line 14211 of file JFSLParser.java.

**9.101.5.260 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
170_in_logicalOp2263 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x00000000000000200L})
[static]**

Definition at line 14216 of file JFSLParser.java.

**9.101.5.261 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_170_-
in_relationalOp2837 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14250 of file JFSLParser.java.

**9.101.5.262 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_170_-
in_relationalOp2847 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14252 of file JFSLParser.java.

**9.101.5.263 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
171_in_equalityOp2666 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000040000000000L})
[static]**

Definition at line 14239 of file JFSLParser.java.

```
9.101.5.264 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
171_in_logicalOp2253 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0000000000000000200L})
[static]
```

Definition at line 14214 of file JFSLParser.java.

```
9.101.5.265 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
171_in_relationalOp2875 = new BitSet(new
long[] {0x0000000000000000L,0x0000000000000000L,0x0002000000000000L})
[static]
```

Definition at line 14256 of file JFSLParser.java.

```
9.101.5.266 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
171_in_unaryExpressionNotPlusMinus3623 = new BitSet(new
long[] {0x0000000000000000L,0x001FC000000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14309 of file JFSLParser.java.

```
9.101.5.267 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
172_in_conditionalOrExpression2300 = new BitSet(new
long[] {0x0000000000000000L,0x001FC000000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14219 of file JFSLParser.java.

```
9.101.5.268 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
173_in_conditionalAndExpression2356 = new BitSet(new
long[] {0x0000000000000000L,0x001FC000000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14222 of file JFSLParser.java.

```
9.101.5.269 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
174_in_exclusiveOrExpression2473 = new BitSet(new
long[] {0x0000000000000000L,0x001FC000000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14228 of file JFSLParser.java.

```
9.101.5.270 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_174_-
in_specUnaryOp4247 = new BitSet(new long[] {0x0000000000000002L})
[static]
```

Definition at line 14385 of file JFSLParser.java.

9.101.5.271 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_174_-
in_specUnaryOp4251 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14386 of file JFSLParser.java.

9.101.5.272 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
175_in_bitAndOp2572 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14233 of file JFSLParser.java.

9.101.5.273 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
175_in_intersectionExpression3450 = new BitSet(new
long[]{0x0000000000000000L,0x001FC00000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]

Definition at line 14297 of file JFSLParser.java.

9.101.5.274 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
176_in_instanceOfExpression2713 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L,0x0000007F80000000L})
[static]

Definition at line 14243 of file JFSLParser.java.

9.101.5.275 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
177_in_inOp2816 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14248 of file JFSLParser.java.

9.101.5.276 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_177_-
in_relationalOp2877 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14257 of file JFSLParser.java.

9.101.5.277 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
178_in_additiveOp3097 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14274 of file JFSLParser.java.

9.101.5.278 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_178_-
in_setAdditiveOp3334 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14289 of file JFSLParser.java.

9.101.5.279 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
178_in UnaryExpression3556 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]

Definition at line 14302 of file JFSLParser.java.

9.101.5.280 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
179_in additiveOp3110 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14275 of file JFSLParser.java.

9.101.5.281 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_179_-
in_setAdditiveOp3347 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14291 of file JFSLParser.java.

9.101.5.282 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
179_in UnaryExpression3574 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]

Definition at line 14304 of file JFSLParser.java.

9.101.5.283 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_180_-
in_setQuantOp4386 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14397 of file JFSLParser.java.

9.101.5.284 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
180_in_sizeExpression3130 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]

Definition at line 14276 of file JFSLParser.java.

9.101.5.285 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
181_in_multOp3230 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14283 of file JFSLParser.java.

9.101.5.286 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
182_in_multOp3243 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14284 of file JFSLParser.java.

9.101.5.287 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
183_in_intersectionExpression3448 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000800000000000L})
[static]

Definition at line 14296 of file JFSLParser.java.

9.101.5.288 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_183_in_-
primary4040 = new BitSet(new long[]{0x0000000000000000L,0x0004000000000000L})
[static]

Definition at line 14360 of file JFSLParser.java.

9.101.5.289 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
183_in_setAdditiveOp3332 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0040000000000000L})
[static]

Definition at line 14288 of file JFSLParser.java.

9.101.5.290 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
183_in_setAdditiveOp3345 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0080000000000000L})
[static]

Definition at line 14290 of file JFSLParser.java.

9.101.5.291 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
183_in_specUnaryOp4245 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0004000000000000L})
[static]

Definition at line 14384 of file JFSLParser.java.

9.101.5.292 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
183_in_specUnaryOp4263 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0400000000000000L})
[static]

Definition at line 14387 of file JFSLParser.java.

```
9.101.5.293 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
184_in_overrideExpression3385 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14293 of file JFSLParser.java.

```
9.101.5.294 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
185_in_composeExpression3509 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14300 of file JFSLParser.java.

```
9.101.5.295 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_186_-
in_specUnaryOp4265 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14388 of file JFSLParser.java.

```
9.101.5.296 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_186_-
in_specUnaryOp4269 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14389 of file JFSLParser.java.

```
9.101.5.297 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
186_in_synpred99_JFSL3605 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14425 of file JFSLParser.java.

```
9.101.5.298 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
186_in_unaryExpressionNotPlusMinus3605 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14307 of file JFSLParser.java.

```
9.101.5.299 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
187_in_common3864 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14334 of file JFSLParser.java.

**9.101.5.300 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
188_in_common3874 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14335 of file JFSLParser.java.

**9.101.5.301 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
189_in_common3884 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14336 of file JFSLParser.java.

**9.101.5.302 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
190_in_common3895 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14337 of file JFSLParser.java.

**9.101.5.303 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
191_in_common3905 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000800L})
[static]**

Definition at line 14338 of file JFSLParser.java.

**9.101.5.304 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
192_in_common3925 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000800L})
[static]**

Definition at line 14342 of file JFSLParser.java.

**9.101.5.305 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
193_in_setDeclOp4294 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14390 of file JFSLParser.java.

**9.101.5.306 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
194_in_setDeclOp4306 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14391 of file JFSLParser.java.

**9.101.5.307 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
195_in_setDeclOp4318 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14392 of file JFSLParser.java.

9.101.5.308 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_196_-
in_setUnaryOp4347 = new BitSet(new long[] {0x0000000000000002L})
[static]

Definition at line 14394 of file JFSLParser.java.

9.101.5.309 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_197_-
in_setUnaryOp4358 = new BitSet(new long[] {0x0000000000000002L})
[static]

Definition at line 14395 of file JFSLParser.java.

9.101.5.310 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_198_-
in_setQuantOp4397 = new BitSet(new long[] {0x0000000000000002L})
[static]

Definition at line 14398 of file JFSLParser.java.

9.101.5.311 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_199_-
in_setQuantOp4410 = new BitSet(new long[] {0x0000000000000002L})
[static]

Definition at line 14399 of file JFSLParser.java.

9.101.5.312 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
additiveExpression_in_declaration1320 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000080000L})
[static]

Definition at line 14130 of file JFSLParser.java.

9.101.5.313 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
additiveExpression_in_declaration1375 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x000000000100000L})
[static]

Definition at line 14140 of file JFSLParser.java.

9.101.5.314 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
additiveExpression_in_decls3715 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000100L})
[static]

Definition at line 14321 of file JFSLParser.java.

```
9.101.5.315 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    additiveExpression_in_decls3732 = new BitSet(new
        long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000000100L})
    [static]
```

Definition at line 14326 of file JFSLParser.java.

```
9.101.5.316 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    additiveExpression_in_shiftExpression2932 = new BitSet(new
        long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000000280L})
    [static]
```

Definition at line 14261 of file JFSLParser.java.

```
9.101.5.317 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    additiveExpression_in_shiftExpression2953 = new BitSet(new
        long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000000280L})
    [static]
```

Definition at line 14263 of file JFSLParser.java.

```
9.101.5.318 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    additiveExpression_in_synpred26_JFSL1320 = new BitSet(new
        long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000800000L})
    [static]
```

Definition at line 14406 of file JFSLParser.java.

```
9.101.5.319 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    additiveOp_in_additiveExpression3052 = new BitSet(new
        long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
    [static]
```

Definition at line 14272 of file JFSLParser.java.

```
9.101.5.320 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    andExpression_in_exclusiveOrExpression2458 = new BitSet(new
        long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000400000000000L})
    [static]
```

Definition at line 14227 of file JFSLParser.java.

```
9.101.5.321 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    andExpression_in_exclusiveOrExpression2477 = new BitSet(new
        long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000400000000000L})
    [static]
```

Definition at line 14229 of file JFSLParser.java.

```
9.101.5.322 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
arguments_in_primary4064 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14363 of file JFSLParser.java.

```
9.101.5.323 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
arguments_in_selector4094 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14366 of file JFSLParser.java.

```
9.101.5.324 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
bitAndOp_in_andExpression2531 = new BitSet(new  
long[ ]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})  
[static]
```

Definition at line 14231 of file JFSLParser.java.

```
9.101.5.325 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
castExpression_in_synpred101_JFSL3645 = new BitSet(new  
long[ ]{0x0000000000000002L}) [static]
```

Definition at line 14427 of file JFSLParser.java.

```
9.101.5.326 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
castExpression_in_unaryExpressionNotPlusMinus3645 = new BitSet(new  
long[ ]{0x0000000000000002L}) [static]
```

Definition at line 14311 of file JFSLParser.java.

```
9.101.5.327 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
CharacterLiteral_in_literal1675 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14163 of file JFSLParser.java.

```
9.101.5.328 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
common_in_primary3984 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14352 of file JFSLParser.java.

```
9.101.5.329 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-  
common_in_selector4148 = new BitSet(new long[ ]{0x0000000000000002L})  
[static]
```

Definition at line 14372 of file JFSLParser.java.

**9.101.5.330 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
common_in_selector4188 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14378 of file JFSLParser.java.

**9.101.5.331 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_common_-
in_storePrimary1547 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 14152 of file JFSLParser.java.

**9.101.5.332 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
composeExpression_in_intersectionExpression3433 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0080000000000000L})
[static]**

Definition at line 14295 of file JFSLParser.java.

**9.101.5.333 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
composeExpression_in_intersectionExpression3454 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0080000000000000L})
[static]**

Definition at line 14298 of file JFSLParser.java.

**9.101.5.334 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
conditionalAndExpression_in_conditionalOrExpression2285 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0000100000000000L})
[static]**

Definition at line 14218 of file JFSLParser.java.

**9.101.5.335 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
conditionalAndExpression_in_conditionalOrExpression2304 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0000100000000000L})
[static]**

Definition at line 14220 of file JFSLParser.java.

**9.101.5.336 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
conditionalExpression_in_expression2075 = new BitSet(new
long[]{0x0000000000000002L}) [static]**

Definition at line 14196 of file JFSLParser.java.

9.101.5.337 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
conditionalOrExpression_in_logicalExpression2187 = new BitSet(new
long[]{0x00000000000000002L,0x0000000000000000L,0x0000040000000080L})
[static]

Definition at line 14207 of file JFSLParser.java.

9.101.5.338 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
conditionalOrExpression_in_logicalExpression2202 = new BitSet(new
long[]{0x00000000000000002L}) **[static]**

Definition at line 14209 of file JFSLParser.java.

9.101.5.339 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
declaration_in_specField729 = new BitSet(new long[]{0x0000000000000000L})
[static]

Definition at line 14048 of file JFSLParser.java.

9.101.5.340 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
declaration_in_typeBodyDeclaration1026 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
[static]

Definition at line 14090 of file JFSLParser.java.

9.101.5.341 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
declarationMult_in_declaration1318 = new BitSet(new
long[]{0x0000000000000000L,0x001FC000000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14129 of file JFSLParser.java.

9.101.5.342 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
declarationMult_in_declaration1373 = new BitSet(new
long[]{0x0000000000000000L,0x001FC000000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14139 of file JFSLParser.java.

9.101.5.343 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
declarationMult_in_decls3713 = new BitSet(new
long[]{0x0000000000000000L,0x001FC000000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14320 of file JFSLParser.java.

```
9.101.5.344 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
declarationMult_in_synpred26_JFSL1318 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14405 of file JFSLParser.java.

```
9.101.5.345 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
decls_in_common3953 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000001000000L})
[static]
```

Definition at line 14348 of file JFSLParser.java.

```
9.101.5.346 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
decls_in_quantifiedExpression2149 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000001000000L})
[static]
```

Definition at line 14203 of file JFSLParser.java.

```
9.101.5.347 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
decls_in_synpred63_JFSL2149 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000001000000L})
[static]
```

Definition at line 14422 of file JFSLParser.java.

```
9.101.5.348 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
EOF_in_clause722 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14047 of file JFSLParser.java.

```
9.101.5.349 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_EOF_-
in_compilationUnit785 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14058 of file JFSLParser.java.

```
9.101.5.350 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
EOF_in_modifies740 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14051 of file JFSLParser.java.

```
9.101.5.351 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
EOF_in_specField731 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14049 of file JFSLParser.java.

```
9.101.5.352 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
equalityExpression_in_andExpression2516 = new BitSet(new
long[ ]{0x0000000000000002L,0x0000000000000000L,0x0000800000000000L})
[static]
```

Definition at line 14230 of file JFSLParser.java.

```
9.101.5.353 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
equalityExpression_in_andExpression2535 = new BitSet(new
long[ ]{0x0000000000000002L,0x0000000000000000L,0x0000800000000000L})
[static]
```

Definition at line 14232 of file JFSLParser.java.

```
9.101.5.354 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
equalityOp_in_equalityExpression2611 = new BitSet(new
long[ ]{0x0000000000000000L,0x001FC000000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL})
[static]
```

Definition at line 14235 of file JFSLParser.java.

```
9.101.5.355 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
exclusiveOrExpression_in_inclusiveOrExpression2402 = new BitSet(new
long[ ]{0x0000000000000002L,0x0000000000000000L,0x0000000001000000L})
[static]
```

Definition at line 14224 of file JFSLParser.java.

```
9.101.5.356 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
exclusiveOrExpression_in_inclusiveOrExpression2421 = new BitSet(new
long[ ]{0x0000000000000002L,0x0000000000000000L,0x0000000001000000L})
[static]
```

Definition at line 14226 of file JFSLParser.java.

```
9.101.5.357 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_clause720 = new BitSet(new long[ ]{0x0000000000000000L})
[static]
```

Definition at line 14046 of file JFSLParser.java.

```
9.101.5.358 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_common3909 = new BitSet(new
long[ ]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
[static]
```

Definition at line 14340 of file JFSLParser.java.

```
9.101.5.359 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_common3957 = new BitSet(new
long[ ]{0x0000000000000000L,0x0000000000000000L,0x000000000000040L})
[static]
```

Definition at line 14350 of file JFSLParser.java.

```
9.101.5.360 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_conditionalExpression2107 = new BitSet(new
long[ ]{0x0000000000000000L,0x0000000000000000L,0x0000000000400000L})
[static]
```

Definition at line 14199 of file JFSLParser.java.

```
9.101.5.361 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_-
in_conditionalExpression2111 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14201 of file JFSLParser.java.

```
9.101.5.362 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_declaration1329 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14134 of file JFSLParser.java.

```
9.101.5.363 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_declaration1380 = new BitSet(new long[ ]{0x0000000000000002L})
[static]
```

Definition at line 14142 of file JFSLParser.java.

```
9.101.5.364 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_expressionList2019 = new BitSet(new
long[ ]{0x0000000000000002L,0x0000000000000000L,0x000000000000100L})
[static]
```

Definition at line 14190 of file JFSLParser.java.

```
9.101.5.365 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_expressionList2025 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x000000000000000100L})
[static]
```

Definition at line 14192 of file JFSLParser.java.

```
9.101.5.366 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_parExpression1987 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000001000L})
[static]
```

Definition at line 14188 of file JFSLParser.java.

```
9.101.5.367 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_-
in_quantifiedExpression2153 = new BitSet(new long[] {0x0000000000000002L})
[static]
```

Definition at line 14205 of file JFSLParser.java.

```
9.101.5.368 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_selector4203 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000010000000000L})
[static]
```

Definition at line 14380 of file JFSLParser.java.

```
9.101.5.369 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_specCase1157 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x00000000000001000L})
[static]
```

Definition at line 14109 of file JFSLParser.java.

```
9.101.5.370 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_specCase1178 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x00000000000001000L})
[static]
```

Definition at line 14113 of file JFSLParser.java.

```
9.101.5.371 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
expression_in_specCase1193 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x00000000000001000L})
[static]
```

Definition at line 14117 of file JFSLParser.java.

9.101.5.372 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_synpred26_JFSL1329 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14410 of file JFSLParser.java.

9.101.5.373 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_synpred62_JFSL2107 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x000000000000400000L})
[static]

Definition at line 14418 of file JFSLParser.java.

9.101.5.374 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_synpred62_JFSL2111 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14420 of file JFSLParser.java.

9.101.5.375 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_synpred63_JFSL2153 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14424 of file JFSLParser.java.

9.101.5.376 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expression_in_typeBodyDeclaration1006 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
[static]

Definition at line 14086 of file JFSLParser.java.

9.101.5.377 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_expressionList_in_arguments2048 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
[static]

Definition at line 14194 of file JFSLParser.java.

9.101.5.378 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_FloatingPointLiteral_in_literal1669 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14162 of file JFSLParser.java.

```
9.101.5.379 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
frame_in_declaration1324 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000001000000L})
[static]
```

Definition at line 14132 of file JFSLParser.java.

```
9.101.5.380 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
frame_in_modifies738 = new BitSet(new long[] {0x0000000000000000L})
[static]
```

Definition at line 14050 of file JFSLParser.java.

```
9.101.5.381 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
frame_in_specCase1214 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000001000L})
[static]
```

Definition at line 14121 of file JFSLParser.java.

```
9.101.5.382 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
frame_in_synpred26_JFSL1324 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000001000000L})
[static]
```

Definition at line 14408 of file JFSLParser.java.

```
9.101.5.383 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_declaration1314 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000400000L})
[static]
```

Definition at line 14127 of file JFSLParser.java.

```
9.101.5.384 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_declaration1369 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000400000L})
[static]
```

Definition at line 14137 of file JFSLParser.java.

```
9.101.5.385 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_decls3703 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x00200000400000L})
[static]
```

Definition at line 14317 of file JFSLParser.java.

```
9.101.5.386 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_decls3722 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x000200000400000L})
[static]
```

Definition at line 14323 of file JFSLParser.java.

```
9.101.5.387 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_methodParameters1106 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000100L})
[static]
```

Definition at line 14103 of file JFSLParser.java.

```
9.101.5.388 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_methodParameters1113 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000100L})
[static]
```

Definition at line 14106 of file JFSLParser.java.

```
9.101.5.389 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_packageName810 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000002L})
[static]
```

Definition at line 14059 of file JFSLParser.java.

```
9.101.5.390 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_packageName815 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000002L})
[static]
```

Definition at line 14061 of file JFSLParser.java.

```
9.101.5.391 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_primary4002 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000082L})
[static]
```

Definition at line 14355 of file JFSLParser.java.

```
9.101.5.392 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_primary4007 = new BitSet(new
long[] {0x0000000000000002L, 0x0000000000000000L, 0x0000000000000082L})
[static]
```

Definition at line 14357 of file JFSLParser.java.

9.101.5.393 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_primary4042 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14361 of file JFSLParser.java.

9.101.5.394 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_primary4062 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000800L})
[static]

Definition at line 14362 of file JFSLParser.java.

9.101.5.395 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_in_-
relationalUnaryExpression3793 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14330 of file JFSLParser.java.

9.101.5.396 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_selector4092 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000800L})
[static]

Definition at line 14365 of file JFSLParser.java.

9.101.5.397 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_selector4112 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14368 of file JFSLParser.java.

9.101.5.398 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_selector4166 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14375 of file JFSLParser.java.

9.101.5.399 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_-
in_storePrimary1532 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14151 of file JFSLParser.java.

9.101.5.400 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_Identifier_-
in_synpred118_JFSL4007 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14430 of file JFSLParser.java.

```
9.101.5.401 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_synpred120_JFSL4002 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000000082L})
[static]
```

Definition at line 14432 of file JFSLParser.java.

```
9.101.5.402 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_synpred120_JFSL4007 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x000000000000000082L})
[static]
```

Definition at line 14434 of file JFSLParser.java.

```
9.101.5.403 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_synpred26_JFSL1314 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x00000000000400000L})
[static]
```

Definition at line 14403 of file JFSLParser.java.

```
9.101.5.404 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_typeBodyDeclaration1042 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000000800L})
[static]
```

Definition at line 14092 of file JFSLParser.java.

```
9.101.5.405 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_typeDeclaration881 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000000000000000A0L})
[static]
```

Definition at line 14067 of file JFSLParser.java.

```
9.101.5.406 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_inTypeName1832 = new BitSet(new
long[] {0x00000000000000002L, 0x0000000000000000L, 0x000000000000000082L})
[static]
```

Definition at line 14175 of file JFSLParser.java.

```
9.101.5.407 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_inTypeName1837 = new BitSet(new
long[] {0x00000000000000002L, 0x0000000000000000L, 0x000000000000000082L})
[static]
```

Definition at line 14177 of file JFSLParser.java.

9.101.5.408 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_typeParameters928 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000300L})
[static]

Definition at line 14073 of file JFSLParser.java.

9.101.5.409 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
Identifier_in_typeParameters933 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000300L})
[static]

Definition at line 14075 of file JFSLParser.java.

9.101.5.410 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
importDeclaration_in_compilationUnit770 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000001CL})
[static]

Definition at line 14055 of file JFSLParser.java.

9.101.5.411 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
inclusiveOrExpression_in_conditionalAndExpression2341 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0000200000000000L})
[static]

Definition at line 14221 of file JFSLParser.java.

9.101.5.412 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
inclusiveOrExpression_in_conditionalAndExpression2360 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0000200000000000L})
[static]

Definition at line 14223 of file JFSLParser.java.

9.101.5.413 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
inOp_in_decls3706 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF6000820L,0x00000000000000FFL})
[static]

Definition at line 14318 of file JFSLParser.java.

9.101.5.414 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
inOp_in_decls3725 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14324 of file JFSLParser.java.

9.101.5.415 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_inOp_-
in_relationalOp2871 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14255 of file JFSLParser.java.

9.101.5.416 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
instanceOfExpression_in_equalityExpression2594 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x00000C0000000000L})
[static]

Definition at line 14234 of file JFSLParser.java.

9.101.5.417 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
instanceOfExpression_in_equalityExpression2615 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x00000C0000000000L})
[static]

Definition at line 14236 of file JFSLParser.java.

9.101.5.418 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
integerLiteral_in_common3929 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
[static]

Definition at line 14344 of file JFSLParser.java.

9.101.5.419 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
integerLiteral_in_literal1663 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14161 of file JFSLParser.java.

9.101.5.420 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
intersectionExpression_in_overrideExpression3370 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0100000000000000L})
[static]

Definition at line 14292 of file JFSLParser.java.

9.101.5.421 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
intersectionExpression_in_overrideExpression3389 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0100000000000000L})
[static]

Definition at line 14294 of file JFSLParser.java.

```
9.101.5.422 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
joinExpression_in_setUnaryExpression2898 = new BitSet(new
long[ ]{0x00000000000000002L}) [static]
```

Definition at line 14259 of file JFSLParser.java.

```
9.101.5.423 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
joinExpression_in_sizeExpression3132 = new BitSet(new
long[ ]{0x00000000000000002L}) [static]
```

Definition at line 14277 of file JFSLParser.java.

```
9.101.5.424 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
joinExpression_in_unaryExpressionNotPlusMinus3651 = new BitSet(new
long[ ]{0x00000000000000002L}) [static]
```

Definition at line 14312 of file JFSLParser.java.

```
9.101.5.425 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
keywordLiteral_in_literal1687 = new BitSet(new long[ ]{0x00000000000000002L})
[static]
```

Definition at line 14165 of file JFSLParser.java.

```
9.101.5.426 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
literal_in_primary3990 = new BitSet(new long[ ]{0x00000000000000002L})
[static]
```

Definition at line 14353 of file JFSLParser.java.

```
9.101.5.427 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
logicalExpression_in_quantifiedExpression2171 = new BitSet(new
long[ ]{0x00000000000000002L}) [static]
```

Definition at line 14206 of file JFSLParser.java.

```
9.101.5.428 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
logicalOp_in_logicalExpression2200 = new BitSet(new
long[ ]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]
```

Definition at line 14208 of file JFSLParser.java.

```
9.101.5.429 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
methodParameters_in_typeBodyDeclaration1046 = new BitSet(new
long[ ]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
[static]
```

Definition at line 14094 of file JFSLParser.java.

9.101.5.430 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-multiplicativeExpression_in_sizeExpression3148 = new BitSet(new long[]{0x0000000000000002L}) [static]

Definition at line 14278 of file JFSLParser.java.

9.101.5.431 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-multOp_in_multiplicativeExpression3183 = new BitSet(new long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x0000000000000000FFL}) [static]

Definition at line 14280 of file JFSLParser.java.

9.101.5.432 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-overrideExpression_in_setAdditiveExpression3266 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0080000000000000L}) [static]

Definition at line 14285 of file JFSLParser.java.

9.101.5.433 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-overrideExpression_in_setAdditiveExpression3290 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0080000000000000L}) [static]

Definition at line 14287 of file JFSLParser.java.

9.101.5.434 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-packageName_in_compilationUnit762 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000001L}) [static]

Definition at line 14053 of file JFSLParser.java.

9.101.5.435 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-packageName_in_importDeclaration845 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000001L}) [static]

Definition at line 14063 of file JFSLParser.java.

9.101.5.436 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-parExpression_in_common3858 = new BitSet(new long[]{0x0000000000000002L}) [static]

Definition at line 14333 of file JFSLParser.java.

9.101.5.437 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_parExpression_in_relationalUnaryExpression3775 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14328 of file JFSLParser.java.

9.101.5.438 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primary_in_joinExpression3826 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000008000000002L})
[static]

Definition at line 14331 of file JFSLParser.java.

9.101.5.439 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primary_in_typeParameters2961 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x00000000000000300L})
[static]

Definition at line 14078 of file JFSLParser.java.

9.101.5.440 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primary_in_typeParameters2966 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x00000000000000300L})
[static]

Definition at line 14080 of file JFSLParser.java.

9.101.5.441 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primitiveType_in_castExpression3673 = new BitSet(new long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000001000L})
[static]

Definition at line 14314 of file JFSLParser.java.

9.101.5.442 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primitiveType_in_selector4132 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14370 of file JFSLParser.java.

9.101.5.443 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_primitiveType_in_typeDisambigous1878 = new BitSet(new long[]{0x0000000000000002L,0x0000000000000000L,0x0000008000000000L})
[static]

Definition at line 14179 of file JFSLParser.java.

```
9.101.5.444 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
quantifiedExpression_in_conditionalExpression2092 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000020000000000L})
[static]
```

Definition at line 14197 of file JFSLParser.java.

```
9.101.5.445 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
relationalExpression_in_instanceOfExpression2698 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0010000000000000L})
[static]
```

Definition at line 14242 of file JFSLParser.java.

```
9.101.5.446 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
relationalOp_in_relationalExpression2773 = new BitSet(new
long[] {0x0000000000000000L, 0x001FC000000000000L, 0x001FC487FF0000820L, 0x0000000000000000FFL})
[static]
```

Definition at line 14246 of file JFSLParser.java.

```
9.101.5.447 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
relationalUnaryExpression_in_common3945 = new BitSet(new
long[] {0x0000000000000000L}) [static]
```

Definition at line 14346 of file JFSLParser.java.

```
9.101.5.448 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
selector_in_joinExpression3828 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000008000000002L})
[static]
```

Definition at line 14332 of file JFSLParser.java.

```
9.101.5.449 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
selector_in_storeSelectors1562 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000008000000002L})
[static]
```

Definition at line 14153 of file JFSLParser.java.

```
9.101.5.450 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
selector_in_storeSelectors1572 = new BitSet(new
long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000008000000002L})
[static]
```

Definition at line 14155 of file JFSLParser.java.

```
9.101.5.451 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    selector_in_synpred37_JFSL1562 = new BitSet(new
        long[] {0x0000000000000000L, 0x0000000000000000L, 0x0000008000000002L})
    [static]
```

Definition at line 14411 of file JFSLParser.java.

```
9.101.5.452 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    set_in_integerLiteral0 = new BitSet(new long[] {0x0000000000000002L})
    [static]
```

Definition at line 14166 of file JFSLParser.java.

```
9.101.5.453 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    set_in_synpred26_JFSL1305 = new BitSet(new
        long[] {0x0000000000000000L, 0x0000400000000000L})
    [static]
```

Definition at line 14402 of file JFSLParser.java.

```
9.101.5.454 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    setAdditiveExpression_in_multiplicativeExpression3166 = new BitSet(new
        long[] {0x0000000000000002L, 0x0000000000000000L, 0x006000008000000L})
    [static]
```

Definition at line 14279 of file JFSLParser.java.

```
9.101.5.455 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    setAdditiveExpression_in_multiplicativeExpression3187 = new BitSet(new
        long[] {0x0000000000000002L, 0x0000000000000000L, 0x006000008000000L})
    [static]
```

Definition at line 14281 of file JFSLParser.java.

```
9.101.5.456 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    setAdditiveOp_in_setAdditiveExpression3286 = new BitSet(new
        long[] {0x0000000000000000L, 0x001FC00000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
    [static]
```

Definition at line 14286 of file JFSLParser.java.

```
9.101.5.457 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_setDeclOp_-
    in_declarationMult1420 = new BitSet(new long[] {0x0000000000000002L})
    [static]
```

Definition at line 14143 of file JFSLParser.java.

9.101.5.458 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_setDeclOp_in_setUnaryOp4341 = new BitSet(new long[] {0x0000000000000002L})
[static]

Definition at line 14393 of file JFSLParser.java.

9.101.5.459 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_setQuantOp_in_quantifiedExpression2147 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L}) [static]

Definition at line 14202 of file JFSLParser.java.

9.101.5.460 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_setQuantOp_in_synpred63_JFSL2147 = new BitSet(new long[] {0x0000000000000000L, 0x0000400000000000L}) [static]

Definition at line 14421 of file JFSLParser.java.

9.101.5.461 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_setUnaryExpression_in_relationalExpression2756 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x000208000000280L})
[static]

Definition at line 14245 of file JFSLParser.java.

9.101.5.462 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_setUnaryExpression_in_relationalExpression2777 = new BitSet(new long[] {0x0000000000000002L, 0x0000000000000000L, 0x000208000000280L})
[static]

Definition at line 14247 of file JFSLParser.java.

9.101.5.463 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_setUnaryOp_in_setQuantOp4380 = new BitSet(new long[] {0x0000000000000002L})
[static]

Definition at line 14396 of file JFSLParser.java.

9.101.5.464 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_setUnaryOp_in_setUnaryExpression2896 = new BitSet(new long[] {0x0000000000000000L, 0x001FC0000000000L, 0xFC9C487FF0000820L, 0x00000000000000FFL})
[static]

Definition at line 14258 of file JFSLParser.java.

9.101.5.465 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
shiftExpression_in_setUnaryExpression2914 = new BitSet(new
long[]{0x0000000000000002L}) [static]

Definition at line 14260 of file JFSLParser.java.

9.101.5.466 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
shiftOp_in_shiftExpression2949 = new BitSet(new
long[]{0x0000000000000000L,0x001FC0000000000L,0xFC9C487FF0000820L,0x00000000000000FFL})
[static]

Definition at line 14262 of file JFSLParser.java.

9.101.5.467 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
sizeExpression_in_additiveExpression3034 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x000C000000000000L})
[static]

Definition at line 14271 of file JFSLParser.java.

9.101.5.468 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
sizeExpression_in_additiveExpression3056 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x000C000000000000L})
[static]

Definition at line 14273 of file JFSLParser.java.

9.101.5.469 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_specCase_-
in_synpred13_JFSL1057 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14401 of file JFSLParser.java.

9.101.5.470 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
specCase_in_typeBodyDeclaration1052 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000041L})
[static]

Definition at line 14097 of file JFSLParser.java.

9.101.5.471 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
specCase_in_typeBodyDeclaration1057 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000041L})
[static]

Definition at line 14099 of file JFSLParser.java.

```
9.101.5.472 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
specUnaryOp_in_relationalUnaryExpression3773 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000000800L})
[static]
```

Definition at line 14327 of file JFSLParser.java.

```
9.101.5.473 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
specUnaryOp_in_relationalUnaryExpression3791 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L}) [static]
```

Definition at line 14329 of file JFSLParser.java.

```
9.101.5.474 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
storePrimary_in_storeRef1497 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000008000000002L})
[static]
```

Definition at line 14149 of file JFSLParser.java.

```
9.101.5.475 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
storeRef_in_frame1467 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})
[static]
```

Definition at line 14146 of file JFSLParser.java.

```
9.101.5.476 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
storeRef_in_frame1472 = new BitSet(new
long[]{0x0000000000000002L,0x0000000000000000L,0x0000000000000100L})
[static]
```

Definition at line 14148 of file JFSLParser.java.

```
9.101.5.477 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
storeSelectors_in_storeRef1499 = new BitSet(new long[]{0x0000000000000002L})
[static]
```

Definition at line 14150 of file JFSLParser.java.

```
9.101.5.478 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
storeWildCard_in_storeSelectors1565 = new BitSet(new
long[]{0x0000000000000002L}) [static]
```

Definition at line 14154 of file JFSLParser.java.

9.101.5.479 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
storeWildCard_in_synpred37_JFSL1565 = new BitSet(new
long[]{0x0000000000000002L}) [static]

Definition at line 14412 of file JFSLParser.java.

9.101.5.480 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
StringLiteral_in_literal1681 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14164 of file JFSLParser.java.

9.101.5.481 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_type_in_-
instanceOfExpression2717 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 14244 of file JFSLParser.java.

9.101.5.482 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
type_in_methodParameters1104 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L})
[static]

Definition at line 14102 of file JFSLParser.java.

9.101.5.483 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
type_in_methodParameters1111 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L})
[static]

Definition at line 14105 of file JFSLParser.java.

9.101.5.484 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
typeBodyDeclaration_in_typeDeclaration892 = new BitSet(new
long[]{0x0000000000000000L,0x0000400000000000L,0x000000000000245DL})
[static]

Definition at line 14070 of file JFSLParser.java.

9.101.5.485 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
typeDeclaration_in_compilationUnit776 = new BitSet(new
long[]{0x0000000000000000L,0x0000000000000000L,0x0000000000000001L})
[static]

Definition at line 14056 of file JFSLParser.java.

9.101.5.486 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-_typeDeclaration_in_typeBodyDeclaration995 = new BitSet(new long[]{0x0000000000000002L}) [static]

Definition at line 14083 of file JFSLParser.java.

9.101.5.487 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-_typeDisambigous_in_primary3996 = new BitSet(new long[]{0x0000000000000002L}) [static]

Definition at line 14354 of file JFSLParser.java.

9.101.5.488 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-_typeDisambigous_in_synpred117_JFSL3996 = new BitSet(new long[]{0x0000000000000002L}) [static]

Definition at line 14428 of file JFSLParser.java.

9.101.5.489 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-_typeDisambigous_in_type1944 = new BitSet(new long[]{0x0000000000000002L}) [static]

Definition at line 14185 of file JFSLParser.java.

9.101.5.490 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-_typeName_in_primary4038 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x008000000000000L}) [static]

Definition at line 14359 of file JFSLParser.java.

9.101.5.491 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-_typeName_in_type1950 = new BitSet(new long[]{0x0000000000000002L}) [static]

Definition at line 14186 of file JFSLParser.java.

9.101.5.492 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-_typeName_in_typeDisambigous1908 = new BitSet(new long[]{0x000000000000000L,0x000000000000000L,0x0000008000000000L}) [static]

Definition at line 14182 of file JFSLParser.java.

9.101.5.493 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-_typeParameters2_in_primary4011 = new BitSet(new long[]{0x0000000000000002L}) [static]

Definition at line 14358 of file JFSLParser.java.

```
9.101.5.494 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    typeParameters2_in_synpred119_JFSL4011 = new BitSet(new
        long[ ]{0x0000000000000002L}) [static]
```

Definition at line 14431 of file JFSLParser.java.

```
9.101.5.495 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    typeParameters2_in_synpred120_JFSL4011 = new BitSet(new
        long[ ]{0x0000000000000002L}) [static]
```

Definition at line 14435 of file JFSLParser.java.

```
9.101.5.496 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    typeParameters_in_typeDeclaration883 = new BitSet(new
        long[ ]{0x0000000000000000L,0x0000000000000000L,0x0000000000000020L})
    [static]
```

Definition at line 14068 of file JFSLParser.java.

```
9.101.5.497 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    typeParameters_in_typeName1841 = new BitSet(new long[ ]{0x0000000000000002L})
    [static]
```

Definition at line 14178 of file JFSLParser.java.

```
9.101.5.498 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    unaryExpression_in_castExpression3677 = new BitSet(new
        long[ ]{0x0000000000000002L}) [static]
```

Definition at line 14316 of file JFSLParser.java.

```
9.101.5.499 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    unaryExpression_in_composeExpression3494 = new BitSet(new
        long[ ]{0x0000000000000002L,0x0000000000000000L,0x0200000000000000L})
    [static]
```

Definition at line 14299 of file JFSLParser.java.

```
9.101.5.500 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    unaryExpression_in_composeExpression3513 = new BitSet(new
        long[ ]{0x0000000000000002L,0x0000000000000000L,0x0200000000000000L})
    [static]
```

Definition at line 14301 of file JFSLParser.java.

```
9.101.5.501 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    unaryExpression_in_synpred99_JFSL3607 = new BitSet(new
        long[] {0x0000000000000002L}) [static]
```

Definition at line 14426 of file JFSLParser.java.

```
9.101.5.502 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    unaryExpression_in_unaryExpression3558 = new BitSet(new
        long[] {0x0000000000000002L}) [static]
```

Definition at line 14303 of file JFSLParser.java.

```
9.101.5.503 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    unaryExpression_in_unaryExpression3576 = new BitSet(new
        long[] {0x0000000000000002L}) [static]
```

Definition at line 14305 of file JFSLParser.java.

```
9.101.5.504 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    unaryExpression_in_unaryExpressionNotPlusMinus3607 = new BitSet(new
        long[] {0x0000000000000002L}) [static]
```

Definition at line 14308 of file JFSLParser.java.

```
9.101.5.505 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    unaryExpression_in_unaryExpressionNotPlusMinus3625 = new BitSet(new
        long[] {0x0000000000000002L}) [static]
```

Definition at line 14310 of file JFSLParser.java.

```
9.101.5.506 final BitSet edu.mit.csail.sdg.squander.parser.JFSLParser.FOLLOW_-
    unaryExpressionNotPlusMinus_in_unaryExpression3592 = new BitSet(new
        long[] {0x0000000000000002L}) [static]
```

Definition at line 14306 of file JFSLParser.java.

```
9.101.5.507 final int edu.mit.csail.sdg.squander.parser.JFSLParser.FRAME = 5 [static]
```

Definition at line 347 of file JFSLParser.java.

```
9.101.5.508 final int edu.mit.csail.sdg.squander.parser.JFSLParser.FRAME_ALL = 11
    [static]
```

Definition at line 350 of file JFSLParser.java.

9.101.5.509 final int edu.mit.csail.sdg.squander.parser.JFSLParser.FRAME_LOCATION = 10 [static]

Definition at line 282 of file JFSLParser.java.

9.101.5.510 final int edu.mit.csail.sdg.squander.parser.JFSLParser.HELPER = 108 [static]

Definition at line 321 of file JFSLParser.java.

9.101.5.511 final int edu.mit.csail.sdg.squander.parser.JFSLParser.HexDigit = 117 [static]

Definition at line 239 of file JFSLParser.java.

9.101.5.512 final int edu.mit.csail.sdg.squander.parser.JFSLParser.HexLiteral = 114 [static]

Definition at line 249 of file JFSLParser.java.

9.101.5.513 final int edu.mit.csail.sdg.squander.parser.JFSLParser.IDENTIFIER = 30 [static]

Definition at line 308 of file JFSLParser.java.

9.101.5.514 final int edu.mit.csail.sdg.squander.parser.JFSLParser.Identifier = 110 [static]

Definition at line 268 of file JFSLParser.java.

9.101.5.515 final int edu.mit.csail.sdg.squander.parser.JFSLParser.IMPORT = 99 [static]

Definition at line 183 of file JFSLParser.java.

9.101.5.516 final int edu.mit.csail.sdg.squander.parser.JFSLParser.IntegerTypeSuffix = 118 [static]

Definition at line 204 of file JFSLParser.java.

9.101.5.517 final int edu.mit.csail.sdg.squander.parser.JFSLParser.INVARIANT = 94 [static]

Definition at line 279 of file JFSLParser.java.

9.101.5.518 final int edu.mit.csail.sdg.squander.parser.JFSLParser.JavaIDDigit = 125 [static]

Definition at line 225 of file JFSLParser.java.

9.101.5.519 final int edu.mit.csail.sdg.squander.parser.JFSLParser.JOIN = 18 [static]

Definition at line 330 of file JFSLParser.java.

9.101.5.520 final int edu.mit.csail.sdg.squander.parser.JFSLParser.JOIN_REFLEXIVE = 19 [static]

Definition at line 258 of file JFSLParser.java.

9.101.5.521 final int edu.mit.csail.sdg.squander.parser.JFSLParser.Letter = 124 [static]

Definition at line 286 of file JFSLParser.java.

9.101.5.522 final int edu.mit.csail.sdg.squander.parser.JFSLParser.LIT_FALSE = 81 [static]

Definition at line 174 of file JFSLParser.java.

9.101.5.523 final int edu.mit.csail.sdg.squander.parser.JFSLParser.LIT_NULL = 82 [static]

Definition at line 265 of file JFSLParser.java.

9.101.5.524 final int edu.mit.csail.sdg.squander.parser.JFSLParser.LIT_TRUE = 80 [static]

Definition at line 294 of file JFSLParser.java.

9.101.5.525 final int edu.mit.csail.sdg.squander.parser.JFSLParser.METHOD = 100 [static]

Definition at line 354 of file JFSLParser.java.

9.101.5.526 final int edu.mit.csail.sdg.squander.parser.JFSLParser.METHOD_PARAMETERS = 101 [static]

Definition at line 215 of file JFSLParser.java.

9.101.5.527 final int edu.mit.csail.sdg.squander.parser.JFSLParser.MODIFIES = 106 [static]

Definition at line 266 of file JFSLParser.java.

9.101.5.528 final int edu.mit.csail.sdg.squander.parser.JFSLParser.NULL = 6 [static]

Definition at line 277 of file JFSLParser.java.

9.101.5.529 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OctalEscape = 123 [static]

Definition at line 255 of file JFSLParser.java.

9.101.5.530 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OctalLiteral = 115 [static]

Definition at line 261 of file JFSLParser.java.

9.101.5.531 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OLD = 22 [static]

Definition at line 280 of file JFSLParser.java.

9.101.5.532 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_AND = 38 [static]

Definition at line 259 of file JFSLParser.java.

**9.101.5.533 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_BIT_AND_OR_-
INTERSECTION = 43 [static]**

Definition at line 257 of file JFSLParser.java.

**9.101.5.534 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_BIT_NOT_OR_-
TRANSPOSE = 45 [static]**

Definition at line 295 of file JFSLParser.java.

9.101.5.535 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_BIT_OR = 40 [static]

Definition at line 309 of file JFSLParser.java.

**9.101.5.536 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_BIT_XOR = 41
[static]**

Definition at line 264 of file JFSLParser.java.

**9.101.5.537 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_CLOSURE = 46
[static]**

Definition at line 273 of file JFSLParser.java.

**9.101.5.538 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_DIFFERENCE = 59
[static]**

Definition at line 205 of file JFSLParser.java.

9.101.5.539 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_DIVIDE = 64 [static]

Definition at line 250 of file JFSLParser.java.

9.101.5.540 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_EQ = 35 [static]

Definition at line 182 of file JFSLParser.java.

9.101.5.541 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_EQUIV = 66 [static]

Definition at line 245 of file JFSLParser.java.

9.101.5.542 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_GEQ = 49 [static]

Definition at line 165 of file JFSLParser.java.

9.101.5.543 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_GT = 47 [static]

Definition at line 292 of file JFSLParser.java.

9.101.5.544 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_IMPLIES = 68 [static]

Definition at line 356 of file JFSLParser.java.

9.101.5.545 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_INSTANCEOF = 54 [static]

Definition at line 163 of file JFSLParser.java.

9.101.5.546 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_INTERSECTION = 42 [static]

Definition at line 171 of file JFSLParser.java.

9.101.5.547 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_LEQ = 50 [static]

Definition at line 348 of file JFSLParser.java.

9.101.5.548 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_LT = 48 [static]

Definition at line 272 of file JFSLParser.java.

9.101.5.549 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_MINUS = 58 [static]

Definition at line 270 of file JFSLParser.java.

9.101.5.550 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_MINUS_OR_MINUS_DIFFERENCE = 60 [static]

Definition at line 254 of file JFSLParser.java.

9.101.5.551 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_MOD = 65 [static]

Definition at line 181 of file JFSLParser.java.

9.101.5.552 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_NEQ = 36 [static]

Definition at line 344 of file JFSLParser.java.

9.101.5.553 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_NEQUIV = 67 [static]

Definition at line 248 of file JFSLParser.java.

9.101.5.554 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_NOT = 39 [static]

Definition at line 244 of file JFSLParser.java.

9.101.5.555 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_NSET_SUBSET = 79 [static]

Definition at line 326 of file JFSLParser.java.

9.101.5.556 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_OR = 37 [static]

Definition at line 236 of file JFSLParser.java.

9.101.5.557 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_PLUS = 55 [static]

Definition at line 320 of file JFSLParser.java.

9.101.5.558 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_PLUS_OR_UNION = 57 [static]

Definition at line 285 of file JFSLParser.java.

9.101.5.559 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_RELATIONAL_-COMPOSE = 62 [static]

Definition at line 263 of file JFSLParser.java.

9.101.5.560 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_RELATIONAL_- OVERRIDE = 61 [static]

Definition at line 284 of file JFSLParser.java.

9.101.5.561 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_ALL = 75 [static]

Definition at line 164 of file JFSLParser.java.

9.101.5.562 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_COMPREHENSION = 77 [static]

Definition at line 253 of file JFSLParser.java.

9.101.5.563 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_EXISTS = 76 [static]

Definition at line 324 of file JFSLParser.java.

9.101.5.564 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_LONE = 72 [static]

Definition at line 167 of file JFSLParser.java.

9.101.5.565 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_NO = 71 [static]

Definition at line 168 of file JFSLParser.java.

9.101.5.566 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_NUM = 73 [static]

Definition at line 333 of file JFSLParser.java.

9.101.5.567 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_ONE = 69 [static]

Definition at line 339 of file JFSLParser.java.

9.101.5.568 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_SOME = 70 [static]

Definition at line 246 of file JFSLParser.java.

9.101.5.569 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_SUBSET = 78 [static]

Definition at line 310 of file JFSLParser.java.

9.101.5.570 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SET_SUM = 74 [static]

Definition at line 275 of file JFSLParser.java.

9.101.5.571 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SHL = 51 [static]

Definition at line 214 of file JFSLParser.java.

9.101.5.572 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_SHR = 52 [static]

Definition at line 221 of file JFSLParser.java.

9.101.5.573 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_TIMES = 63 [static]

Definition at line 349 of file JFSLParser.java.

9.101.5.574 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_TRANSPOSE = 44 [static]

Definition at line 289 of file JFSLParser.java.

9.101.5.575 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_UNION = 56 [static]

Definition at line 353 of file JFSLParser.java.

9.101.5.576 final int edu.mit.csail.sdg.squander.parser.JFSLParser.OP_USHR = 53 [static]

Definition at line 242 of file JFSLParser.java.

9.101.5.577 final int edu.mit.csail.sdg.squander.parser.JFSLParser.PACKAGE = 96 [static]

Definition at line 160 of file JFSLParser.java.

9.101.5.578 final int edu.mit.csail.sdg.squander.parser.JFSLParser.PURE = 109 [static]

Definition at line 299 of file JFSLParser.java.

9.101.5.579 final int edu.mit.csail.sdg.squander.parser.JFSLParser.QUANTIFY = 14 [static]

Definition at line 269 of file JFSLParser.java.

9.101.5.580 final int edu.mit.csail.sdg.squander.parser.JFSLParser.REQUIRES = 104 [static]

Definition at line 340 of file JFSLParser.java.

9.101.5.581 final int edu.mit.csail.sdg.squander.parser.JFSLParser.RETURN_VAR = 32 [static]

Definition at line 355 of file JFSLParser.java.

9.101.5.582 final int edu.mit.csail.sdg.squander.parser.JFSLParser.SPECCASE = 102 [static]

Definition at line 311 of file JFSLParser.java.

9.101.5.583 final int edu.mit.csail.sdg.squander.parser.JFSLParser.SPECFIELD = 95 [static]

Definition at line 222 of file JFSLParser.java.

9.101.5.584 final int edu.mit.csail.sdg.squander.parser.JFSLParser.SPECIFICATION = 103 [static]

Definition at line 227 of file JFSLParser.java.

9.101.5.585 final int edu.mit.csail.sdg.squander.parser.JFSLParser.StringLiteral = 113 [static]

Definition at line 252 of file JFSLParser.java.

9.101.5.586 final int edu.mit.csail.sdg.squander.parser.JFSLParser.SUPER_VAR = 29 [static]

Definition at line 291 of file JFSLParser.java.

9.101.5.587 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__127 = 127 [static]

Definition at line 217 of file JFSLParser.java.

9.101.5.588 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__128 = 128 [static]

Definition at line 216 of file JFSLParser.java.

9.101.5.589 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__129 = 129 [static]

Definition at line 220 of file JFSLParser.java.

9.101.5.590 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__130 = 130 [static]

Definition at line 228 of file JFSLParser.java.

9.101.5.591 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__131 = 131 [static]

Definition at line 229 of file JFSLParser.java.

9.101.5.592 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__132 = 132 [static]

Definition at line 230 of file JFSLParser.java.

9.101.5.593 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__133 = 133 [static]

Definition at line 231 of file JFSLParser.java.

9.101.5.594 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__134 = 134 [static]

Definition at line 234 of file JFSLParser.java.

9.101.5.595 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__135 = 135 [static]

Definition at line 235 of file JFSLParser.java.

9.101.5.596 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__136 = 136 [static]

Definition at line 202 of file JFSLParser.java.

9.101.5.597 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__137 = 137 [static]

Definition at line 201 of file JFSLParser.java.

9.101.5.598 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__138 = 138 [static]

Definition at line 200 of file JFSLParser.java.

9.101.5.599 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__139 = 139 [static]

Definition at line 199 of file JFSLParser.java.

9.101.5.600 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__140 = 140 [static]

Definition at line 209 of file JFSLParser.java.

9.101.5.601 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__141 = 141 [static]

Definition at line 206 of file JFSLParser.java.

9.101.5.602 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__142 = 142 [static]

Definition at line 207 of file JFSLParser.java.

9.101.5.603 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__143 = 143 [static]

Definition at line 212 of file JFSLParser.java.

9.101.5.604 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__144 = 144 [static]

Definition at line 213 of file JFSLParser.java.

9.101.5.605 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__145 = 145 [static]

Definition at line 210 of file JFSLParser.java.

9.101.5.606 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__146 = 146 [static]

Definition at line 211 of file JFSLParser.java.

9.101.5.607 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__147 = 147 [static]

Definition at line 185 of file JFSLParser.java.

9.101.5.608 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__148 = 148 [static]

Definition at line 184 of file JFSLParser.java.

9.101.5.609 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__149 = 149 [static]

Definition at line 186 of file JFSLParser.java.

9.101.5.610 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__150 = 150 [static]

Definition at line 195 of file JFSLParser.java.

9.101.5.611 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__151 = 151 [static]

Definition at line 196 of file JFSLParser.java.

9.101.5.612 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__152 = 152 [static]

Definition at line 197 of file JFSLParser.java.

9.101.5.613 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__153 = 153 [static]

Definition at line 198 of file JFSLParser.java.

9.101.5.614 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__154 = 154 [static]

Definition at line 191 of file JFSLParser.java.

9.101.5.615 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__155 = 155 [static]

Definition at line 192 of file JFSLParser.java.

9.101.5.616 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__156 = 156 [static]

Definition at line 193 of file JFSLParser.java.

9.101.5.617 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__157 = 157 [static]

Definition at line 194 of file JFSLParser.java.

9.101.5.618 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__158 = 158 [static]

Definition at line 162 of file JFSLParser.java.

9.101.5.619 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__159 = 159 [static]

Definition at line 161 of file JFSLParser.java.

9.101.5.620 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__160 = 160 [static]

Definition at line 169 of file JFSLParser.java.

9.101.5.621 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__161 = 161 [static]

Definition at line 179 of file JFSLParser.java.

9.101.5.622 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__162 = 162 [static]

Definition at line 180 of file JFSLParser.java.

9.101.5.623 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__163 = 163 [static]

Definition at line 177 of file JFSLParser.java.

9.101.5.624 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__164 = 164 [static]

Definition at line 178 of file JFSLParser.java.

9.101.5.625 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__165 = 165 [static]

Definition at line 175 of file JFSLParser.java.

9.101.5.626 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__166 = 166 [static]

Definition at line 176 of file JFSLParser.java.

9.101.5.627 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__167 = 167 [static]

Definition at line 170 of file JFSLParser.java.

9.101.5.628 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__168 = 168 [static]

Definition at line 172 of file JFSLParser.java.

9.101.5.629 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__169 = 169 [static]

Definition at line 352 of file JFSLParser.java.

9.101.5.630 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__170 = 170 [static]

Definition at line 346 of file JFSLParser.java.

9.101.5.631 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__171 = 171 [static]

Definition at line 345 of file JFSLParser.java.

9.101.5.632 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__172 = 172 [static]

Definition at line 335 of file JFSLParser.java.

9.101.5.633 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__173 = 173 [static]

Definition at line 334 of file JFSLParser.java.

9.101.5.634 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__174 = 174 [static]

Definition at line 332 of file JFSLParser.java.

9.101.5.635 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__175 = 175 [static]

Definition at line 331 of file JFSLParser.java.

9.101.5.636 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__176 = 176 [static]

Definition at line 342 of file JFSLParser.java.

9.101.5.637 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__177 = 177 [static]

Definition at line 341 of file JFSLParser.java.

9.101.5.638 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__178 = 178 [static]

Definition at line 338 of file JFSLParser.java.

9.101.5.639 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__179 = 179 [static]

Definition at line 337 of file JFSLParser.java.

9.101.5.640 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__180 = 180 [static]

Definition at line 322 of file JFSLParser.java.

9.101.5.641 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__181 = 181 [static]

Definition at line 327 of file JFSLParser.java.

9.101.5.642 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__182 = 182 [static]

Definition at line 325 of file JFSLParser.java.

9.101.5.643 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__183 = 183 [static]

Definition at line 313 of file JFSLParser.java.

9.101.5.644 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__184 = 184 [static]

Definition at line 312 of file JFSLParser.java.

9.101.5.645 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__185 = 185 [static]

Definition at line 315 of file JFSLParser.java.

9.101.5.646 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__186 = 186 [static]

Definition at line 314 of file JFSLParser.java.

9.101.5.647 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__187 = 187 [static]

Definition at line 317 of file JFSLParser.java.

9.101.5.648 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__188 = 188 [static]

Definition at line 316 of file JFSLParser.java.

9.101.5.649 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__189 = 189 [static]

Definition at line 319 of file JFSLParser.java.

9.101.5.650 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__190 = 190 [static]

Definition at line 307 of file JFSLParser.java.

9.101.5.651 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__191 = 191 [static]

Definition at line 306 of file JFSLParser.java.

9.101.5.652 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__192 = 192 [static]

Definition at line 305 of file JFSLParser.java.

9.101.5.653 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__193 = 193 [static]

Definition at line 304 of file JFSLParser.java.

9.101.5.654 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__194 = 194 [static]

Definition at line 303 of file JFSLParser.java.

9.101.5.655 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__195 = 195 [static]

Definition at line 302 of file JFSLParser.java.

9.101.5.656 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__196 = 196 [static]

Definition at line 301 of file JFSLParser.java.

9.101.5.657 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__197 = 197 [static]

Definition at line 300 of file JFSLParser.java.

9.101.5.658 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__198 = 198 [static]

Definition at line 298 of file JFSLParser.java.

9.101.5.659 final int edu.mit.csail.sdg.squander.parser.JFSLParser.T__199 = 199 [static]

Definition at line 296 of file JFSLParser.java.

9.101.5.660 final int edu.mit.csail.sdg.squander.parser.JFSLParser.THIS_VAR = 28 [static]

Definition at line 203 of file JFSLParser.java.

9.101.5.661 final int edu.mit.csail.sdg.squander.parser.JFSLParser.THROW_VAR = 33 [static]

Definition at line 251 of file JFSLParser.java.

9.101.5.662 final int edu.mit.csail.sdg.squander.parser.JFSLParser.THROWS = 107 [static]

Definition at line 281 of file JFSLParser.java.

9.101.5.663 final String [] edu.mit.csail.sdg.squander.parser.JFSLParser.tokenNames [static]

Initial value:

```
new String[] {
    "<invalid>", "<EOR>", "<DOWN>", "<UP>", "DECLARATION", "FRAME", "NULL", "DECL_SET", "DECL_SEQ", "DECL_NONE", "FRAME_LOCATION", "FRAME_ALL", "BINARY", "UNARY", "QUANTIFY", "CONDITIONAL", "ARGUMENTS", "CHAIN", "JOIN", "JOIN_REFLEXIVE", "BRACKET", "CALL", "OLD", "ARGUMENT", "AMBIGUOUS", "FIELD", "CAST", "CLASS_DESIGNATOR", "THIS_VAR", "SUPER_VAR", "IDENTIFIER", "VOID", "RETURN_VAR", "THROW_VAR", "DECLS", "OP_EQ", "OP_NEQ", "OP_OR", "OP_AND", "OP_NOT", "OP_BIT_OR", "OP_BIT_XOR", "OP_INTERSECTION", "OP_BIT_AND_OR_INTERSECTION", "OP_TRANSPOSE", "OP_BIT_NOT_OR_TRANSPOSE", "OP_CLOSURE", "OP_GT", "OP_LT", "OP_GEQ", "OP_LEQ", "OP_SHL", "OP_SHR", "OP_USHR", "OP_INSTANCEOF", "OP_PLUS", "OP_UNION", "OP_PLUS_OR_UNION", "OP_MINUS", "OP_DIFFERENCE", "OP_MINUS_OR_DIFFERENCE", "OP_RELATIONAL_OVERRIDE", "OP_RELATIONAL_COMPOSE", "OP_TIMES", "OP_DIVIDE", "OP_MOD", "OP_EQUIV", "OP_NEQUIV", "OP_IMPLIES", "OP_SET_ONE", "OP_SET_SOME", "OP_SET_NO", "OP_SET_LONE", "OP_SET_NUM", "OP_SET_SUM", "OP_SET_ALL", "OP_SET_EXISTS", "OP_SET_COMPREHENSION", "OP_SET_SUBSET", "OP_NSET_SUBSET", "LIT_TRUE", "LIT_FALSE", "LIT_NULL", "TYPE_BOOLEAN", "TYPE_CHAR", "TYPE_BYTE", "TYPE_SHORT", "TYPE_INT", "TYPE_LONG", "TYPE_FLOAT", "TYPE_DOUBLE", "TYPE_REF", "TYPE_ARRAY", "FILE", "INVARIANT", "SPECFIELD", "PACKAGE", "TYPE_DECLARATION", "TYPE_PARAMETERS", "IMPORT", "METHOD", "METHOD_PARAMETERS", "SPECCASE", "SPECIFICATION", "REQUIRES", "ENSURES", "MODIFIES", "THROWS", "HELPER", "PURE", "Identifier", "FloatingPointLiteral", "CharacterLiteral", "StringLiteral", "HexLiteral", "OctalLiteral", "DecimalLiteral", "HexDigit", "IntegerTypeSuffix", "Exponent", "FloatTypeSuffix", "EscapeSequence", "UnicodeEscape", "OctalEscape", "Letter", "JavaIDDigit", "WS", "'package'", "';', "'.'", "'import'", "'class'", "'interface'", "'{{', '}}'", "'<'", "'>'", "'@Invariant'", "'('', ')'", "'@SpecField'", "'@Requires'", "'@Ensures'", "'@Throws'", "'@Modifies'", "'@Helper'", "'@Pure'", "'public'", "'private'", "':'", "'from'", "'|'", "'set'", "'seq'", "'*' ", "'true'", "'false'", "'null'", "'boolean'", "'char'", "'byte'", "'short'", "'int'", "'long'", "'float'", "'double'", " '['", ']' ", "'?' ", "'=' ", "'!' ", "'||'", "'&&' ", "'^'", "'&' ", "'instanceof'", "'in'", "'+' ", "'-' ", "'#' ", "'/' ", "'%' ", "'@'", "'++'", "'->' ", "'~'", "'return'", "'throw'", "'this'", "'super'", "'@old'", "'@arg'", "'one'", "'some'", "'lone'", "'no'", "'sum'", "'all'", "'exists'"
}
```

Definition at line 157 of file JFSLParser.java.

9.101.5.664 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_ARRAY = 92 [static]

Definition at line 336 of file JFSLParser.java.

**9.101.5.665 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_BOOLEAN = 83
[static]**

Definition at line 288 of file JFSLParser.java.

**9.101.5.666 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_BYTE = 85
[static]**

Definition at line 187 of file JFSLParser.java.

**9.101.5.667 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_CHAR = 84
[static]**

Definition at line 223 of file JFSLParser.java.

**9.101.5.668 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_DECLARATION = 97
[static]**

Definition at line 297 of file JFSLParser.java.

**9.101.5.669 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_DOUBLE = 90
[static]**

Definition at line 267 of file JFSLParser.java.

**9.101.5.670 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_FLOAT = 89
[static]**

Definition at line 323 of file JFSLParser.java.

9.101.5.671 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_INT = 87 [static]

Definition at line 166 of file JFSLParser.java.

**9.101.5.672 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_LONG = 88
[static]**

Definition at line 238 of file JFSLParser.java.

**9.101.5.673 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_PARAMETERS = 98
[static]**

Definition at line 190 of file JFSLParser.java.

9.101.5.674 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_REF = 91 [static]

Definition at line 218 of file JFSLParser.java.

9.101.5.675 final int edu.mit.csail.sdg.squander.parser.JFSLParser.TYPE_SHORT = 86 [static]

Definition at line 318 of file JFSLParser.java.

9.101.5.676 final int edu.mit.csail.sdg.squander.parser.JFSLParser.UNARY = 13 [static]

Definition at line 247 of file JFSLParser.java.

9.101.5.677 final int edu.mit.csail.sdg.squander.parser.JFSLParser.UnicodeEscape = 122 [static]

Definition at line 343 of file JFSLParser.java.

9.101.5.678 final int edu.mit.csail.sdg.squander.parser.JFSLParser.VOID = 31 [static]

Definition at line 271 of file JFSLParser.java.

9.101.5.679 final int edu.mit.csail.sdg.squander.parser.JFSLParser.WS = 126 [static]

Definition at line 219 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/parser/[JFSLParser.java](#)

9.102 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38 Class Reference

Public Member Functions

- [DFA38](#) (`BaseRecognizer recognizer`)
- String [getDescription \(\)](#)

9.102.1 Detailed Description

Definition at line 13434 of file JFSLParser.java.

9.102.2 Constructor & Destructor Documentation

9.102.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38 (`BaseRecognizer recognizer`)

Definition at line 13436 of file JFSLParser.java.

9.102.3 Member Function Documentation

9.102.3.1 String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38.getDescription ()

Definition at line 13447 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/parser/[JFSLParser.java](#)

9.103 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42 Class Reference

Public Member Functions

- [DFA42](#) (`BaseRecognizer recognizer`)
- String [getDescription \(\)](#)
- int [specialStateTransition](#) (`int s, IntStream _input`) throws `NoViableAltException`

9.103.1 Detailed Description

Definition at line 13523 of file JFSLParser.java.

9.103.2 Constructor & Destructor Documentation

9.103.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42.DFA42 (`BaseRecognizer recognizer`)

Definition at line 13525 of file JFSLParser.java.

9.103.3 Member Function Documentation

9.103.3.1 String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42.getDescription ()

Definition at line 13536 of file JFSLParser.java.

9.103.3.2 int edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42.specialStateTransition (`int s, IntStream _input`) throws `NoViableAltException`

Definition at line 13539 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/parser/[JFSLParser.java](#)

9.104 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69 Class Reference

Public Member Functions

- [DFA69](#) (`BaseRecognizer recognizer`)
- `String getDescription \(\)`
- `int specialStateTransition (int s, IntStream _input) throws NoViableAltException`

9.104.1 Detailed Description

Definition at line 13704 of file JFSLParser.java.

9.104.2 Constructor & Destructor Documentation

9.104.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69.[DFA69](#) (`BaseRecognizer recognizer`)

Definition at line 13706 of file JFSLParser.java.

9.104.3 Member Function Documentation

9.104.3.1 `String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69.getDescription \(\)`

Definition at line 13717 of file JFSLParser.java.

9.104.3.2 `int edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69.specialStateTransition (int s, IntStream _input) throws NoViableAltException`

Definition at line 13720 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/parser/JFSLParser.java`

9.105 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77 Class Reference

Public Member Functions

- [DFA77](#) (`BaseRecognizer recognizer`)
- `String getDescription \(\)`
- `int specialStateTransition (int s, IntStream _input) throws NoViableAltException`

9.105.1 Detailed Description

Definition at line 13935 of file JFSLParser.java.

9.105.2 Constructor & Destructor Documentation

9.105.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77.[DFA77](#) (`BaseRecognizer recognizer`)

Definition at line 13937 of file JFSLParser.java.

9.105.3 Member Function Documentation

9.105.3.1 `String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77.getDescription \(\)`

Definition at line 13948 of file JFSLParser.java.

9.105.3.2 `int edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77.specialStateTransition (int s, IntStream _input) throws NoViableAltException`

Definition at line 13951 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/parser/JFSLParser.java`

9.106 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78 Class Reference

Public Member Functions

- [DFA78](#) (`BaseRecognizer recognizer`)
- `String getDescription \(\)`
- `int specialStateTransition (int s, IntStream _input) throws NoViableAltException`

9.106.1 Detailed Description

Definition at line 13829 of file JFSLParser.java.

9.106.2 Constructor & Destructor Documentation

9.106.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78.[BaseRecognizer recognizer](#)

Definition at line 13831 of file JFSLParser.java.

9.106.3 Member Function Documentation

9.106.3.1 `String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78.getDescription \(\)`

Definition at line 13842 of file JFSLParser.java.

9.106.3.2 `int edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78.specialStateTransition \(int s, IntStream _input\) throws NoViableAltException`

Definition at line 13845 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/parser/JFSLParser.java`

9.107 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79 Class Reference

Public Member Functions

- [DFA79](#) (`BaseRecognizer recognizer`)
- String [getDescription \(\)](#)

9.107.1 Detailed Description

Definition at line 14027 of file JFSLParser.java.

9.107.2 Constructor & Destructor Documentation

9.107.2.1 edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79.DFA79 (`BaseRecognizer recognizer`)

Definition at line 14029 of file JFSLParser.java.

9.107.3 Member Function Documentation

9.107.3.1 String edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79.getDescription ()

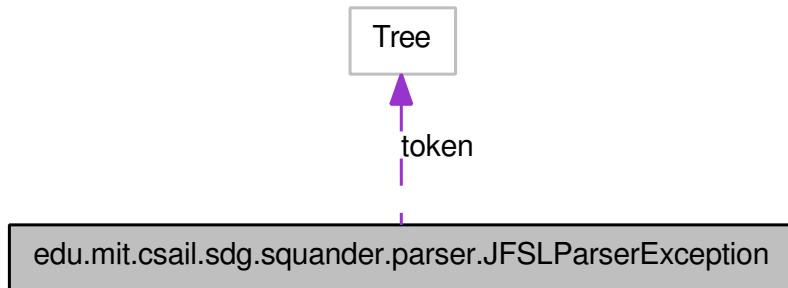
Definition at line 14040 of file JFSLParser.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/parser/[JFSLParser.java](#)

9.108 edu.mit.csail.sdg.squander.parser.JFSLParserException Class Reference

Inherited by [edu.mit.csail.sdg.squander.spec.TypeCheckException](#).Collaboration diagram for [edu.mit.csail.sdg.squander.parser.JFSLParserException](#):



Public Member Functions

- [JFSLParserException \(String msg\)](#)
- [JFSLParserException \(String msg, Throwable cause\)](#)
- [JFSLParserException \(String msg, Tree token\)](#)
- [JFSLParserException \(String msg, String source\)](#)
- [JFSLParserException \(RecognitionException cause\)](#)
- [JFSLParserException \(Throwable cause\)](#)
- [JFSLParserException \(Throwable cause, Tree token\)](#)
- void [setToken \(Tree token\)](#)
- void [setSource \(String source\)](#)
- String [source \(\)](#)
- int [column \(\)](#)
- int [line \(\)](#)
- String [token \(\)](#)

Private Member Functions

- [StringBuilder layout \(Tree t, StringBuilder sb, String buf\)](#)

Private Attributes

- int [line = -1](#)
- int [column = -1](#)
- Tree [token](#)
- String [source](#)

9.108.1 Detailed Description

Parsing exception.

Author:

kuat

Definition at line 16 of file JFSLParserException.java.

9.108.2 Constructor & Destructor Documentation

9.108.2.1 `edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (String msg)`

Definition at line 26 of file JFSLParserException.java.

9.108.2.2 `edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (String msg, Throwable cause)`

Definition at line 30 of file JFSLParserException.java.

9.108.2.3 `edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (String msg, Tree token)`

Definition at line 34 of file JFSLParserException.java.

9.108.2.4 `edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (String msg, String source)`

Definition at line 39 of file JFSLParserException.java.

9.108.2.5 `edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (RecognitionException cause)`

Definition at line 44 of file JFSLParserException.java.

9.108.2.6 `edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (Throwable cause)`

Definition at line 51 of file JFSLParserException.java.

9.108.2.7 `edu.mit.csail.sdg.squander.parser.JFSLParserException.JFSLParserException (Throwable cause, Tree token)`

Definition at line 55 of file JFSLParserException.java.

9.108.3 Member Function Documentation

9.108.3.1 int edu.mit.csail.sdg.squander.parser.JFSLParserException.column ()

Definition at line 76 of file JFSLParserException.java.

9.108.3.2 StringBuilder edu.mit.csail.sdg.squander.parser.JFSLParserException.layout (Tree *t*, StringBuilder *sb*, String *buf*) [private]

Token tree output

Definition at line 93 of file JFSLParserException.java.

9.108.3.3 int edu.mit.csail.sdg.squander.parser.JFSLParserException.line ()

Definition at line 80 of file JFSLParserException.java.

9.108.3.4 void edu.mit.csail.sdg.squander.parser.JFSLParserException.setSource (String *source*)

Definition at line 68 of file JFSLParserException.java.

Referenced by edu.mit.csail.sdg.squander.spec.Source.typecheck().

9.108.3.5 void edu.mit.csail.sdg.squander.parser.JFSLParserException.setToken (Tree *token*)

Definition at line 60 of file JFSLParserException.java.

Referenced by edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visit().

9.108.3.6 String edu.mit.csail.sdg.squander.parser.JFSLParserException.source ()

Definition at line 72 of file JFSLParserException.java.

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

9.108.3.7 String edu.mit.csail.sdg.squander.parser.JFSLParserException.token ()

Report the deepest subtree in the tree as text

Definition at line 85 of file JFSLParserException.java.

9.108.4 Member Data Documentation

9.108.4.1 int edu.mit.csail.sdg.squander.parser.JFSLParserException.column = -1 [private]

Definition at line 18 of file JFSLParserException.java.

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

9.108.4.2 int edu.mit.csail.sdg.squander.parser.JFSLParserException.line = -1 [private]

line and column of the error, -1 if not specified

Definition at line 18 of file JFSLParserException.java.

9.108.4.3 String edu.mit.csail.sdg.squander.parser.JFSLParserException.source [private]

source string, may not correspond to the token

Definition at line 24 of file JFSLParserException.java.

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

9.108.4.4 Tree edu.mit.csail.sdg.squander.parser.JFSLParserException.token [private]

token at which the error occurred

Definition at line 21 of file JFSLParserException.java.

Referenced by edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visit().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/parser/JFSLParserException.java

9.109 edu.mit.csail.sdg.squander.regressions.Tests Class Reference

Public Member Functions

- void [testMake \(\)](#)

Package Functions

- [Tests\[\] make \(\)](#)

9.109.1 Detailed Description

Definition at line 17 of file Tests.java.

9.109.2 Member Function Documentation

9.109.2.1 Tests [] edu.mit.csail.sdg.squander.regressions.Tests.make () [package]

Definition at line 22 of file Tests.java.

Referenced by [edu.mit.csail.sdg.squander.regressions.Tests.testMake\(\)](#).

9.109.2.2 void edu.mit.csail.sdg.squander.regressions.Tests.testMake ()

Definition at line 27 of file Tests.java.

References [edu.mit.csail.sdg.squander.regressions.Tests.make\(\)](#).

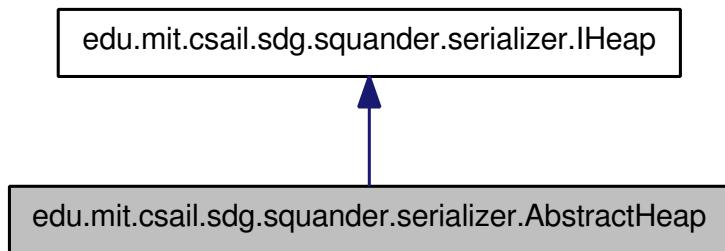
The documentation for this class was generated from the following file:

- [tests/edu/mit/csail/sdg/squander/regressions/Tests.java](#)

9.110 edu.mit.csail.sdg.squander.serializer.AbstractHeap Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::IHeap](#).

Inherited by [edu.mit.csail.sdg.squander.engine.Heap](#).Collaboration diagram for [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#):



Public Member Functions

- void [serialize \(HeapListener listener\)](#)
- void [serialize \(HeapListener listener, Predicate< Field > pred\)](#)

Protected Member Functions

- abstract List< Object > [getHeapObjects \(\)](#)

9.110.1 Detailed Description

Common abstract base class for all (or some) concrete heap classes.

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 19 of file `AbstractHeap.java`.

9.110.2 Member Function Documentation

9.110.2.1 abstract List<Object>

```
edu.mit.csail.sdg.squander.serializer.AbstractHeap.getHeapObjects ()
[protected, pure virtual]
```

Returns all object on this heap.

Implemented in [edu.mit.csail.sdg.squander.engine.Heap](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.AbstractHeap.serialize\(\)](#).

9.110.2.2 void edu.mit.csail.sdg.squander.serializer.AbstractHeap.serialize (HeapListener *listener*, Predicate< Field > *pred*)

Serializes whole heap (all object on the heap). The given listener gets notified about all visited objects and their fields.

Parameters:

listener : gets informed about traversed objects/fields

pred : tell which fields to follow during the serialization

Implements [edu.mit.csail.sdg.squander.serializer.IHeap](#).

Definition at line 26 of file AbstractHeap.java.

References [edu.mit.csail.sdg.squander.serializer.AbstractHeap.getHeapObjects\(\)](#), and [edu.mit.csail.sdg.squander.serializer.Serializer.serialize\(\)](#).

9.110.2.3 void edu.mit.csail.sdg.squander.serializer.AbstractHeap.serialize (HeapListener *listener*)

Definition at line 21 of file AbstractHeap.java.

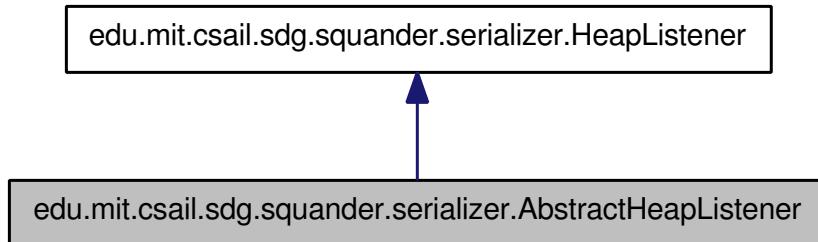
Referenced by [edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene\(\)](#).

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/AbstractHeap.java](#)

9.111 edu.mit.csail.sdg.squander.serializer.AbstractHeapListener Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::HeapListener.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#):



Public Member Functions

- void [newObject](#) (Object obj)
- void [visitPrimitive](#) (Object obj)
- void [visitArrayIntField](#) (Object sourceArray, int index, int value)
- void [visitArrayLength](#) (Object sourceArray, int length)
- void [visitArrayRefField](#) (Object sourceArray, int index, Object value)
- void [visitBooleanField](#) (Field field, Object obj, boolean value)
- void [visitIntField](#) (Field field, Object source, int value)
- void [visitRefField](#) (Field field, Object source, Object value)

9.111.1 Detailed Description

Provides no-ops for every required method.

Author:

drayside

Definition at line 16 of file [AbstractHeapListener.java](#).

9.111.2 Member Function Documentation

9.111.2.1 void [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.newObject](#) (Object *obj*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 18 of file [AbstractHeapListener.java](#).

9.111.2.2 void [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitArrayIntField](#) (Object *sourceArray*, int *index*, int *value*)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 20 of file [AbstractHeapListener.java](#).

**9.111.2.3 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitArrayLength
(Object sourceArray, int length)**

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 21 of file AbstractHeapListener.java.

**9.111.2.4 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitArrayRefField
(Object sourceArray, int index, Object value)**

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 22 of file AbstractHeapListener.java.

**9.111.2.5 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitBooleanField (Field
field, Object obj, boolean value)**

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 23 of file AbstractHeapListener.java.

**9.111.2.6 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitIntField (Field field,
Object source, int value)**

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 24 of file AbstractHeapListener.java.

**9.111.2.7 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitPrimitive (Object
obj)**

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 19 of file AbstractHeapListener.java.

**9.111.2.8 void edu.mit.csail.sdg.squander.serializer.AbstractHeapListener.visitRefField (Field
field, Object source, Object value)**

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

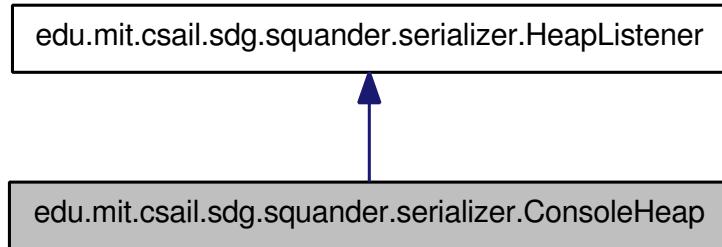
Definition at line 25 of file AbstractHeapListener.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/serializer/[AbstractHeapListener.java](#)

9.112 edu.mit.csail.sdg.squander.serializer.ConsoleHeap Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::HeapListener.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#):



Public Member Functions

- void [newObject](#) (final Object obj)
- void [visitPrimitive](#) (Object obj)
- void [visitRefField](#) (final Field field, final Object source, final Object value)
- void [visitIntField](#) (final Field field, final Object source, final int value)
- void [visitBooleanField](#) (final Field field, final Object source, final boolean value)
- void [visitArrayIntField](#) (Object sourceArray, int index, int value)
- void [visitArrayRefField](#) (Object sourceArray, int index, Object value)
- void [visitArrayLength](#) (Object sourceArray, final int length)

9.112.1 Detailed Description

Just prints out things to the console, as told to it by a [Serializer](#).

See also:

[Serializer](#)
[HeapListener](#)

Author:

drayside

Definition at line 20 of file `ConsoleHeap.java`.

9.112.2 Member Function Documentation

9.112.2.1 void [edu.mit.csail.sdg.squander.serializer.ConsoleHeap.newObject](#) (final Object *obj*)

Definition at line 23 of file `ConsoleHeap.java`.

Referenced by [edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitPrimitive\(\)](#).

9.112.2.2 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitArrayIntField (Object sourceArray, int index, int value)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 55 of file ConsoleHeap.java.

9.112.2.3 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitArrayLength (Object sourceArray, final int length)

Definition at line 71 of file ConsoleHeap.java.

9.112.2.4 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitArrayRefField (Object sourceArray, int index, Object value)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 63 of file ConsoleHeap.java.

9.112.2.5 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitBooleanField (final Field field, final Object source, final boolean value)

Definition at line 48 of file ConsoleHeap.java.

9.112.2.6 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitIntField (final Field field, final Object source, final int value)

Definition at line 41 of file ConsoleHeap.java.

9.112.2.7 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitPrimitive (Object obj)

Implements [edu.mit.csail.sdg.squander.serializer.HeapListener](#).

Definition at line 28 of file ConsoleHeap.java.

References [edu.mit.csail.sdg.squander.serializer.ConsoleHeap.newObject\(\)](#).

9.112.2.8 void edu.mit.csail.sdg.squander.serializer.ConsoleHeap.visitRefField (final Field field, final Object source, final Object value)

Definition at line 33 of file ConsoleHeap.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/ConsoleHeap.java](#)

9.113 edu.mit.csail.sdg.squander.serializer.HeapListener Interface Reference

Inherited by [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#), and [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#).

Public Member Functions

- void [newObject](#) (Object obj)
- void [visitPrimitive](#) (Object obj)
- void [visitRefField](#) (Field field, Object source, Object value)
- void [visitIntField](#) (Field field, Object source, int value)
- void [visitBooleanField](#) (Field field, Object obj, boolean value)
- void [visitArrayIntField](#) (Object sourceArray, int index, int value)
- void [visitArrayRefField](#) (Object sourceArray, int index, Object value)
- void [visitArrayLength](#) (Object sourceArray, int length)

9.113.1 Detailed Description

An interface for listening to events generated by the [Serializer](#).

See also:

[Serializer](#)

Author:

drayside

Definition at line 16 of file HeapListener.java.

9.113.2 Member Function Documentation

9.113.2.1 void edu.mit.csail.sdg.squander.serializer.HeapListener.newObject (Object *obj*)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.serialize\(\)](#).

9.113.2.2 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayIntField (Object *sourceArray*, int *index*, int *value*)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#), and [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.traverseIntArray\(\)](#).

9.113.2.3 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayLength (Object sourceArray, int length)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.traverseIntArray\(\)](#), and [edu.mit.csail.sdg.squander.serializer.Serializer.traverseObjArray\(\)](#).

9.113.2.4 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayRefField (Object sourceArray, int index, Object value)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#), and [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.traverseObjArray\(\)](#).

9.113.2.5 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitBooleanField (Field field, Object obj, boolean value)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass\(\)](#).

9.113.2.6 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitIntField (Field field, Object source, int value)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass\(\)](#).

9.113.2.7 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitPrimitive (Object obj)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#), and [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.serialize\(\)](#).

9.113.2.8 void edu.mit.csail.sdg.squander.serializer.HeapListener.visitRefField (Field field, Object source, Object value)

Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#).

Referenced by [edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass\(\)](#).

The documentation for this interface was generated from the following file:

- src/edu/mit/csail/sdg/squander/serializer/[HeapListener.java](#)

9.114 edu.mit.csail.sdg.squander.serializer.IHeap Interface Reference

Inherited by [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#).

Public Member Functions

- void [serialize \(HeapListener listener, Predicate< Field > pred\)](#)

9.114.1 Detailed Description

An abstract representation of the heap (at least the part that we care about)

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 17 of file IHeap.java.

9.114.2 Member Function Documentation

9.114.2.1 void edu.mit.csail.sdg.squander.serializer.IHeap.serialize (HeapListener *listener*, Predicate< Field > *pred*)

Serializes whole heap (all object on the heap). The given listener gets notified about all visited objects and their fields.

Parameters:

listener : gets informed about traversed objects/fields

pred : tell which fields to follow during the serialization

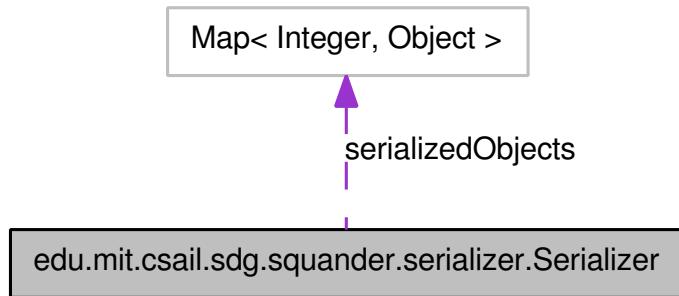
Implemented in [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#).

The documentation for this interface was generated from the following file:

- src/edu/mit/csail/sdg/squander/serializer/[IHeap.java](#)

9.115 edu.mit.csail.sdg.squander.serializer.Serializer Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.serializer.Serializer:



Public Member Functions

- `List< Object > serializedObjects ()`
- `void serialize (Object obj, HeapListener listener, Predicate< Field > fieldPred)`
- `void mutate (final Field field, final int sourceId, final int targetId)`
- `void dispose ()`

Private Types

- `enum Phase { Serialization, Mutation, Disposed }`

Private Member Functions

- `void serializeArray (Object obj, HeapListener listener, Predicate< Field > fieldPred)`
- `void traverseIntArray (Object obj, HeapListener listener)`
- `void traverseObjArray (Object obj, HeapListener listener, Predicate< Field > fieldPred)`
- `void serializeClass (Object obj, HeapListener listener, Predicate< Field > fieldPred)`

Private Attributes

- `final Map< Integer, Object > serializedObjects = new HashMap< Integer, Object >()`
- `Phase phase = Phase.Serialization`

9.115.1 Detailed Description

Definition at line 22 of file Serializer.java.

9.115.2 Member Enumeration Documentation

9.115.2.1 enum edu::mit::csail::sdg::squander::serializer::Serializer::Phase [private]

Enumerator:

Serialization

Mutation

Disposed

Definition at line 26 of file Serializer.java.

9.115.3 Member Function Documentation

9.115.3.1 void edu.mit.csail.sdg.squander.serializer.Serializer.dispose()

Definition at line 209 of file Serializer.java.

References edu.mit.csail.sdg.squander.serializer.Serializer.phase, and edu.mit.csail.sdg.squander.serializer.Serializer.serializedC

9.115.3.2 void edu.mit.csail.sdg.squander.serializer.Serializer.mutate (final Field *field*, final int *sourceId*, final int *targetId*)

Definition at line 191 of file Serializer.java.

References edu.mit.csail.sdg.squander.serializer.Serializer.phase, and edu.mit.csail.sdg.squander.serializer.Serializer.serializedC

9.115.3.3 void edu.mit.csail.sdg.squander.serializer.Serializer.serialize (Object *obj*, HeapListener *listener*, Predicate<Field> *fieldPred*)

Parameters:

obj : the root object (to start the serialization from)

listener : gets informed about traversed object/fields

fieldPred : simple predicate function. Used during the heap serialization (traversal) to determine whether a field should be followed or not.

Definition at line 51 of file Serializer.java.

References edu.mit.csail.sdg.squander.serializer.HeapListener.newObject(),
edu.mit.csail.sdg.squander.serializer.Serializer.phase, edu.mit.csail.sdg.squander.serializer.Serializer.serializeArray(),
edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass(), edu.mit.csail.sdg.squander.serializer.Serializer.serializedObjects
and edu.mit.csail.sdg.squander.serializer.HeapListener.visitPrimitive().

Referenced by edu.mit.csail.sdg.squander.serializer.AbstractHeap.serialize(),
edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass(), and edu.mit.csail.sdg.squander.serializer.Serializer.traverseObjA

9.115.3.4 void edu.mit.csail.sdg.squander.serializer.Serializer.serializeArray (Object *obj*, HeapListener *listener*, Predicate<Field> *fieldPred*) [private]

Goes through the elements of the given array, notifies the given listener about those array elements, and finally recursively calls serialize on every array element (unless array is of primitive type)

Author:

Aleksandar Milicevic

Parameters:

fieldPred

Definition at line 92 of file Serializer.java.

References edu.mit.csail.sdg.squander.serializer.Serializer.traverseIntArray(), and edu.mit.csail.sdg.squander.serializer.Serializer.traverseObjArray().

Referenced by edu.mit.csail.sdg.squander.serializer.Serializer.serialize().

9.115.3.5 void edu.mit.csail.sdg.squander.serializer.Serializer.serializeClass (Object *obj*, HeapListener *listener*, Predicate< Field >*fieldPred*) [private]

Definition at line 140 of file Serializer.java.

References edu.mit.csail.sdg.squander.serializer.Serializer.serialize(), edu.mit.csail.sdg.squander.serializer.HeapListener.visitBoxedObject(), edu.mit.csail.sdg.squander.serializer.HeapListener.visitIntField(), and edu.mit.csail.sdg.squander.serializer.HeapListener.visitReference().

Referenced by edu.mit.csail.sdg.squander.serializer.Serializer.serialize().

9.115.3.6 List<Object> edu.mit.csail.sdg.squander.serializer.Serializer.serializedObjects ()

Returns an unmodifiable list of the objects that have been serialized.

Returns:

Definition at line 33 of file Serializer.java.

Referenced by edu.mit.csail.sdg.squander.serializer.Serializer.dispose(), edu.mit.csail.sdg.squander.serializer.Serializer.mutate(), and edu.mit.csail.sdg.squander.serializer.Serializer.serialize().

9.115.3.7 void edu.mit.csail.sdg.squander.serializer.Serializer.traverseIntArray (Object *obj*, HeapListener *listener*) [private]

Notifies the given listener about int array elements

Author:

Aleksandar Milicevic

Definition at line 111 of file Serializer.java.

References edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayIntField(), and edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayLength().

Referenced by edu.mit.csail.sdg.squander.serializer.Serializer.serializeArray().

**9.115.3.8 void edu.mit.csail.sdg.squander.serializer.Serializer.traverseObjArray (Object *obj*,
HeapListener *listener*, Predicate< Field >*fieldPred*) [private]**

Notifies the given listener about reference array elements, and after that recursively calls serialize for every one of them.

Author:

Aleksandar Milicevic

Definition at line 125 of file Serializer.java.

References edu.mit.csail.sdg.squander.serializer.Serializer.serialize(), edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayRefField() and edu.mit.csail.sdg.squander.serializer.HeapListener.visitArrayRefField().

Referenced by edu.mit.csail.sdg.squander.serializer.Serializer.serializeArray().

9.115.4 Member Data Documentation

**9.115.4.1 Phase edu.mit.csail.sdg.squander.serializer.Serializer.phase = Phase.Serialization
[private]**

Definition at line 27 of file Serializer.java.

Referenced by edu.mit.csail.sdg.squander.serializer.Serializer.dispose(), edu.mit.csail.sdg.squander.serializer.Serializer.mutate(), and edu.mit.csail.sdg.squander.serializer.Serializer.serialize().

**9.115.4.2 final Map<Integer, Object>
edu.mit.csail.sdg.squander.serializer.Serializer.serializedObjects = new
HashMap<Integer, Object>() [private]**

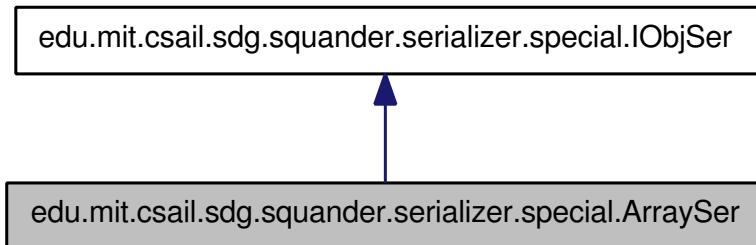
Definition at line 24 of file Serializer.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/serializer/Serializer.java

9.116 edu.mit.csail.sdg.squander.serializer.special.ArraySer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer.Collaboration](#) diagram for `edu.mit.csail.sdg.squander.serializer.special.ArraySer`:



Public Member Functions

- boolean `accepts` (`Class<?> clz`)
- Object `newInstance` (`Class<?> cls`)
- List<`FieldValue`> `absFunc` (`JavaScene` `javaScene`, Object `obj`)
- Object `concrFunc` (Object `obj`, `FieldValue` `fieldValue`)

Static Public Attributes

- static final String `ELEMS` = "elems"
- static final String `LENGTH` = "length"

Private Member Functions

- Object `restoreElems` (Object `obj`, `FieldValue` `fieldValue`)
- Object `restoreLength` (Object `obj`, `FieldValue` `fldVal`)

9.116.1 Detailed Description

Array serializer.

Author:

Aleksandar Milicevic

Definition at line 23 of file `ArraySer.java`.

9.116.2 Member Function Documentation

9.116.2.1 List<`FieldValue`> `edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc` (`JavaScene` `javaScene`, Object `obj`)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 39 of file `ArraySer.java`.

References `edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple()`, `edu.mit.csail.sdg.squander.spec.JavaScene.classSpecFor`, `edu.mit.csail.sdg.squander.serializer.special.ArraySer.ELEMS`, `edu.mit.csail.sdg.squander.spec.ClassSpec.findField()`, and `edu.mit.csail.sdg.squander.serializer.special.ArraySer.LENGTH`.

9.116.2.2 boolean `edu.mit.csail.sdg.squander.serializer.special.ArraySer.accepts (Class<?> cls)`

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 29 of file `ArraySer.java`.

9.116.2.3 Object `edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc (Object obj, FieldValue fieldValue)`

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 57 of file `ArraySer.java`.

References `edu.mit.csail.sdg.squander.serializer.special.ArraySer.ELEMS`, `edu.mit.csail.sdg.squander.absstate.FieldValue.jfield`, `edu.mit.csail.sdg.squander.serializer.special.ArraySer.LENGTH`, `edu.mit.csail.sdg.squander.spec.JField.name`, `edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreElems()`, and `edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreLength()`.

9.116.2.4 Object `edu.mit.csail.sdg.squander.serializer.special.ArraySer.newInstance (Class<?> cls)`

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 34 of file `ArraySer.java`.

9.116.2.5 Object `edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreElems (Object obj, FieldValue fieldValue) [private]`

Definition at line 68 of file `ArraySer.java`.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity`, `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples`, and `edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet`.

Referenced by `edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc()`.

9.116.2.6 Object `edu.mit.csail.sdg.squander.serializer.special.ArraySer.restoreLength (Object obj, FieldValue fldVal) [private]`

Definition at line 83 of file `ArraySer.java`.

Referenced by `edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc()`.

9.116.3 Member Data Documentation

9.116.3.1 final String edu.mit.csail.sdg.squander.serializer.special.ArraySer.ELEMS = "elems"
[**static**]

Definition at line 25 of file ArraySer.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc(), and
edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc().

9.116.3.2 final String edu.mit.csail.sdg.squander.serializer.special.ArraySer.LENGTH = "length"
[**static**]

Definition at line 26 of file ArraySer.java.

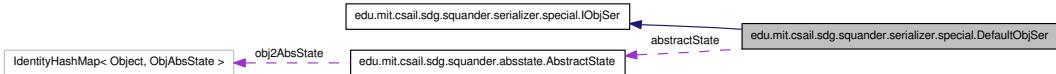
Referenced by edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc(), and
edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/serializer/special/[ArraySer.java](#)

9.117 edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer.Collaboration diagram](#) for `edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer`:



Public Member Functions

- boolean `accepts` (`Class<?> clz`)
- Object `newInstance` (`Class<?> cls`)
- List<`FieldValue`> `absFunc` (`JavaScene javaScene, Object obj`)
- Object `concrFunc` (`Object obj, FieldValue fldVal`)

Static Private Attributes

- static final `AbstractState abstractState = new AbstractState()`

9.117.1 Detailed Description

Default object serializer that works for all classes. It serializes objects simply by reading their fields using Java reflection.

Author:

Aleksandar Milicevic

Definition at line 27 of file `DefaultObjSer.java`.

9.117.2 Member Function Documentation

9.117.2.1 List<FieldValue> edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc (JavaScene `javaScene`, Object `obj`)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 42 of file `DefaultObjSer.java`.

References [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.abstractState](#), [edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple\(\)](#), [edu.mit.csail.sdg.squander.spec.JavaScene.classSpecForObj\(\)](#), [edu.mit.csail.sdg.squander.absstate.AbstractState.getObjState\(\)](#), [edu.mit.csail.sdg.squander.absstate.ObjAbsState.getSpecField\(\)](#), [edu.mit.csail.sdg.squander.spec.JField.isPureAbstract\(\)](#), [edu.mit.csail.sdg.squander.absstate.FieldValue.jfield](#), and [edu.mit.csail.sdg.squander.spec.ClassSpec.usedFieldsAll\(\)](#).

9.117.2.2 boolean edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.accepts (Class<?> *cls*)

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 32 of file DefaultObjSer.java.

9.117.2.3 Object edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc (Object *obj*, FieldValue *fieldValue*)

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 74 of file DefaultObjSer.java.

References [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.abstractState](#),
[edu.mit.csail.sdg.squander.absstate.ObjAbsState.add\(\)](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity](#),
[edu.mit.csail.sdg.squander.spec.JField.getJavaField\(\)](#), [edu.mit.csail.sdg.squander.absstate.AbstractState.getOrAddObjState\(\)](#),
[edu.mit.csail.sdg.squander.absstate.FieldValue.jfield](#), [edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples](#),
and [edu.mit.csail.sdg.squander.absstate.FieldValue.tupleSet](#).

9.117.2.4 Object edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.newInstance (Class<?> *cls*)

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 37 of file DefaultObjSer.java.

9.117.3 Member Data Documentation

9.117.3.1 final AbstractState

**edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.abstractState = new
AbstractState() [static, private]**

Definition at line 29 of file DefaultObjSer.java.

Referenced by [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc\(\)](#), and
[edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc\(\)](#).

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/special/DefaultObjSer.java](#)

9.118 edu.mit.csail.sdg.squander.serializer.special.IObjSer Interface Reference

Inherited by [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#), [edu.mit.csail.sdg.squander.serializer.special.ListSer](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer](#), and [edu.mit.csail.sdg.squander.serializer.special.StringSer](#).

Public Member Functions

- boolean [accepts \(Class<?> clz\)](#)
- Object [newInstance \(Class<?> cls\)](#)
- List< [FieldValue > absFunc \(JavaScene javaScene, Object obj\)](#)
- Object [concrFunc \(Object obj, FieldValue fieldValue\)](#)

9.118.1 Detailed Description

Interface for object serialization/deserialization

Author:

Aleksandar Milicevic

Definition at line 17 of file IObjSer.java.

9.118.2 Member Function Documentation

9.118.2.1 List<FieldValue> [edu.mit.csail.sdg.squander.serializer.special.IObjSer.absFunc \(JavaScene javaScene, Object obj\)](#)

abstraction function

Implemented in [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#), [edu.mit.csail.sdg.squander.serializer.special.ListSer](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer](#), and [edu.mit.csail.sdg.squander.serializer.special.StringSer](#).

Referenced by [edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse\(\)](#).

9.118.2.2 boolean [edu.mit.csail.sdg.squander.serializer.special.IObjSer.accepts \(Class<?> clz\)](#)

returns whether this serializer supports (can serialize) the given class

Implemented in [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#), [edu.mit.csail.sdg.squander.serializer.special.ListSer](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer](#), and [edu.mit.csail.sdg.squander.serializer.special.StringSer](#).

9.118.2.3 Object [edu.mit.csail.sdg.squander.serializer.special.IObjSer.concrFunc \(Object obj, FieldValue fieldValue\)](#)

concretization function

Implemented in [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#), [edu.mit.csail.sdg.squander.serializer.special.ListSer](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer](#), and [edu.mit.csail.sdg.squander.serializer.special.StringSer](#).

9.118.2.4 Object [edu.mit.csail.sdg.squander.serializer.special.IObjSer.newInstance \(Class<?> *cls*\)](#)

creates a new instance of the given class

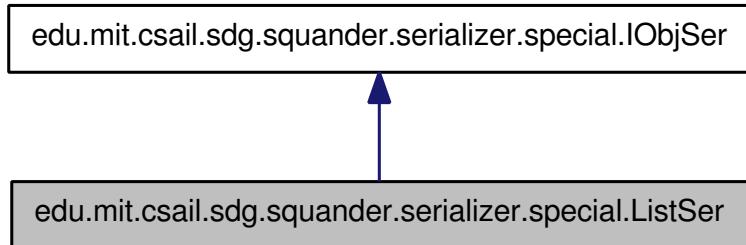
Implemented in [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#), [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#), [edu.mit.csail.sdg.squander.serializer.special.ListSer](#), [edu.mit.csail.sdg.squander.serializer.special.MapSer](#), [edu.mit.csail.sdg.squander.serializer.special.SetSer](#), and [edu.mit.csail.sdg.squander.serializer.special.StringSer](#).

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/special/IObjSer.java](#)

9.119 edu.mit.csail.sdg.squander.serializer.special.ListSer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.serializer.special.ListSer](#):



Public Member Functions

- boolean [accepts](#) (Class<?> clz)
- List [newInstance](#) (Class<?> cls)
- List< [FieldValue](#) > [absFunc](#) ([JavaScene](#) javaScene, Object obj)
- Object [concrFunc](#) (Object obj, [FieldValue](#) fieldValue)

Static Public Attributes

- static final String [DATA](#) = "elts"

Private Member Functions

- Object [restoreElems](#) (Object obj, [FieldValue](#) fieldValue)

9.119.1 Detailed Description

List serializer.

Author:

Aleksandar Milicevic

Definition at line 22 of file ListSer.java.

9.119.2 Member Function Documentation

9.119.2.1 List<FieldValue> [edu.mit.csail.sdg.squander.serializer.special.ListSer.absFunc](#) ([JavaScene](#) *javaScene*, Object *obj*)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 39 of file ListSer.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple(), edu.mit.csail.sdg.squander.spec.JavaScene.classSpecFor edu.mit.csail.sdg.squander.serializer.special.ListSer.DATA, and edu.mit.csail.sdg.squander.spec.ClassSpec.findField().

9.119.2.2 boolean edu.mit.csail.sdg.squander.serializer.special.ListSer.accepts (Class<?> *cls*)

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 27 of file ListSer.java.

9.119.2.3 Object edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc (Object *obj*, FieldValue *fieldValue*)

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 65 of file ListSer.java.

References edu.mit.csail.sdg.squander.serializer.special.ListSer.DATA, edu.mit.csail.sdg.squander.spec.JField.isPureAbstract(), edu.mit.csail.sdg.squander.absstate.FieldValue.jfield, edu.mit.csail.sdg.squander.spec.JField.name, and edu.mit.csail.sdg.squander.serializer.special.ListSer.restoreElems().

9.119.2.4 List edu.mit.csail.sdg.squander.serializer.special.ListSer.newInstance (Class<?> *cls*)

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 33 of file ListSer.java.

9.119.2.5 Object edu.mit.csail.sdg.squander.serializer.special.ListSer.restoreElems (Object *obj*, FieldValue *fieldValue*) [private]

Definition at line 78 of file ListSer.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity, and edu.mit.csail.sdg.squander.absstate.ObjTupleSet.tuples.

Referenced by edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc().

9.119.3 Member Data Documentation

9.119.3.1 final String edu.mit.csail.sdg.squander.serializer.special.ListSer.DATA = "elts" [static]

Definition at line 24 of file ListSer.java.

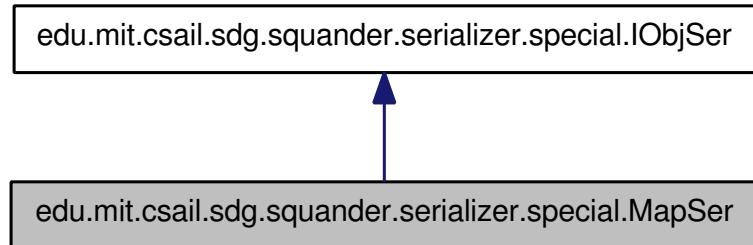
Referenced by edu.mit.csail.sdg.squander.serializer.special.ListSer.absFunc(), and
edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc().

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/special/ListSer.java](#)

9.120 edu.mit.csail.sdg.squander.serializer.special.MapSer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer.Collaboration](#) diagram for `edu.mit.csail.sdg.squander.serializer.special.MapSer`:



Public Member Functions

- boolean `accepts` (`Class<?> clz`)
- Map `newInstance` (`Class<?> cls`)
- List<`FieldValue`> `absFunc` (`JavaScene javaScene, Object obj`)
- Object `concrFunc` (`Object obj, FieldValue fieldValue`)

Static Public Attributes

- static final String `DATA` = "elts"
- static final String `LENGTH` = "length"

Private Member Functions

- Object `restoreElems` (`Object obj, FieldValue fieldValue`)

9.120.1 Detailed Description

Map serializer.

Author:

Aleksandar Milicevic

Definition at line 24 of file `MapSer.java`.

9.120.2 Member Function Documentation

9.120.2.1 List<FieldValue> `edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc` (`JavaScene javaScene, Object obj`)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 42 of file MapSer.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple(), edu.mit.csail.sdg.squander.spec.JavaScene.classSpecFor edu.mit.csail.sdg.squander.serializer.special.MapSer.DATA, edu.mit.csail.sdg.squander.spec.ClassSpec.findField(), and edu.mit.csail.sdg.squander.serializer.special.MapSer.LENGTH.

9.120.2.2 boolean edu.mit.csail.sdg.squander.serializer.special.MapSer.accepts (Class<?> *cls*)

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 30 of file MapSer.java.

9.120.2.3 Object edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc (Object *obj*, FieldValue *fieldValue*)

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 67 of file MapSer.java.

References edu.mit.csail.sdg.squander.serializer.special.MapSer.DATA, edu.mit.csail.sdg.squander.spec.JField.isPureAbstract() edu.mit.csail.sdg.squander.absstate.FieldValue.jfield, edu.mit.csail.sdg.squander.spec.JField.name, and edu.mit.csail.sdg.squander.serializer.special.MapSer.restoreElems().

9.120.2.4 Map edu.mit.csail.sdg.squander.serializer.special.MapSer.newInstance (Class<?> *cls*)

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 36 of file MapSer.java.

9.120.2.5 Object edu.mit.csail.sdg.squander.serializer.special.MapSer.restoreElems (Object *obj*, FieldValue *fieldValue*) [private]

Definition at line 80 of file MapSer.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity.

Referenced by edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc().

9.120.3 Member Data Documentation

9.120.3.1 final String edu.mit.csail.sdg.squander.serializer.special.MapSer.DATA = "elts" [static]

Definition at line 26 of file MapSer.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc(), and
edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc().

**9.120.3.2 final String edu.mit.csail.sdg.squander.serializer.special.MapSer.LENGTH = "length"
[static]**

Definition at line 27 of file MapSer.java.

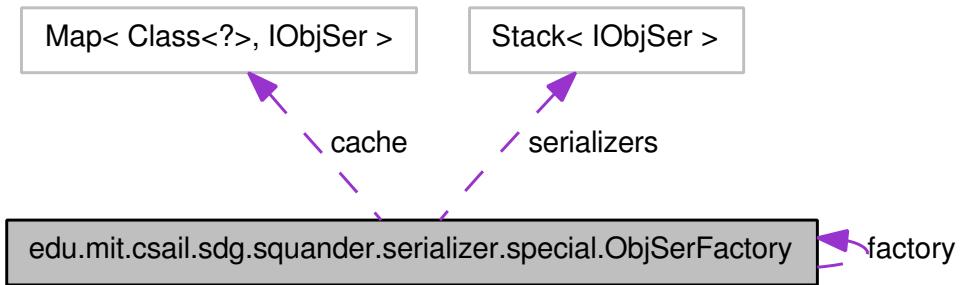
Referenced by edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/serializer/special/[MapSer.java](#)

9.121 edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory:



Public Member Functions

- `IObjSer getSerForObj (Object obj)`
- `IObjSer getSerForCls (Class<?> cls)`

Static Public Attributes

- static final `ObjSerFactory factory = new ObjSerFactory()`

Private Member Functions

- `ObjSerFactory ()`

Private Attributes

- `Stack< IObjSer > serializers = new Stack<IObjSer>()`
- `Map< Class<?>, IObjSer > cache = new HashMap<Class<?>, IObjSer>()`

9.121.1 Detailed Description

Factory class responsible for returning the right serializer for a give class.

Author:

Aleksandar Milicevic

Definition at line 16 of file ObjSerFactory.java.

9.121.2 Constructor & Destructor Documentation

9.121.2.1 `edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.ObjSerFactory () [private]`

Definition at line 47 of file ObjSerFactory.java.

References edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.serializers.

9.121.3 Member Function Documentation

9.121.3.1 `IObjSer edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForCls (Class<?> clz)`

Returns the right serializer for the given class

Definition at line 33 of file ObjSerFactory.java.

References edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.cache, and
edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.serializers.

Referenced by edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForObj().

9.121.3.2 `IObjSer edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForObj (Object obj)`

Returns the right serializer for the given object

Definition at line 26 of file ObjSerFactory.java.

References edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForCls().

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.traverse().

9.121.4 Member Data Documentation

9.121.4.1 `Map<Class<?>, IObjSer> edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.cache = new HashMap<Class<?>, IObjSer>() [private]`

Definition at line 21 of file ObjSerFactory.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForCls().

9.121.4.2 `final ObjSerFactory edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.factory = new ObjSerFactory() [static]`

Definition at line 18 of file ObjSerFactory.java.

9.121.4.3 `Stack<IObjSer> edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.serializers = new Stack<IObjSer>() [private]`

Definition at line 20 of file ObjSerFactory.java.

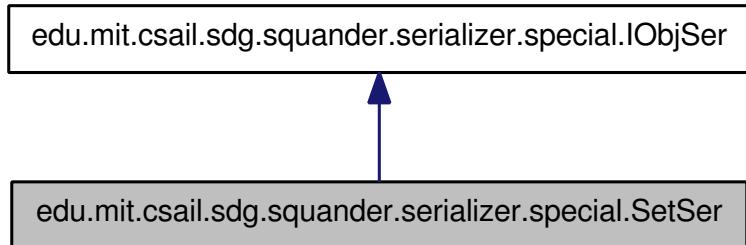
Referenced by edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.getSerForCls(), and edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory.ObjSerFactory().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/serializer/special/[ObjSerFactory.java](#)

9.122 edu.mit.csail.sdg.squander.serializer.special.SetSer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.serializer.special.SetSer](#):



Public Member Functions

- boolean `accepts` (Class<?> `clz`)
- Set `newInstance` (Class<?> `cls`)
- List< `FieldValue` > `absFunc` (`JavaScene` `javaScene`, Object `obj`)
- Object `concrFunc` (Object `obj`, `FieldValue` `fieldValue`)

Static Public Attributes

- static final String `DATA` = "elts"
- static final String `LENGTH` = "length"

Private Member Functions

- Object `restoreElems` (Object `obj`, `FieldValue` `fieldValue`)
- Object `restoreLength` (Object `obj`, `FieldValue` `fldVal`)

9.122.1 Detailed Description

Set serializer.

Author:

Aleksandar Milicevic

Definition at line 24 of file `SetSer.java`.

9.122.2 Member Function Documentation

9.122.2.1 List<FieldValue> `edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc` (`JavaScene` `javaScene`, Object `obj`)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 42 of file SetSer.java.

References edu.mit.csail.sdg.squander.absstate.FieldValue.addTuple(), edu.mit.csail.sdg.squander.spec.JavaScene.classSpecFor edu.mit.csail.sdg.squander.serializer.special.SetSer.DATA, edu.mit.csail.sdg.squander.spec.ClassSpec.findField(), and edu.mit.csail.sdg.squander.serializer.special.SetSer.LENGTH.

9.122.2.2 boolean edu.mit.csail.sdg.squander.serializer.special.SetSer.accepts (Class<?> *clz*)

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 30 of file SetSer.java.

9.122.2.3 Object edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc (Object *obj*, FieldValue *fieldValue*)

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 66 of file SetSer.java.

References edu.mit.csail.sdg.squander.serializer.special.SetSer.DATA, edu.mit.csail.sdg.squander.absstate.FieldValue.jfield, edu.mit.csail.sdg.squander.serializer.special.SetSer.LENGTH, edu.mit.csail.sdg.squander.spec.JField.name, edu.mit.csail.sdg.squander.serializer.special.SetSer.restoreElems(), and edu.mit.csail.sdg.squander.serializer.special.SetSer.resto

9.122.2.4 Set edu.mit.csail.sdg.squander.serializer.special.SetSer.newInstance (Class<?> *cls*)

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 36 of file SetSer.java.

9.122.2.5 Object edu.mit.csail.sdg.squander.serializer.special.SetSer.restoreElems (Object *obj*, FieldValue *fieldValue*) [private]

Definition at line 77 of file SetSer.java.

References edu.mit.csail.sdg.squander.absstate.ObjTupleSet.arity.

Referenced by edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc().

9.122.2.6 Object edu.mit.csail.sdg.squander.serializer.special.SetSer.restoreLength (Object *obj*, FieldValue *fldVal*) [private]

Definition at line 87 of file SetSer.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc().

9.122.3 Member Data Documentation

9.122.3.1 final String edu.mit.csail.sdg.squander.serializer.special.SetSer.DATA = "elts"
[**static**]

Definition at line 26 of file SetSer.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc(), and edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc().

9.122.3.2 final String edu.mit.csail.sdg.squander.serializer.special.SetSer.LENGTH = "length"
[**static**]

Definition at line 27 of file SetSer.java.

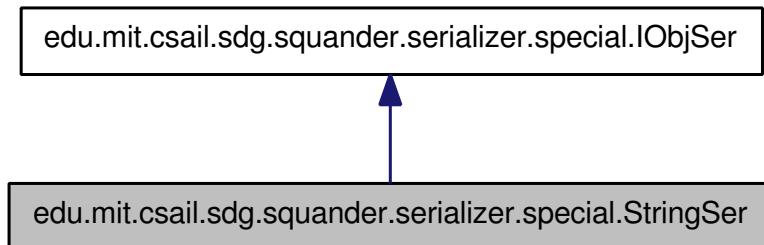
Referenced by edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc(), and edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/serializer/special/[SetSer.java](#)

9.123 edu.mit.csail.sdg.squander.serializer.special.StringSer Class Reference

Inherits [edu::mit::csail::sdg::squander::serializer::special::IObjSer.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.serializer.special.StringSer](#):



Public Member Functions

- boolean [accepts \(Class<?> *clz*\)](#)
- Object [newInstance \(Class<?> *cls*\)](#)
- Object [concrFunc \(Object *obj*, FieldValue *fieldValue*\)](#)
- List< [FieldValue > absFunc \(JavaScene *javaScene*, Object *obj*\)](#)

9.123.1 Detailed Description

String serializer.

Author:

Aleksandar Milicevic

Definition at line 18 of file StringSer.java.

9.123.2 Member Function Documentation

9.123.2.1 List<FieldValue> [edu.mit.csail.sdg.squander.serializer.special.StringSer.absFunc \(JavaScene *javaScene*, Object *obj*\)](#)

abstraction function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 36 of file StringSer.java.

9.123.2.2 boolean [edu.mit.csail.sdg.squander.serializer.special.StringSer.accepts \(Class<?> *clz*\)](#)

returns whether this serializer supports (can serialize) the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 21 of file StringSer.java.

9.123.2.3 Object edu.mit.csail.sdg.squander.serializer.special.StringSer.concrFunc (Object *obj*, FieldValue *fieldValue*)

concretization function

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

Definition at line 31 of file StringSer.java.

9.123.2.4 Object edu.mit.csail.sdg.squander.serializer.special.StringSer.newInstance (Class<?> *cls*)

creates a new instance of the given class

Implements [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#).

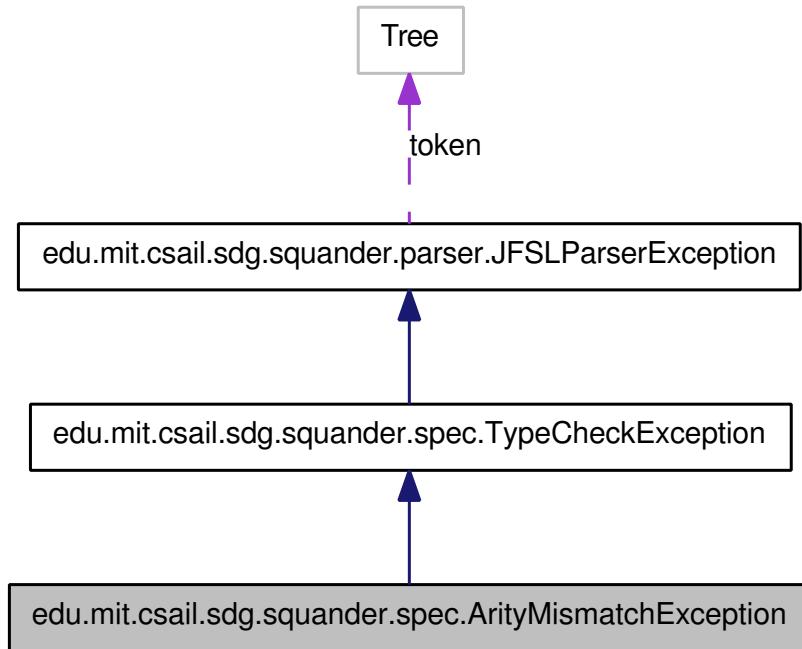
Definition at line 26 of file StringSer.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/serializer/special/StringSer.java](#)

9.124 edu.mit.csail.sdg.squander.spec.ArityMismatchException Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::TypeCheckException.Collaboration](#) diagram for `edu.mit.csail.sdg.squander.spec.ArityMismatchException`:



Package Functions

- [ArityMismatchException \(int left, int right\)](#)
- [ArityMismatchException \(int left, int right, String msg\)](#)

Static Private Attributes

- static final long `serialVersionUID` = 9078354475670245756L

9.124.1 Detailed Description

Definition at line 7 of file `ArityMismatchException.java`.

9.124.2 Constructor & Destructor Documentation

9.124.2.1 `edu.mit.csail.sdg.squander.spec.ArityMismatchException.ArityMismatchException (int left, int right) [package]`

Definition at line 11 of file `ArityMismatchException.java`.

9.124.2.2 edu.mit.csail.sdg.squander.spec.ArityMismatchException.ArityMismatchException (int left, int right, String msg) [package]

Definition at line 15 of file ArityMismatchException.java.

9.124.3 Member Data Documentation

9.124.3.1 final long edu.mit.csail.sdg.squander.spec.ArityMismatchException.serialVersionUID = 9078354475670245756L [static, private]

Reimplemented from [edu.mit.csail.sdg.squander.spec.TypeCheckException](#).

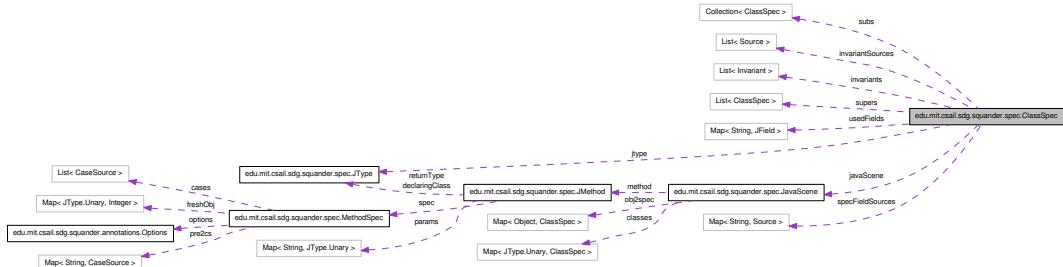
Definition at line 9 of file ArityMismatchException.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[ArityMismatchException.java](#)

9.125 edu.mit.csail.sdg.squander.spec.ClassSpec Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.ClassSpec:



Classes

- class **Invariant**

Public Member Functions

- `ClassSpec (JType.Unary jtype, JavaScene javaScene)`
 - `ClassSpec (Class clz, JType.Unary[] typeParams, JavaScene javaScene)`
 - `boolean isEmpty ()`
 - `JType.Unary jtype ()`
 - `Class clz ()`
 - `JType.Unary[] typeParams ()`
 - `Collection< ClassSpec > subs ()`
 - `void setSubs (Collection< ClassSpec > subs)`
 - `void addSuper (ClassSpec superClsSpec)`
 - `JField findField (String name)`
 - `JField ensureField (String name)`
 - `JField ensureField (String name, boolean recurse)`
 - `Collection< Invariant > invariants ()`
 - `Collection< Source > specFields ()`
 - `boolean hasSpecField (String name)`
 - `Collection< JField > usedFields ()`
 - `Collection< JField > usedFieldsAll ()`
 - `void addInvariant (Source src)`
 - `void addSpecFieldSource (Source src)`
 - `void addSpecField (JField field)`
 - `void typecheck ()`
 - `void translateSpecs (ForgeScene forgeScene)`
 - `String toString ()`

Private Member Functions

- void addUsedField (JField field)
 - String extractSpecFieldName (Source src)

Private Attributes

- final JType.Unary `jtype`
- final JavaScene `javaScene`
- Collection< ClassSpec > `subs`
- List< ClassSpec > `supers` = new LinkedList<ClassSpec>()
- Map< String, Source > `specFieldSources` = new HashMap<String, Source>()
- List< Source > `invariantSources` = new ArrayList<Source>()
- List< Invariant > `invariants` = new ArrayList<Invariant>()
- Map< String, JField > `usedFields` = new HashMap<String, JField>()

9.125.1 Detailed Description

Definition at line 24 of file ClassSpec.java.

9.125.2 Constructor & Destructor Documentation

9.125.2.1 edu.mit.csail.sdg.squander.spec.ClassSpec.ClassSpec (JType.Unary *jtype*, JavaScene *javaScene*)

Definition at line 56 of file ClassSpec.java.

9.125.2.2 edu.mit.csail.sdg.squander.spec.ClassSpec.ClassSpec (Class *clz*, JType.Unary[] *typeParams*, JavaScene *javaScene*)

Definition at line 61 of file ClassSpec.java.

9.125.3 Member Function Documentation

9.125.3.1 void edu.mit.csail.sdg.squander.spec.ClassSpec.addInvariant (Source *src*)

Definition at line 158 of file ClassSpec.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.isFinished().

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.createClassSpec().

9.125.3.2 void edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecField (JField *field*)

Definition at line 168 of file ClassSpec.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.isFinished(), and
edu.mit.csail.sdg.squander.spec.JField.isSpec().

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration().

9.125.3.3 void edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecFieldSource (Source *src*)

Definition at line 163 of file ClassSpec.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.isFinished().

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.createClassSpec().

9.125.3.4 void edu.mit.csail.sdg.squander.spec.ClassSpec.addSuper (ClassSpec *superClsSpec*)

Definition at line 76 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass().

9.125.3.5 void edu.mit.csail.sdg.squander.spec.ClassSpec.addUsedField (JField *field*) [private]

Definition at line 221 of file ClassSpec.java.

References edu.mit.csail.sdg.squander.spec.JField.name.

9.125.3.6 Class edu.mit.csail.sdg.squander.spec.ClassSpec.clz ()

Definition at line 70 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(), and
edu.mit.csail.sdg.squander.spec.JavaScene.subTypes().

9.125.3.7 JField edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField (String *name*, boolean *recurse*)

Definition at line 96 of file ClassSpec.java.

References edu.mit.csail.sdg.squander.spec.ISpecProvider.extractFieldSpec(),
edu.mit.csail.sdg.squander.spec.JavaScene.isFinished(), edu.mit.csail.sdg.squander.spec.Source.isFuncField(),
edu.mit.csail.sdg.squander.spec.JField.newJavaField(), edu.mit.csail.sdg.squander.spec.TypeChecker.setClsSpecForSpecField()
edu.mit.csail.sdg.squander.spec.JField.setFuncFlag(), and edu.mit.csail.sdg.squander.spec.Source.typecheck().

9.125.3.8 JField edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField (String *name*)

Definition at line 91 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.NameSpace.findField().

9.125.3.9 String edu.mit.csail.sdg.squander.spec.ClassSpec.extractSpecFieldName (Source *src*) [private]

Definition at line 225 of file ClassSpec.java.

References edu.mit.csail.sdg.squander.spec.Source.source.

9.125.3.10 JField edu.mit.csail.sdg.squander.spec.ClassSpec.findField (String *name*)

Definition at line 78 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc(),
edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.ListSer.absFunc(),
edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElen
and edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength().

9.125.3.11 boolean edu.mit.csail.sdg.squander.spec.ClassSpec.hasSpecField (String name)

Definition at line 145 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner().

9.125.3.12 Collection<Invariant> edu.mit.csail.sdg.squander.spec.ClassSpec.invariants ()

Definition at line 143 of file ClassSpec.java.

9.125.3.13 boolean edu.mit.csail.sdg.squander.spec.ClassSpec.isEmpty ()

Definition at line 65 of file ClassSpec.java.

9.125.3.14 JType.Unary edu.mit.csail.sdg.squander.spec.ClassSpec.jtype ()

Definition at line 69 of file ClassSpec.java.

9.125.3.15 void edu.mit.csail.sdg.squander.spec.ClassSpec.setSubs (Collection< ClassSpec > subs)

Definition at line 74 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.subTypes().

9.125.3.16 Collection<Source> edu.mit.csail.sdg.squander.spec.ClassSpec.specFields ()

Definition at line 144 of file ClassSpec.java.

9.125.3.17 Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.ClassSpec.subs ()

Definition at line 73 of file ClassSpec.java.

9.125.3.18 String edu.mit.csail.sdg.squander.spec.ClassSpec.toString ()

Definition at line 213 of file ClassSpec.java.

9.125.3.19 void edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs (ForgeScene forgeScene)

Definition at line 185 of file ClassSpec.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.getEnv(), edu.mit.csail.sdg.squander.spec.Frame.locations, edu.mit.csail.sdg.squander.spec.ForgeScene.newThisVariable(), edu.mit.csail.sdg.squander.spec.JField.setAbsFun(), edu.mit.csail.sdg.squander.spec.JField.setBound(), edu.mit.csail.sdg.squander.spec.JField.setDomain(), edu.mit.csail.sdg.squander.spec.JField.setFrame(), edu.mit.csail.sdg.squander.spec.ForgeEnv.thisVar(), and edu.mit.csail.sdg.squander.spec.Source.translate().

9.125.3.20 void edu.mit.csail.sdg.squander.spec.ClassSpec.typecheck ()

Type-checks only invariants

Definition at line 177 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass().

9.125.3.21 JType.Unary [] edu.mit.csail.sdg.squander.spec.ClassSpec.typeParams ()

Definition at line 71 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner().

9.125.3.22 Collection<JField> edu.mit.csail.sdg.squander.spec.ClassSpec.usedFields ()

Definition at line 146 of file ClassSpec.java.

9.125.3.23 Collection<JField> edu.mit.csail.sdg.squander.spec.ClassSpec.usedFieldsAll ()

Definition at line 147 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc().

9.125.4 Member Data Documentation

9.125.4.1 List<Invariant> edu.mit.csail.sdg.squander.spec.ClassSpec.invariants = new ArrayList<Invariant>() [private]

Definition at line 52 of file ClassSpec.java.

9.125.4.2 List<Source> edu.mit.csail.sdg.squander.spec.ClassSpec.invariantSources = new ArrayList<Source>() [private]

Definition at line 51 of file ClassSpec.java.

9.125.4.3 final JavaScene edu.mit.csail.sdg.squander.spec.ClassSpec.javaScene [private]

Definition at line 45 of file ClassSpec.java.

9.125.4.4 final JType.Unary edu.mit.csail.sdg.squander.spec.ClassSpec.jtype [private]

Definition at line 44 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(),
edu.mit.csail.sdg.squander.spec.JavaScene.subTypes(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(),
and edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration().

9.125.4.5 Map<String, Source> edu.mit.csail.sdg.squander.spec.ClassSpec.specFieldSources = new HashMap<String, Source>() [private]

Definition at line 50 of file ClassSpec.java.

9.125.4.6 Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.ClassSpec.subs [private]

Definition at line 47 of file ClassSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.subTypes().

**9.125.4.7 List<ClassSpec> edu.mit.csail.sdg.squander.spec.ClassSpec.supers = new
LinkedList<ClassSpec>() [private]**

Definition at line 48 of file ClassSpec.java.

**9.125.4.8 Map<String, JField> edu.mit.csail.sdg.squander.spec.ClassSpec.usedFields = new
HashMap<String, JField>() [private]**

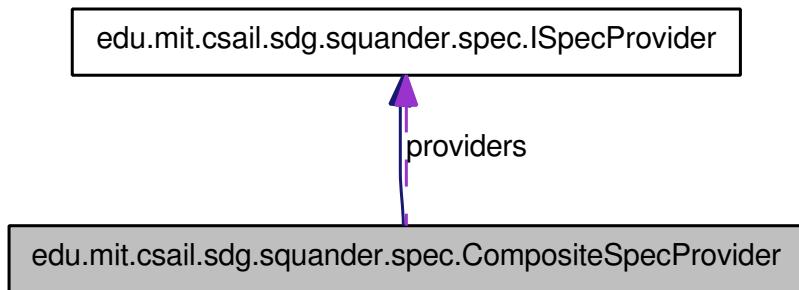
Definition at line 54 of file ClassSpec.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/ClassSpec.java

9.126 edu.mit.csail.sdg.squander.spec.CompositeSpecProvider Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::ISpecProvider.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider](#):



Public Member Functions

- [CompositeSpecProvider \(ISpecProvider...providers\)](#)
- [List< Source > extractClassSpec \(JType.Unary jtype\)](#)
- [List< Source > extractFieldSpec \(Field field, JType.Unary declaringType\)](#)
- [MethodSpec extractMethodSpec \(Method method, NameSpace ns\)](#)

Private Attributes

- final [ISpecProvider\[\] providers](#)

9.126.1 Detailed Description

Definition at line 12 of file `CompositeSpecProvider.java`.

9.126.2 Constructor & Destructor Documentation

9.126.2.1 [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.CompositeSpecProvider \(ISpecProvider... providers\)](#)

Definition at line 16 of file `CompositeSpecProvider.java`.

References `edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.providers`.

9.126.3 Member Function Documentation

9.126.3.1 [List<Source> edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractClassSpec \(JType.Unary jtype\)](#)

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 21 of file `CompositeSpecProvider.java`.

References `edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.providers`.

9.126.3.2 `List<Source> edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractFieldSpec (Field field, JType.Unary declaringType)`

Definition at line 29 of file `CompositeSpecProvider.java`.

References `edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.providers`.

9.126.3.3 `MethodSpec`

`edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractMethodSpec (Method method, NameSpace ns)`

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 37 of file `CompositeSpecProvider.java`.

References `edu.mit.csail.sdg.squander.spec.MethodSpec.cases`, and `edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.pr`

9.126.4 Member Data Documentation

9.126.4.1 `final ISpecProvider [] edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.providers [private]`

Definition at line 14 of file `CompositeSpecProvider.java`.

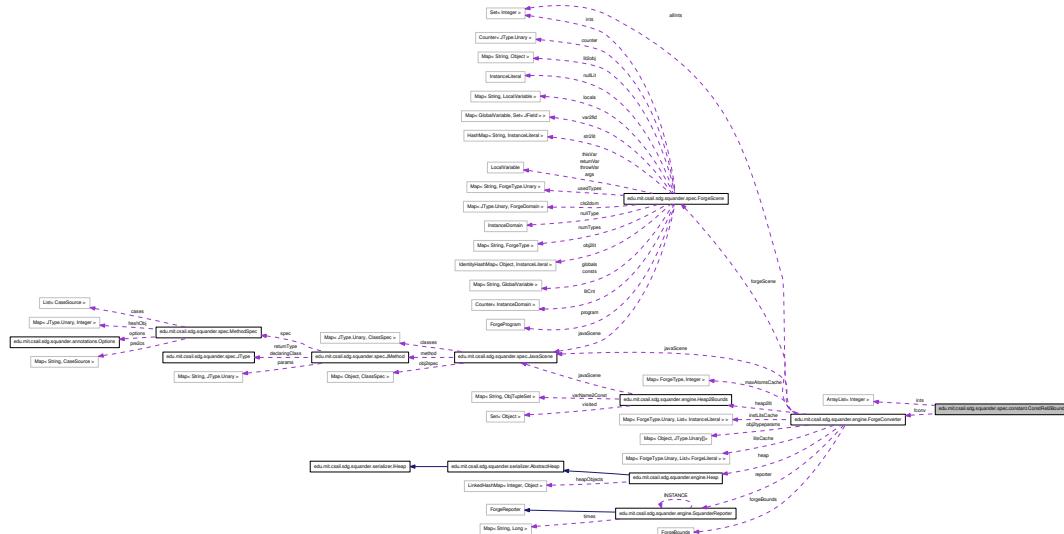
Referenced by `edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.CompositeSpecProvider()`,
`edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractClassSpec()`,
`edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractFieldSpec()`, and
`edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractMethodSpec()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/spec/CompositeSpecProvider.java`

9.127 edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound:



Public Member Functions

- ConstRel2Bound (ForgeConverter fconv)
 - ObjTupleSet visitDec ()
 - ObjTupleSet visitInc ()
 - ObjTupleSet visitIdent ()
 - ObjTupleSet visitNone ()
 - ObjTupleSet visitUniv ()

Protected Member Functions

- Set< Integer > **allInts** ()

Private Attributes

- final ForgeConverter fconv
 - final ArrayList< Integer > ints

9.127.1 Detailed Description

Definition at line 18 of file ConstRel2Bound.java.

9.127.2 Constructor & Destructor Documentation

9.127.2.1 `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ConstRel2Bound (ForgeConverter fconv)`

Definition at line 23 of file ConstRel2Bound.java.

References `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts()`, and `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ints()`.

9.127.3 Member Function Documentation

9.127.3.1 `Set<Integer> edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts () [protected]`

Definition at line 61 of file ConstRel2Bound.java.

References `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.fconv`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.forgeScene`, `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ints()`, `edu.mit.csail.sdg.squander.engine.ForgeConverter.maxInt()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.minInt()`.

Referenced by `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ConstRel2Bound()`.

9.127.3.2 `ObjTupleSet edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitDec ()`

Definition at line 30 of file ConstRel2Bound.java.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`, and `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ints()`.

9.127.3.3 `ObjTupleSet edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitIdent ()`

Definition at line 46 of file ConstRel2Bound.java.

9.127.3.4 `ObjTupleSet edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitInc ()`

Definition at line 38 of file ConstRel2Bound.java.

References `edu.mit.csail.sdg.squander.absstate.ObjTupleSet.add()`, and `edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ints()`.

9.127.3.5 `ObjTupleSet edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitNone ()`

Definition at line 51 of file ConstRel2Bound.java.

9.127.3.6 `ObjTupleSet edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitUniv ()`

Definition at line 57 of file ConstRel2Bound.java.

9.127.4 Member Data Documentation

9.127.4.1 final ForgeConverter edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.fconv [private]

Definition at line 20 of file ConstRel2Bound.java.

Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts().

9.127.4.2 final ArrayList<Integer> edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ints [private]

Definition at line 21 of file ConstRel2Bound.java.

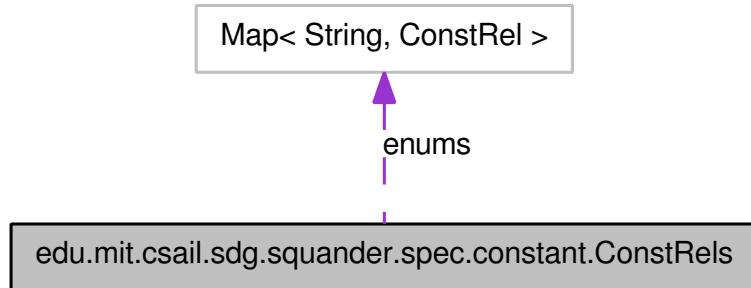
Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.allInts(),
edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.ConstRel2Bound(),
edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitDec(), and
edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound.visitInc().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/constant/[ConstRel2Bound.java](#)

9.128 edu.mit.csail.sdg.squander.spec.constant.ConstRels Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.constant.ConstRels:



Static Public Member Functions

- static [ConstRel findRel \(String text\)](#)

Static Package Functions

- [\[static initializer\]](#)

Static Private Attributes

- static Map< String, [ConstRel](#) > [enums](#)

9.128.1 Detailed Description

Definition at line 10 of file ConstRels.java.

9.128.2 Member Function Documentation

9.128.2.1 edu.mit.csail.sdg.squander.spec.constant.ConstRels.[static initializer] () [static, package]

9.128.2.2 static ConstRel edu.mit.csail.sdg.squander.spec.constant.ConstRels.findRel (String *text*) [static]

Definition at line 21 of file ConstRels.java.

References [edu.mit.csail.sdg.squander.spec.constant.ConstRels.enums](#).

9.128.3 Member Data Documentation

9.128.3.1 Map<String, ConstRel> edu.mit.csail.sdg.squander.spec.constant.ConstRels.enums [static, private]

Definition at line 12 of file ConstRels.java.

Referenced by edu.mit.csail.sdg.squander.spec.constant.ConstRels.findRel().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/constant/[ConstRels.java](#)

9.129 `edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >` Interface Reference

Public Member Functions

- E `visitUniv()`
- E `visitNone()`
- E `visitInc()`
- E `visitDec()`

Package Functions

- E `visitIdent()`

9.129.1 Detailed Description

Definition at line 7 of file ConstRelVisitor.java.

9.129.2 Member Function Documentation

9.129.2.1 E `edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >.visitDec()`

9.129.2.2 E `edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >.visitIdent()`
[package]

9.129.2.3 E `edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >.visitInc()`

9.129.2.4 E `edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >.visitNone()`

9.129.2.5 E `edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >.visitUniv()`

The documentation for this interface was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/constant/[ConstRelVisitor.java](#)

9.130 edu.mit.csail.sdg.squander.spec.ForgeEnv Interface Reference

Inherited by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Public Types

- enum [State](#) { PRE, POST }

Public Member Functions

- [ForgeEnv setPreStateMode \(\)](#)
- [ForgeEnv addLocal \(LocalVariable var\)](#)
- [ForgeType integerType \(\)](#)
- [ForgeType booleanType \(\)](#)
- [ForgeType stringType \(\)](#)
- [ForgeType nullType \(\)](#)
- [ForgeExpression intExpr \(int i\)](#)
- [ForgeExpression stringExpr \(String text\)](#)
- [ForgeExpression trueExpr \(\)](#)
- [ForgeExpression falseExpr \(\)](#)
- [ForgeExpression returnVar \(\)](#)
- [ForgeExpression throwVar \(\)](#)
- [LocalVariable thisVar \(\)](#)
- [ForgeExpression arg \(int i\)](#)
- [ForgeExpression arrayLength \(JType jtype\)](#)
- [ForgeExpression arrayElems \(JType jtype\)](#)
- [ForgeExpression globalVar \(GlobalVariable var\)](#)
- [JType.Unary classForDomain \(ForgeDomain domain\)](#)
- [LocalDecls emptyDecls \(\)](#)
- [LocalVariable newLocalVar \(String name, ForgeType type\)](#)
- [LocalVariable findLocal \(String name\)](#)
- [GlobalVariable ensureGlobal \(JField field\)](#)
- [GlobalVariable ensureConst \(String name\)](#)
- [ForgeDomain.Unary ensureDomain \(JType.Unary clz\)](#)
- [ForgeDomain.Unary typeForCls \(JType.Unary clz, boolean includeNull\)](#)
- [void ensureNum \(ForgeType type\)](#)
- [void ensureInt \(int i\)](#)
- [void ensureAllInts \(\)](#)

9.130.1 Detailed Description

Definition at line 14 of file `ForgeEnv.java`.

9.130.2 Member Enumeration Documentation

9.130.2.1 enum edu::mit::csail::sdg::squander::spec::ForgeEnv::State

Enumerator:

PRE

POST

Definition at line 16 of file ForgeEnv.java.

9.130.3 Member Function Documentation

9.130.3.1 ForgeEnv edu.mit.csail.sdg.squander.spec.ForgeEnv.addLocal (LocalVariable *var*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitQuantification\(\)](#).

9.130.3.2 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.arg (int *i*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitArgument\(\)](#).

9.130.3.3 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.arrayElems (JType *jtype*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitBracket\(\)](#).

9.130.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.arrayLength (JType *jtype*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

9.130.3.5 ForgeType edu.mit.csail.sdg.squander.spec.ForgeEnv.booleanType ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitBooleanType\(\)](#).

9.130.3.6 JType.Unary edu.mit.csail.sdg.squander.spec.ForgeEnv.classForDomain (ForgeDomain *domain*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitBracket\(\)](#).

9.130.3.7 LocalDecls edu.mit.csail.sdg.squander.spec.ForgeEnv.emptyDecls ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitQuantification().

9.130.3.8 void edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureAllInts ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitBinary().

9.130.3.9 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureConst (String *name*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitName().

9.130.3.10 ForgeDomain.Unary edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureDomain (JType.Unary *clz*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitArrayType(), and
edu.mit.csail.sdg.squander.spec.Tr.visitRefType().

9.130.3.11 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureGlobal (JField *field*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitFieldRelation(), and
edu.mit.csail.sdg.squander.spec.Tr.visitName().

9.130.3.12 void edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureInt (int *i*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitUnary().

9.130.3.13 void edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureNum (ForgeType *type*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitUnary().

9.130.3.14 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.falseExpr ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitFalse().

9.130.3.15 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeEnv.findLocal (String *name*)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitName().

9.130.3.16 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.globalVar (GlobalVariable var)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitFieldRelation\(\)](#), and [edu.mit.csail.sdg.squander.spec.Tr.visitName\(\)](#).

9.130.3.17 ForgeType edu.mit.csail.sdg.squander.spec.ForgeEnv.integerType ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitFieldDeclaration\(\)](#), and [edu.mit.csail.sdg.squander.spec.Tr.visitIntegralType\(\)](#).

9.130.3.18 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.intExpr (int i)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitDecimal\(\)](#), and [edu.mit.csail.sdg.squander.spec.Tr.visitQuantification\(\)](#).

9.130.3.19 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeEnv.newLocalVar (String name, ForgeType type)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitQuantification\(\)](#).

9.130.3.20 ForgeType edu.mit.csail.sdg.squander.spec.ForgeEnv.nullType ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitNull\(\)](#).

9.130.3.21 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.returnVar ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitReturn\(\)](#).

9.130.3.22 ForgeEnv edu.mit.csail.sdg.squander.spec.ForgeEnv.setPreStateMode ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitOld\(\)](#).

9.130.3.23 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.stringExpr (String text)

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitString\(\)](#).

9.130.3.24 ForgeType edu.mit.csail.sdg.squander.spec.ForgeEnv.stringType ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

9.130.3.25 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeEnv.thisVar ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs\(\)](#), and [edu.mit.csail.sdg.squander.spec.Tr.visitThis\(\)](#).

9.130.3.26 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.throwVar ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitThrow\(\)](#).

9.130.3.27 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeEnv.trueExpr ()

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitFrame\(\)](#), [edu.mit.csail.sdg.squander.spec.Tr.visitQuantification\(\)](#), and [edu.mit.csail.sdg.squander.spec.Tr.visitTrue\(\)](#).

**9.130.3.28 ForgeDomain.Unary edu.mit.csail.sdg.squander.spec.ForgeEnv.typeForCls
(JType.Unary *clz*, boolean *includeNull*)**

Implemented in [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#).

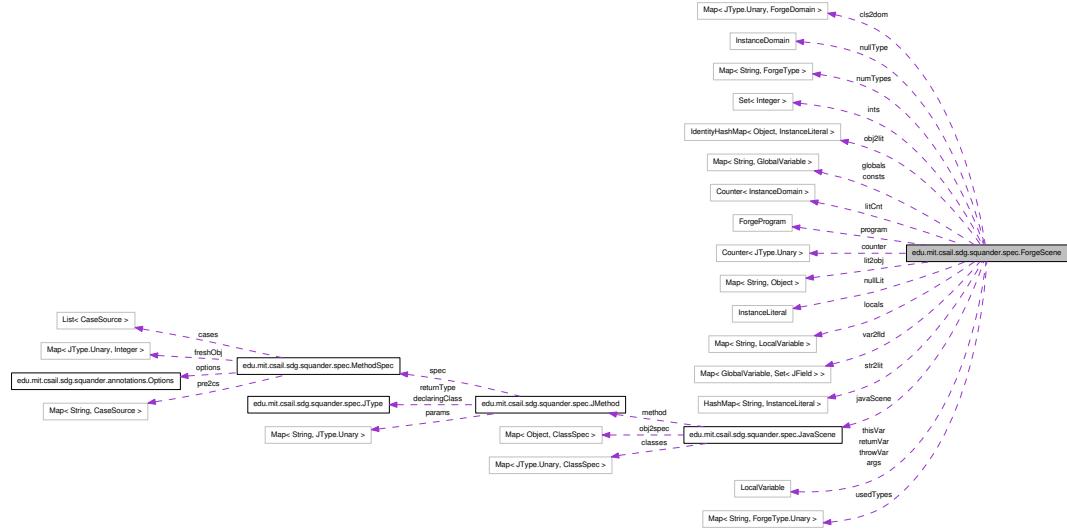
Referenced by [edu.mit.csail.sdg.squander.spec.Tr.visitName\(\)](#).

The documentation for this interface was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[ForgeEnv.java](#)

9.131 edu.mit.csail.sdg.squander.spec.ForgeScene Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.ForgeScene:



Classes

- class **ArrayVars**
 - class **MyEnv**

Public Member Functions

- `ForgeScene (JavaScene javaScene)`
 - `void createLocalsForMethod (JMethod m)`
 - `LocalVariable newThisVariable (JType.Unary type)`
 - `ForgeEnv getEnv (LocalVariable thisVar)`
 - `ForgeProgram program ()`
 - `LocalVariable thisVar ()`
 - `LocalVariable returnVar ()`
 - `LocalVariable throwVar ()`
 - `LocalVariable[] args ()`
 - `InstanceLiteral nullLit ()`
 - `InstanceDomain nullType ()`
 - `Set< InstanceDomain > domains ()`
 - `GlobalVariable global (String name)`
 - `GlobalVariable global (JField fld)`
 - `Collection< GlobalVariable > consts ()`
 - `boolean isConst (GlobalVariable var)`
 - `ForgeVariable findVar (String name)`
 - `Set< JField > fields (GlobalVariable var)`
 - `boolean isSpecField (GlobalVariable var)`
 - `boolean isOneField (GlobalVariable var)`
 - `Collection<?extends GlobalVariable > nonAbstractSpecFields ()`

- boolean `isPureAbstractSpecField` (GlobalVariable var)
- ForgeDomain `findDomain` (JType.Unary clz)
- ForgeDomain `ensureDomain` (JType.Unary clz)
- JType.Unary `findClassForDomain` (ForgeDomain dom)
- void `ensureInt` (int i)
- Set< Integer > `ints` ()
- boolean `isEnsureAllInts` ()
- void `ensureAllInts` (boolean b)
- Collection< ForgeType > `numTypes` ()
- Set< ForgeType.Unary > `usedTypes` ()
- GlobalVariable `ensureGlobal` (JField field)
- GlobalVariable `ensureConst` (String name)
- InstanceLiteral `createLiteral` (Object object)
- int `numLiteralsFor` (InstanceDomain id)
- ForgeType.Unary `typeForCls` (JType.Unary cls, boolean includeNull)
- Object `objForLit` (String litName)
- ForgeLiteral `forgeLitForObj` (Object obj)
- InstanceLiteral `instLitForObj` (Object obj)
- InstanceLiteral `litForName` (String name)

Private Member Functions

- void `addUsedType` (ForgeType.Unary t)
- ForgeType `getRangeForField` (JField field)
- ForgeType `convertToForgeType` (JType jtype, boolean includeNull)
- GlobalVariable `createGlobalVar` (JField field, String name)

Private Attributes

- final Counter< JType.Unary > `counter` = new Counter<JType.Unary>()
- final Counter< InstanceDomain > `litCnt` = new Counter<InstanceDomain>()
- final JavaScene `javaScene`
- final ForgeProgram `program`
- final InstanceDomain `nullType`
- final InstanceLiteral `nullLit`
- final IdentityHashMap< Object, InstanceLiteral > `obj2lit` = new IdentityHashMap<Object, InstanceLiteral>()
- final HashMap< String, InstanceLiteral > `str2lit` = new HashMap<String, InstanceLiteral>()
- final Map< String, Object > `lit2obj` = new HashMap<String, Object>()
- final Map< JType.Unary, ForgeDomain > `cls2dom` = new HashMap<JType.Unary, ForgeDomain>()
- final Map< String, GlobalVariable > `globals` = new HashMap<String, GlobalVariable>()
- final Map< String, LocalVariable > `locals` = new HashMap<String, LocalVariable>()
- final Map< String, GlobalVariable > `consts` = new HashMap<String, GlobalVariable>()
- final Map< GlobalVariable, Set< JField > > `var2fld` = new HashMap<GlobalVariable, Set<JField>>()
- final Set< Integer > `ints` = new HashSet<Integer>(64)
- boolean `ensureAllInts` = false
- Map< String, ForgeType > `numTypes` = new HashMap<String, ForgeType>()

- Map< String, ForgeType.Unary > **usedTypes** = new HashMap<String, ForgeType.Unary>()
- LocalVariable **throwVar**
- LocalVariable **returnVar**
- LocalVariable **thisVar**
- LocalVariable[] **args** = new LocalVariable[0]

9.131.1 Detailed Description

Definition at line 35 of file ForgeScene.java.

9.131.2 Constructor & Destructor Documentation

9.131.2.1 edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene (*JavaScene javaScene*)

Definition at line 96 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.addUsedType(),
edu.mit.csail.sdg.squander.spec.ForgeScene.cls2dom, edu.mit.csail.sdg.squander.spec.ForgeScene.lit2obj,
edu.mit.csail.sdg.squander.spec.ForgeScene.litCnt, edu.mit.csail.sdg.squander.spec.ForgeScene.nullLit(),
edu.mit.csail.sdg.squander.spec.ForgeScene.nullType(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

9.131.3 Member Function Documentation

9.131.3.1 void edu.mit.csail.sdg.squander.spec.ForgeScene.addUsedType (ForgeType.Unary *t*) [private]

Definition at line 354 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.usedTypes().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain(),
edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

9.131.3.2 LocalVariable [] edu.mit.csail.sdg.squander.spec.ForgeScene.args ()

Definition at line 159 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arg(),
edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), and
edu.mit.csail.sdg.squander.spec.ForgeScene.getEnv().

9.131.3.3 Collection<GlobalVariable> edu.mit.csail.sdg.squander.spec.ForgeScene.consts ()

Definition at line 165 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureConst(),
edu.mit.csail.sdg.squander.spec.ForgeScene.findVar(), and edu.mit.csail.sdg.squander.spec.ForgeScene.isConst().

9.131.3.4 ForgeType edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType (JType *jtype*, boolean *includeNull*) [private]

Definition at line 367 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.JType.domain(), edu.mit.csail.sdg.squander.spec.JType.projection(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForClss().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureConst(), and edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField()

9.131.3.5 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar (JField field, String name) [private]

Definition at line 375 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType(), edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField(), edu.mit.csail.sdg.squander.spec.JField.owningType, and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal().

9.131.3.6 InstanceLiteral edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral (Object object)

Definition at line 278 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.counter, edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain(), edu.mit.csail.sdg.squander.spec.ForgeScene.javaScene, edu.mit.csail.sdg.squander.spec.JavaScene.jtypeForObj(), edu.mit.csail.sdg.squander.spec.ForgeScene.lit2obj, edu.mit.csail.sdg.squander.spec.ForgeScene.litCnt, edu.mit.csail.sdg.squander.spec.ForgeScene.obj2lit, edu.mit.csail.sdg.squander.spec.ForgeScene.program(), and edu.mit.csail.sdg.squander.spec.ForgeScene.str2lit.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.131.3.7 void edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod (JMethod m)

Definition at line 110 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.args(), edu.mit.csail.sdg.squander.spec.JMethod.declaringClass, edu.mit.csail.sdg.squander.spec.JMethod.isStatic, edu.mit.csail.sdg.squander.spec.ForgeScene.locals, edu.mit.csail.sdg.squander.spec.JMethod.name(), edu.mit.csail.sdg.squander.spec.ForgeScene.newThisVariable(), edu.mit.csail.sdg.squander.spec.JMethod.params, edu.mit.csail.sdg.squander.spec.ForgeScene.program(), edu.mit.csail.sdg.squander.spec.JMethod.returnType, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForClss().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.131.3.8 Set<InstanceDomain> edu.mit.csail.sdg.squander.spec.ForgeScene.domains ()

Definition at line 162 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.program().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds().

9.131.3.9 void edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts (boolean b)

Definition at line 246 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts.

9.131.3.10 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.ensureConst (String name)

Definition at line 268 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.consts(), edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType() and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

9.131.3.11 ForgeDomain edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain (JType.Unary_{cls})

Definition at line 224 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.addUsedType(), edu.mit.csail.sdg.squander.spec.ForgeScene.cls2dom, and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForClz().

9.131.3.12 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal (JField field)

Definition at line 250 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.fields(), edu.mit.csail.sdg.squander.spec.JField.fullName(), edu.mit.csail.sdg.squander.spec.ForgeScene.global(), edu.mit.csail.sdg.squander.spec.ForgeScene.globals, edu.mit.csail.sdg.squander.spec.JField.isSpec(), and edu.mit.csail.sdg.squander.spec.ForgeScene.var2fld.

9.131.3.13 void edu.mit.csail.sdg.squander.spec.ForgeScene.ensureInt (int i)

Definition at line 242 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.ints().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.131.3.14 Set<JField> edu.mit.csail.sdg.squander.spec.ForgeScene.fields (GlobalVariable var)

Definition at line 176 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.var2fld.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal(), edu.mit.csail.sdg.squander.engine.SquanderResult.getJFieldForVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.isOneField(), edu.mit.csail.sdg.squander.spec.ForgeScene.isPureAbstractSpecField(), edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField() and edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.131.3.15 JType.Unary edu.mit.csail.sdg.squander.spec.ForgeScene.findClassForDomain (ForgeDomain dom)

Definition at line 234 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.cls2dom.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.classForDomain().

9.131.3.16 ForgeDomain `edu.mit.csail.sdg.squander.spec.ForgeScene.findDomain (JType.Unary
cls)`

Definition at line 222 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.cls2dom`.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls()`.

9.131.3.17 ForgeVariable `edu.mit.csail.sdg.squander.spec.ForgeScene.findVar (String name)`

Definition at line 167 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.consts()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.global()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.locals`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds()`.

9.131.3.18 ForgeLiteral `edu.mit.csail.sdg.squander.spec.ForgeScene.forgeLitForObj (Object obj)`

Definition at line 322 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.program()`.

Referenced by `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.conv2tuples()`, and `edu.mit.csail.sdg.squander.engine.ForgeConverter.printObjSet()`.

9.131.3.19 ForgeEnv `edu.mit.csail.sdg.squander.spec.ForgeScene.getEnv (LocalVariable thisVar)`

Definition at line 147 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.args()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.locals`.

Referenced by `edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs()`, and `edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs()`.

9.131.3.20 ForgeType `edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField (JField field
[private])`

Definition at line 358 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType()`, `edu.mit.csail.sdg.squander.spec.JField.isSpec()`, `edu.mit.csail.sdg.squander.spec.JType.range()`, `edu.mit.csail.sdg.squander.spec.JField.type`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls()`.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar()`.

9.131.3.21 GlobalVariable `edu.mit.csail.sdg.squander.spec.ForgeScene.global (JField fld)`

Definition at line 164 of file `ForgeScene.java`.

References `edu.mit.csail.sdg.squander.spec.JField.fullName()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.globals`.

9.131.3.22 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.global (String *name*)

Definition at line 163 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.globals.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields(), edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.findMaxArr(), edu.mit.csail.sdg.squander.spec.ForgeScene.findVar(), edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), and edu.mit.csail.sdg.squander.engine.SquanderResult.getSpecField().

9.131.3.23 InstanceLiteral edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj (Object *obj*)

Definition at line 335 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.nullLit(), edu.mit.csail.sdg.squander.spec.ForgeScene.obj2lit, and edu.mit.csail.sdg.squander.spec.ForgeScene.str2lit.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.forgelitForObj(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getLitNameForObject(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModLits(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.getPostLower(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostLower(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2atom().

9.131.3.24 Set<Integer> edu.mit.csail.sdg.squander.spec.ForgeScene.ints ()

returns only used ints

Definition at line 244 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureInt().

9.131.3.25 boolean edu.mit.csail.sdg.squander.spec.ForgeScene.isConst (GlobalVariable *var*)

Definition at line 166 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.consts().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations().

9.131.3.26 boolean edu.mit.csail.sdg.squander.spec.ForgeScene.isEnsureAllInts ()

Definition at line 245 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.maxSize().

9.131.3.27 boolean edu.mit.csail.sdg.squander.spec.ForgeScene.isOneField (GlobalVariable var)

Definition at line 188 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.fields(), edu.mit.csail.sdg.squander.spec.JField.getBound(), and edu.mit.csail.sdg.squander.spec.JField.isSpec().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getExtent().

9.131.3.28 boolean edu.mit.csail.sdg.squander.spec.ForgeScene.isPureAbstractSpecField (GlobalVariable var)

Definition at line 211 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.fields(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.nonAbstractSpecFields().

9.131.3.29 boolean edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField (GlobalVariable var)

Definition at line 180 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.fields().

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
edu.mit.csail.sdg.squander.spec.ForgeScene.nonAbstractSpecFields(), and
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed().

9.131.3.30 InstanceLiteral edu.mit.csail.sdg.squander.spec.ForgeScene.litForName (String name)

Definition at line 343 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.program().

9.131.3.31 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.newThisVariable (JType.Unary type)

Definition at line 141 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.program(), and
edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), and
edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.131.3.32 Collection<? extends GlobalVariable> edu.mit.csail.sdg.squander.spec.ForgeScene.nonAbstractSpecFields()

Definition at line 202 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.globals, edu.mit.csail.sdg.squander.spec.ForgeScene.isPureAbstractSpecField() and
edu.mit.csail.sdg.squander.spec.ForgeScene.isSpecField().

Referenced by edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.131.3.33 InstanceLiteral edu.mit.csail.sdg.squander.spec.ForgeScene.nullLit ()

Definition at line 160 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj().

9.131.3.34 InstanceDomain edu.mit.csail.sdg.squander.spec.ForgeScene.nullType ()

Definition at line 161 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForClss().

9.131.3.35 int edu.mit.csail.sdg.squander.spec.ForgeScene.numLiteralsFor (InstanceDomain id)

Definition at line 292 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.litCnt.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.maxSize().

9.131.3.36 Collection<ForgeType> edu.mit.csail.sdg.squander.spec.ForgeScene.numTypes ()

Definition at line 247 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureNum().

9.131.3.37 Object edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit (String litName)

Definition at line 318 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.lit2obj.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.atom2obj(), edu.mit.csail.sdg.squander.engine.ForgeConverter.lit2obj(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Kodkod().

9.131.3.38 ForgeProgram edu.mit.csail.sdg.squander.spec.ForgeScene.program ()

Definition at line 155 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.booleanType(), edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(), edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), edu.mit.csail.sdg.squander.spec.ForgeScene.domains(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.emptyDecls(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureConst(), edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.falseExpr(), edu.mit.csail.sdg.squander.spec.ForgeScene.forgelitForObj(), edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.integerType(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.intExpr(), edu.mit.csail.sdg.squander.spec.ForgeScene.isPureAbstractSpec(), edu.mit.csail.sdg.squander.spec.ForgeScene.litForName(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.newLocalVar(), edu.mit.csail.sdg.squander.spec.ForgeScene.newThisVariable(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringExpr(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.trueExpr(), and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForClss().

9.131.3.39 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar ()

Definition at line 157 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod().

9.131.3.40 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar ()

Definition at line 156 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod().

9.131.3.41 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.throwVar ()

Definition at line 158 of file ForgeScene.java.

**9.131.3.42 ForgeType.Unary edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls
(JType.Unary *cls*, boolean *includeNull*)**

Definition at line 297 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.addUsedType(),
edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain(), edu.mit.csail.sdg.squander.spec.ForgeScene.findDomain(),
edu.mit.csail.sdg.squander.spec.ForgeScene.javaScene, edu.mit.csail.sdg.squander.spec.ForgeScene.nullType(),
edu.mit.csail.sdg.squander.spec.ForgeScene.program(), and edu.mit.csail.sdg.squander.spec.JavaScene.subTypes().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType(),
edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(),
edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField(), edu.mit.csail.sdg.squander.spec.Spec.invariant(),
and edu.mit.csail.sdg.squander.spec.ForgeScene.newThisVariable().

9.131.3.43 Set<ForgeType.Unary> edu.mit.csail.sdg.squander.spec.ForgeScene.usedTypes ()

Definition at line 248 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.addUsedType().

9.131.4 Member Data Documentation**9.131.4.1 LocalVariable [] edu.mit.csail.sdg.squander.spec.ForgeScene.args = new
LocalVariable[0] [private]**

Definition at line 94 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
edu.mit.csail.sdg.squander.engine.ForgeConverter.proc(), and edu.mit.csail.sdg.squander.spec.Spec.wellformedPre().

9.131.4.2 final Map<JType.Unary, ForgeDomain> edu.mit.csail.sdg.squander.spec.ForgeScene.cls2dom = new HashMap<JType.Unary, ForgeDomain>() [private]

Maps Java classes to Forge domains.

Definition at line 69 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureDomain(), edu.mit.csail.sdg.squander.spec.ForgeScene.findClassForDomain(), edu.mit.csail.sdg.squander.spec.ForgeScene.findDomain(), and edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene().

9.131.4.3 final Map<String, GlobalVariable> edu.mit.csail.sdg.squander.spec.ForgeScene.consts = new HashMap<String, GlobalVariable>() [private]

Definition at line 76 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations().

9.131.4.4 final Counter<JType.Unary> edu.mit.csail.sdg.squander.spec.ForgeScene.counter = new Counter<JType.Unary>() [private]

Definition at line 49 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral().

9.131.4.5 boolean edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts = false [private]

whether all integers (within a bound) should be enumerated in Kodkod

Definition at line 84 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureAllInts(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), and edu.mit.csail.sdg.squander.spec.ForgeScene.isEnsureAllInts().

9.131.4.6 final Map<String, GlobalVariable> edu.mit.csail.sdg.squander.spec.ForgeScene.globals = new HashMap<String, GlobalVariable>() [private]

Maps Java fields to Forge global variables.

Definition at line 72 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal(), edu.mit.csail.sdg.squander.spec.ForgeScene.global(), and edu.mit.csail.sdg.squander.spec.ForgeScene.nonAbstractSpecFields()

9.131.4.7 final Set<Integer> edu.mit.csail.sdg.squander.spec.ForgeScene.ints = new HashSet<Integer>(64) [private]

List of all integers found on the heap

Definition at line 81 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.allInts(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createUniverse(), and

edu.mit.csail.sdg.squander.engine.ForgeConverter.maxSize().

9.131.4.8 final JavaScene edu.mit.csail.sdg.squander.spec.ForgeScene.javaScene [private]

Definition at line 52 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems(),
edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength(), edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(),
and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

9.131.4.9 final Map<String, Object> edu.mit.csail.sdg.squander.spec.ForgeScene.lit2obj = new HashMap<String, Object>() [private]

Keys are sometimes ForgeAtom and sometimes InstanceLiteral. We use Strings to abstract these to a common representation.

Definition at line 66 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(),
edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.objForLit().

9.131.4.10 final Counter<InstanceDomain> edu.mit.csail.sdg.squander.spec.ForgeScene.litCnt = new Counter<InstanceDomain>() [private]

Definition at line 50 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(),
edu.mit.csail.sdg.squander.spec.ForgeScene.ForgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.numLiteralsFor(),
and edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringExpr().

9.131.4.11 final Map<String, LocalVariable> edu.mit.csail.sdg.squander.spec.ForgeScene.locals = new HashMap<String, LocalVariable>() [private]

Maps local variable names to local variables (e.g. thisVar, throwVar, returnVar, args)

Definition at line 74 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(),
edu.mit.csail.sdg.squander.spec.ForgeScene.findVar(), and edu.mit.csail.sdg.squander.spec.ForgeScene.getEnv().

9.131.4.12 final InstanceLiteral edu.mit.csail.sdg.squander.spec.ForgeScene.nullLit [private]

Definition at line 55 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.obj2atom().

9.131.4.13 final InstanceDomain edu.mit.csail.sdg.squander.spec.ForgeScene.nullType [private]

Definition at line 54 of file ForgeScene.java.

9.131.4.14 Map<String, ForgeType> edu.mit.csail.sdg.squander.spec.ForgeScene.numTypes = new HashMap<String, ForgeType>() [private]

types whose cardinality is mentioned in the spec

Definition at line 87 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.131.4.15 final IdentityHashMap<Object, InstanceLiteral> edu.mit.csail.sdg.squander.spec.ForgeScene.obj2lit = new IdentityHashMap<Object, InstanceLiteral>() [private]

Maps memory addresses to Forge InstanceLiterals.

Definition at line 58 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(), and edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj().

9.131.4.16 final ForgeProgram edu.mit.csail.sdg.squander.spec.ForgeScene.program [private]

Definition at line 53 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Frame.condition(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findInstLiteralsForType(), edu.mit.csail.sdg.squander.engine.ForgeConverter.findLiteralsForType(), edu.mit.csail.sdg.squander.spec.Spec.funcConstraint(), edu.mit.csail.sdg.squander.engine.SquanderImpl.getModsForPostState(), edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(), edu.mit.csail.sdg.squander.spec.Spec.invariant(), edu.mit.csail.sdg.squander.engine.ForgeConverter.makeForgeBounds(), edu.mit.csail.sdg.squander.spec.Frame.modCond(), edu.mit.csail.sdg.squander.engine.ForgeConverter.printUniverseStats(), edu.mit.csail.sdg.squander.engine.ForgeConverter.proc(), edu.mit.csail.sdg.squander.engine.SquanderResult.program(), edu.mit.csail.sdg.squander.spec.Spec.wellformedPost(), and edu.mit.csail.sdg.squander.spec.Spec.wellformedPre().

9.131.4.17 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar [private]

Definition at line 92 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(), edu.mit.csail.sdg.squander.engine.ForgeConverter.proc(), edu.mit.csail.sdg.squander.engine.SquanderResult.returnVar(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.wellformed(), and edu.mit.csail.sdg.squander.spec.Spec.wellformedPost().

```
9.131.4.18 final HashMap<String, InstanceLiteral>
edu.mit.csail.sdg.squander.spec.ForgeScene.str2lit = new
HashMap<String, InstanceLiteral>() [private]
```

Maps string to Forge literals.

Definition at line 60 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral(),
 edu.mit.csail.sdg.squander.spec.ForgeScene.instLitForObj(), and
 edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringExp()

```
9.131.4.19 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar [private]
```

Definition at line 93 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createBounds(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.createRelations(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.ForgeConverter.proc(),
 edu.mit.csail.sdg.squander.engine.SquanderResult.self(),
 edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs(), and
 edu.mit.csail.sdg.squander.spec.Spec.wellformedPre().

```
9.131.4.20 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.throwVar [private]
```

Definition at line 91 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.wellformedPost().

```
9.131.4.21 Map<String, ForgeType.Unary>
edu.mit.csail.sdg.squander.spec.ForgeScene.usedTypes = new
HashMap<String, ForgeType.Unary>() [private]
```

Definition at line 89 of file ForgeScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.partitionDomains().

```
9.131.4.22 final Map<GlobalVariable, Set<JField> >
edu.mit.csail.sdg.squander.spec.ForgeScene.var2fld = new
HashMap<GlobalVariable, Set<JField>>() [private]
```

Definition at line 78 of file ForgeScene.java.

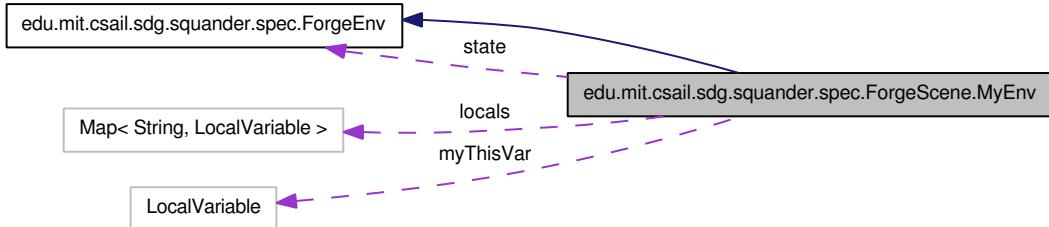
Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal(), and
 edu.mit.csail.sdg.squander.spec.ForgeScene.fields().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[ForgeScene.java](#)

9.132 edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::ForgeEnv.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#):



Public Member Functions

- [ForgeExpression arg \(int i\)](#)
- [JType.Unary classForDomain \(ForgeDomain domain\)](#)
- [ForgeExpression arrayElems \(JType type\)](#)
- [ForgeExpression arrayLength \(JType type\)](#)
- [ForgeExpression globalVar \(GlobalVariable var\)](#)
- [LocalVariable newLocalVar \(String name, ForgeType type\)](#)
- [ForgeType integerType \(\)](#)
- [ForgeType nullType \(\)](#)
- [ForgeExpression intExpr \(int i\)](#)
- [ForgeType booleanType \(\)](#)
- [ForgeExpression trueExpr \(\)](#)
- [ForgeExpression falseExpr \(\)](#)
- [LocalDecls emptyDecls \(\)](#)
- [ForgeExpression returnVar \(\)](#)
- [LocalVariable thisVar \(\)](#)
- [ForgeExpression throwVar \(\)](#)
- [ForgeEnv setPreStateMode \(\)](#)
- [ForgeExpression stringExpr \(String text\)](#)
- [ForgeType stringType \(\)](#)
- [ForgeEnv addLocal \(LocalVariable var\)](#)
- [ForgeDomain.Unary ensureDomain \(JType.Unary clz\)](#)
- [ForgeDomain.Unary typeForCls \(JType.Unary clz, boolean includeNull\)](#)
- [GlobalVariable ensureGlobal \(JField field\)](#)
- [GlobalVariable ensureConst \(String name\)](#)
- [LocalVariable findLocal \(String name\)](#)
- [void ensureAllInts \(\)](#)
- [void ensureInt \(int i\)](#)
- [void ensureNum \(ForgeType type\)](#)

Package Functions

- [MyEnv \(LocalVariable thisVar, Map< String, LocalVariable > locals\)](#)

Private Member Functions

- [MyEnv \(State state, LocalVariable thisVar, Map< String, LocalVariable > locals\)](#)
- [ForgeExpression getThrowVar \(\)](#)

Private Attributes

- final [ForgeEnv.State state](#)
- final [Map< String, LocalVariable > locals](#)
- LocalVariable [myThisVar](#)

9.132.1 Detailed Description

Definition at line 386 of file ForgeScene.java.

9.132.2 Constructor & Destructor Documentation

9.132.2.1 [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.MyEnv \(LocalVariable thisVar, Map< String, LocalVariable > locals\) \[package\]](#)

Definition at line 392 of file ForgeScene.java.

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.addLocal\(\)](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPreStateMode\(\)](#).

9.132.2.2 [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.MyEnv \(State state, LocalVariable thisVar, Map< String, LocalVariable > locals\) \[private\]](#)

Definition at line 396 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.myThisVar](#).

9.132.3 Member Function Documentation

9.132.3.1 [ForgeEnv edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.addLocal \(LocalVariable var\)](#)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 476 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.locals](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.MyEnv](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.myThisVar](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state](#).

9.132.3.2 [ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arg \(int i\)](#)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 403 of file ForgeScene.java.

References [edu.mit.csail.sdg.squander.spec.ForgeScene.args\(\)](#).

9.132.3.3 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems (JType type)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 413 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.JType.domain\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureGlobal\(\)](#), [edu.mit.csail.sdg.squander.spec.ClassSpec.findField\(\)](#), [edu.mit.csail.sdg.squander.spec.JavaScene.findSpec\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.javaScene](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state](#).

9.132.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength (JType type)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 420 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.JType.domain\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureGlobal\(\)](#), [edu.mit.csail.sdg.squander.spec.ClassSpec.findField\(\)](#), [edu.mit.csail.sdg.squander.spec.JavaScene.findSpec\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.javaScene](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state](#).

9.132.3.5 ForgeType edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.booleanType ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 442 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.program\(\)](#).

9.132.3.6 JType.Unary edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.classForDomain (ForgeDomain domain)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 408 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.createClassForDomain\(\)](#).

9.132.3.7 LocalDecls edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.emptyDecls ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 445 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.program\(\)](#).

9.132.3.8 void edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureAllInts ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 509 of file [ForgeScene.java](#).

9.132.3.9 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureConst (String name)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 499 of file [ForgeScene.java](#).

9.132.3.10 ForgeDomain.Unary

[edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureDomain](#)
([JType.Unary](#) *clz*)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 484 of file [ForgeScene.java](#).

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringType\(\)](#).

9.132.3.11 GlobalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureGlobal (JField field)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 494 of file [ForgeScene.java](#).

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems\(\)](#), and
[edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength\(\)](#).

9.132.3.12 void edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureInt (int i)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 514 of file [ForgeScene.java](#).

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.intExpr\(\)](#).

9.132.3.13 void edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureNum (ForgeType type)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 519 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.numTypes\(\)](#).

9.132.3.14 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.falseExpr ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 444 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.program\(\)](#).

9.132.3.15 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.findLocal (String name)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 504 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.locals.

9.132.3.16 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar () [private]

Definition at line 523 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.locals, edu.mit.csail.sdg.squander.spec.ForgeScene.program(), edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.throwVar(), and edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.typeFor.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.throwVar().

9.132.3.17 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.globalVar (GlobalVariable var)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 427 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state.

9.132.3.18 ForgeType edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.integerType ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 439 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.program().

9.132.3.19 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.intExpr (int i)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 441 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureInt(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program().

9.132.3.20 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.newLocalVar (String name, ForgeType type)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 435 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.program().

9.132.3.21 ForgeType edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.nullType ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 440 of file ForgeScene.java.

9.132.3.22 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.returnVar ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 447 of file [ForgeScene.java](#).

9.132.3.23 ForgeEnv edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPreStateMode ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 452 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.locals](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.MyEnv](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.myThisVar](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state](#).

**9.132.3.24 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringExpr
(String text)**

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 459 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.litCnt](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.program\(\)](#), [edu.mit.csail.sdg.squander.spec.ForgeScene.str2lit](#), and [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringType\(\)](#).

9.132.3.25 ForgeType edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringType ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 471 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.ensureDomain\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.stringExpr\(\)](#).

9.132.3.26 LocalVariable edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.thisVar ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 448 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.myThisVar](#).

9.132.3.27 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.throwVar ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 449 of file [ForgeScene.java](#).

References [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar\(\)](#).

9.132.3.28 ForgeExpression edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.trueExpr ()

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 443 of file ForgeScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.program().

9.132.3.29 **ForgeDomain.Unary** `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.typeForCls` (`JType.Unary` *clz*, `boolean` *includeNull*)

Implements [edu.mit.csail.sdg.squander.spec.ForgeEnv](#).

Definition at line 489 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar()`.

9.132.4 Member Data Documentation

9.132.4.1 **final Map<String, LocalVariable>** `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.locals` [**private**]

Definition at line 389 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.addLocal()`,
`edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.findLocal()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.getThrowVar()`,
and `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPreStateMode()`.

9.132.4.2 **LocalVariable** `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.myThisVar` [**private**]

Definition at line 390 of file ForgeScene.java.

Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.addLocal()`,
`edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.MyEnv()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPreStateMode()`,
and `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.thisVar()`.

9.132.4.3 **final ForgeEnv.State** `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.state` [**private**]

Definition at line 388 of file ForgeScene.java.

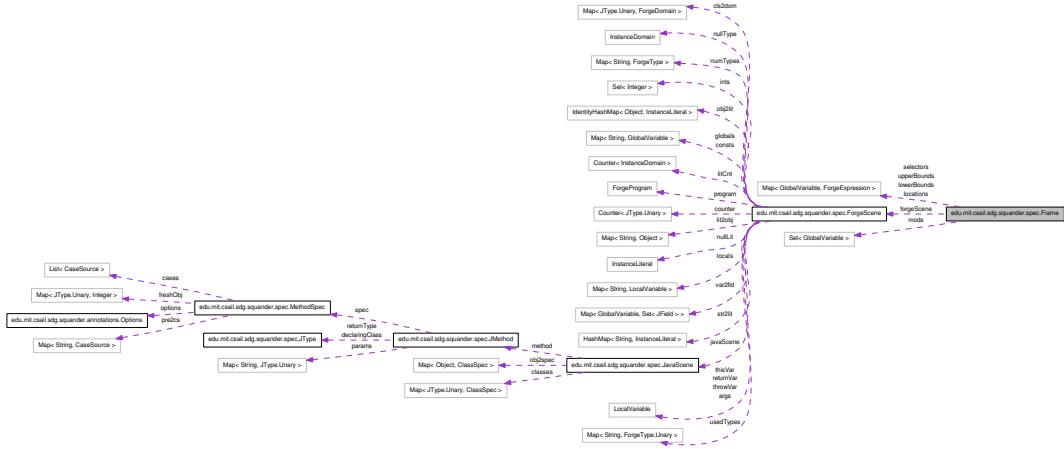
Referenced by `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.addLocal()`,
`edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems()`, `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLen()`,
`edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.globalVar()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.setPreStateMode()`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/spec/ForgeScene.java`

9.133 edu.mit.csail.sdg.squander.spec.Frame Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.Frame:



Public Member Functions

- [Frame \(ForgeScene scene\)](#)
- [Set< GlobalVariable > locations \(\)](#)
- [ForgeExpression instSelector \(GlobalVariable g\)](#)
- [ForgeExpression lowerBound \(GlobalVariable g\)](#)
- [ForgeExpression upperBound \(GlobalVariable g\)](#)
- void [add \(GlobalVariable var, ForgeExpression location, ForgeExpression sel, ForgeExpression lower, ForgeExpression upper\)](#)
- [ForgeExpression condition \(\)](#)
- [ForgeExpression modCond \(\)](#)
- [ForgeExpression modCond \(GlobalVariable var\)](#)
- [ForgeExpression lowerCond \(GlobalVariable var\)](#)
- [ForgeExpression upperCond \(GlobalVariable var\)](#)
- [Set< GlobalVariable > modifiable \(\)](#)
- String [toString \(\)](#)

Private Member Functions

- [ForgeExpression modCond \(GlobalVariable var, ForgeExpression instSel, LocalVariable l\)](#)

Private Attributes

- final [ForgeScene forgeScene](#)
- final Map< GlobalVariable, ForgeExpression > [locations](#)
- final Map< GlobalVariable, ForgeExpression > [selectors](#)
- final Map< GlobalVariable, ForgeExpression > [lowerBounds](#)
- final Map< GlobalVariable, ForgeExpression > [upperBounds](#)
- Set< GlobalVariable > [modifiable](#) = null

9.133.1 Detailed Description

`Frame` condition. The roots of location may be local variables. The context of these variables is not specified in this class.

frame : set GlobalVariable -> ForgeExpression { (all var : GlobalVariable | one var.frame) }

Definition at line 27 of file Frame.java.

9.133.2 Constructor & Destructor Documentation

9.133.2.1 edu.mit.csail.sdg.squander.spec.Frame.Frame (ForgeScene *scene*)

Definition at line 36 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.forgeScene, edu.mit.csail.sdg.squander.spec.Frame.locations(), edu.mit.csail.sdg.squander.spec.Frame.lowerBounds, edu.mit.csail.sdg.squander.spec.Frame.selectors, and edu.mit.csail.sdg.squander.spec.Frame.upperBounds.

9.133.3 Member Function Documentation

9.133.3.1 void edu.mit.csail.sdg.squander.spec.Frame.add (GlobalVariable *var*, ForgeExpression *location*, ForgeExpression *sel*, ForgeExpression *lower*, ForgeExpression *upper*)

frame = no var.(frame) ? (frame) ++ var -> heap : (frame) ++ var -> (var.(frame) + heap)

If var stands for a spec field, the frame of the field is automatically added.

Parameters:

upper

Definition at line 60 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.fields(), edu.mit.csail.sdg.squander.spec.Frame.forgeScene, edu.mit.csail.sdg.squander.spec.Frame.locations(), edu.mit.csail.sdg.squander.spec.Frame.lowerBounds, edu.mit.csail.sdg.squander.spec.Frame.selectors, and edu.mit.csail.sdg.squander.spec.Frame.upperBounds.

9.133.3.2 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.condition ()

Requires that no additional relations are added to the scene afterwards.

Returns:

(all var : scene.globals() | no var.frame => (all quant | quant.var = quant.(var)) && (all var : scene.globals() | some var.frame => (all quant | quant.var != quant.(var) => quant in var.frame))

Definition at line 126 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.forgeScene, edu.mit.csail.sdg.squander.spec.Frame.modCond(), edu.mit.csail.sdg.squander.spec.Frame.modifiable(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.spec.Frame.selectors.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.toString().

9.133.3.3 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.instSelector (GlobalVariable g)

Definition at line 48 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.selectors.

9.133.3.4 Set<GlobalVariable> edu.mit.csail.sdg.squander.spec.Frame.locations ()

Definition at line 44 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.Frame.Frame(), and edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.133.3.5 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.lowerBound (GlobalVariable g)

Definition at line 49 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.lowerBounds.

9.133.3.6 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.lowerCond (GlobalVariable var)

Definition at line 161 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.lowerBounds, and edu.mit.csail.sdg.squander.spec.Frame.selectors.

9.133.3.7 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.modCond (GlobalVariable var, ForgeExpression instSel, LocalVariable l) [private]

Definition at line 179 of file Frame.java.

9.133.3.8 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.modCond (GlobalVariable var)

Definition at line 152 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.forgescene, edu.mit.csail.sdg.squander.spec.Frame.modCond(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.spec.Frame.selectors.

9.133.3.9 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.modCond ()

Definition at line 143 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.forgescene, and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.condition(), and
edu.mit.csail.sdg.squander.spec.Frame.modCond().

9.133.3.10 Set<GlobalVariable> edu.mit.csail.sdg.squander.spec.Frame.modifiable ()

Global variables for which old heap locations may be modified.

Returns:

```
{ var : scene.globals() | some var.frame }
```

Definition at line 188 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.fields(), edu.mit.csail.sdg.squander.spec.Frame.forgeScene, edu.mit.csail.sdg.squander.spec.FrameInference.globals, edu.mit.csail.sdg.squander.spec.Frame.locations(), edu.mit.csail.sdg.squander.spec.Frame.mods, and edu.mit.csail.sdg.squander.spec.ForgeScene.nonAbstractSpecFields().

Referenced by edu.mit.csail.sdg.squander.spec.Frame.condition(), and edu.mit.csail.sdg.squander.spec.Frame.toString().

9.133.3.11 String edu.mit.csail.sdg.squander.spec.Frame.toString ()

Definition at line 234 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.condition(), and edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.133.3.12 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.upperBound (GlobalVariable g)

Definition at line 50 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.upperBounds.

9.133.3.13 ForgeExpression edu.mit.csail.sdg.squander.spec.Frame.upperCond (GlobalVariable var)

Definition at line 169 of file Frame.java.

References edu.mit.csail.sdg.squander.spec.Frame.selectors, and edu.mit.csail.sdg.squander.spec.Frame.upperBounds.

9.133.4 Member Data Documentation**9.133.4.1 final ForgeScene edu.mit.csail.sdg.squander.spec.Frame.forgeScene [private]**

Definition at line 28 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.Frame.condition(), edu.mit.csail.sdg.squander.spec.Frame.Frame(), edu.mit.csail.sdg.squander.spec.Frame.modCond(), and edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.133.4.2 final Map<GlobalVariable, ForgeExpression> edu.mit.csail.sdg.squander.spec.Frame.locations [private]

Definition at line 29 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), and edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.133.4.3 final Map<GlobalVariable, ForgeExpression> edu.mit.csail.sdg.squander.spec.Frame.lowerBounds [private]

Definition at line 31 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.Frame.Frame(), edu.mit.csail.sdg.squander.spec.Frame.lowerBound(), and edu.mit.csail.sdg.squander.spec.Frame.lowerCond().

9.133.4.4 Set<GlobalVariable> edu.mit.csail.sdg.squander.spec.Frame.mods = null [private]

Definition at line 34 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.modifiable().

9.133.4.5 final Map<GlobalVariable, ForgeExpression> edu.mit.csail.sdg.squander.spec.Frame.selectors [private]

Definition at line 30 of file Frame.java.

Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.Frame.condition(), edu.mit.csail.sdg.squander.spec.Frame.Frame(), edu.mit.csail.sdg.squander.spec.Frame.instSelector(), edu.mit.csail.sdg.squander.spec.Frame.lowerCond(), edu.mit.csail.sdg.squander.spec.Frame.modCond(), and edu.mit.csail.sdg.squander.spec.Frame.upperCond().

9.133.4.6 final Map<GlobalVariable, ForgeExpression> edu.mit.csail.sdg.squander.spec.Frame.upperBounds [private]

Definition at line 32 of file Frame.java.

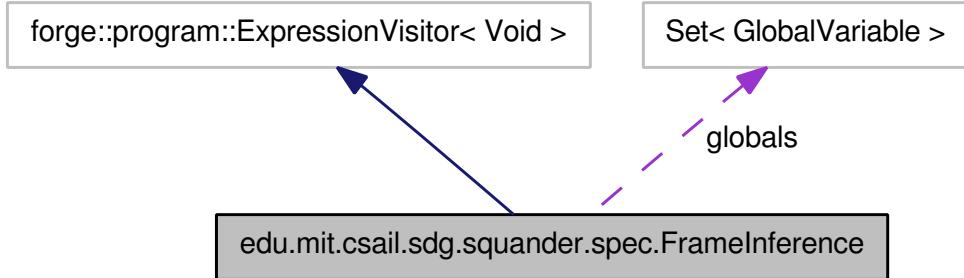
Referenced by edu.mit.csail.sdg.squander.spec.Frame.add(), edu.mit.csail.sdg.squander.spec.Frame.Frame(), edu.mit.csail.sdg.squander.spec.Frame.upperBound(), and edu.mit.csail.sdg.squander.spec.Frame.upperCond().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/Frame.java

9.134 edu.mit.csail.sdg.squander.spec.FrameInference Class Reference

Inherits forge::program::ExpressionVisitor<Void>.Collaboration diagram for edu.mit.csail.sdg.squander.spec.FrameInference:



Public Member Functions

- `Set<GlobalVariable> globals()`

Protected Member Functions

- `Void visit(ForgeType expr)`
- `Void visit(ForgeLiteral expr)`
- `Void visit(ForgeVariable expr)`
- `Void visit(UnaryExpression expr)`
- `Void visit(BinaryExpression expr)`
- `Void visit(ConditionalExpression expr)`
- `Void visit(ProjectionExpression expr)`
- `Void visit(QuantifyExpression expr)`
- `Void visit(OldExpression expr)`

Private Attributes

- `Set<GlobalVariable> globals = new HashSet<GlobalVariable>()`

9.134.1 Detailed Description

Definition at line 22 of file FrameInference.java.

9.134.2 Member Function Documentation

9.134.2.1 Set<GlobalVariable> edu.mit.csail.sdg.squander.spec.FrameInference.globals()

Definition at line 26 of file FrameInference.java.

Referenced by `edu.mit.csail.sdg.squander.spec.FrameInference.visit()`.

**9.134.2.2 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (OldExpression *expr*)
[protected]**

Definition at line 79 of file FrameInference.java.

**9.134.2.3 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (QuantifyExpression *expr*)
[protected]**

Definition at line 73 of file FrameInference.java.

**9.134.2.4 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (ProjectionExpression *expr*)
[protected]**

Definition at line 67 of file FrameInference.java.

**9.134.2.5 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (ConditionalExpression *expr*)
[protected]**

Definition at line 59 of file FrameInference.java.

**9.134.2.6 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (BinaryExpression *expr*)
[protected]**

Definition at line 52 of file FrameInference.java.

**9.134.2.7 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (UnaryExpression *expr*)
[protected]**

Definition at line 46 of file FrameInference.java.

**9.134.2.8 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (ForgeVariable *expr*)
[protected]**

Definition at line 39 of file FrameInference.java.

References edu.mit.csail.sdg.squander.spec.FrameInference.globals().

**9.134.2.9 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (ForgeLiteral *expr*)
[protected]**

Definition at line 34 of file FrameInference.java.

**9.134.2.10 Void edu.mit.csail.sdg.squander.spec.FrameInference.visit (ForgeType *expr*)
[protected]**

Definition at line 29 of file FrameInference.java.

9.134.3 Member Data Documentation

9.134.3.1 Set<GlobalVariable> edu.mit.csail.sdg.squander.spec.FrameInference.globals = new HashSet<GlobalVariable>() [private]

Definition at line 24 of file FrameInference.java.

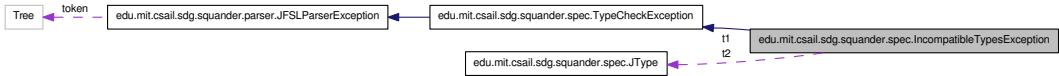
Referenced by edu.mit.csail.sdg.squander.spec.Frame.modifiable().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[FrameInference.java](#)

9.135 edu.mit.csail.sdg.squander.spec.IncompatibleTypesException Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::TypeCheckException.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException](#):



Public Member Functions

- [IncompatibleTypesException \(JType t1, JType t2, int pos, String expr\)](#)
- [JType getT1 \(\)](#)
- [JType getT2 \(\)](#)
- [String getExpr \(\)](#)
- [int getPos \(\)](#)

Private Attributes

- final [JType t1](#)
- final [JType t2](#)
- final String [expr](#)
- final int [pos](#)

Static Private Attributes

- static final long [serialVersionUID](#) = 9096734998607169611L

9.135.1 Detailed Description

Definition at line 7 of file IncompatibleTypesException.java.

9.135.2 Constructor & Destructor Documentation

9.135.2.1 [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.IncompatibleTypesException \(JType t1, JType t2, int pos, String expr\)](#)

Definition at line 15 of file IncompatibleTypesException.java.

9.135.3 Member Function Documentation

9.135.3.1 [String edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getExpr \(\)](#)

Definition at line 31 of file IncompatibleTypesException.java.

References [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.expr](#).

9.135.3.2 int edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getPos ()

Definition at line 35 of file IncompatibleTypesException.java.

References edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.pos.

9.135.3.3 JType edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getT1 ()

Definition at line 23 of file IncompatibleTypesException.java.

References edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.t1.

9.135.3.4 JType edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getT2 ()

Definition at line 27 of file IncompatibleTypesException.java.

References edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.t2.

9.135.4 Member Data Documentation

**9.135.4.1 final String edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.expr
[private]**

Definition at line 12 of file IncompatibleTypesException.java.

Referenced by edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getExpr().

9.135.4.2 final int edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.pos [private]

Definition at line 13 of file IncompatibleTypesException.java.

Referenced by edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getPos().

**9.135.4.3 final long
edu.mit.csail.sdg.squander.spec.IncompatibleTypesException serialVersionUID =
9096734998607169611L [static, private]**

Reimplemented from [edu.mit.csail.sdg.squander.spec.TypeCheckException](#).

Definition at line 9 of file IncompatibleTypesException.java.

**9.135.4.4 final JType edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.t1
[private]**

Definition at line 11 of file IncompatibleTypesException.java.

Referenced by edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getT1().

**9.135.4.5 final JType edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.t2
[private]**

Definition at line 11 of file IncompatibleTypesException.java.

Referenced by edu.mit.csail.sdg.squander.spec.IncompatibleTypesException.getT2().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[IncompatibleTypesException.java](#)

9.136 edu.mit.csail.sdg.squander.spec.ISpecProvider Interface Reference

Inherited by [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider](#), [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider](#), and [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider](#).

Public Member Functions

- `List< Source > extractClassSpec (JType.Unary jtype)`
- `List< Source > extractFieldSpec (Field field, Unary declaringType)`
- `MethodSpec extractMethodSpec (Method method, NameSpace ns)`

9.136.1 Detailed Description

Definition at line 14 of file ISpecProvider.java.

9.136.2 Member Function Documentation

9.136.2.1 `List<Source> edu.mit.csail.sdg.squander.spec.ISpecProvider.extractClassSpec (JType.Unary jtype)`

Implemented in [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider](#), [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider](#), and [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider](#).

Referenced by [edu.mit.csail.sdg.squander.spec.JavaScene.createClassSpec\(\)](#).

9.136.2.2 `List<Source> edu.mit.csail.sdg.squander.spec.ISpecProvider.extractFieldSpec (Field field, Unary declaringType)`

Referenced by [edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField\(\)](#).

9.136.2.3 `MethodSpec edu.mit.csail.sdg.squander.spec.ISpecProvider.extractMethodSpec (Method method, NameSpace ns)`

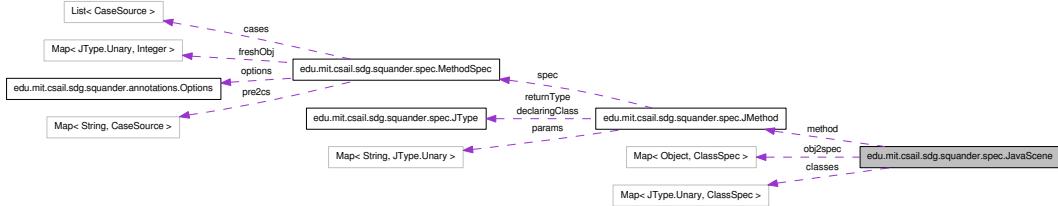
Implemented in [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider](#), [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider](#), and [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider](#).

The documentation for this interface was generated from the following file:

- `src/edu/mit/csail/sdg/squander/spec/ISpecProvider.java`

9.137 edu.mit.csail.sdg.squander.spec.JavaScene Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.JavaScene:



Public Member Functions

- boolean `isFinished ()`
- void `addObj2spec (Object object, ClassSpec cs)`
- `ClassSpec ensureClass (Class<?> cls)`
- `ClassSpec ensureClass (JType.Unary type)`
- void `finish ()`
- void `setMethod (JMethod method)`
- void `setArgs (Object[] methodArgs)`
- `JMethod method ()`
- `MethodSpec methodSpec ()`
- Collection< `ClassSpec > classSpecs ()`
- Collection< `Class<?> > classes ()`
- List< `JType.Unary > jtypes (Class<?> cls)`
- `ClassSpec classSpecForObj (Object o)`
- `JType.Unary jtypeForObj (Object o)`
- `ClassSpec classSpec (Unary jtype)`
- `ClassSpec findSpec (Class cls, boolean ensureSingle)`
- void `setCaller (Object caller)`
- Object `caller ()`
- Object[] `methodArgs ()`
- Collection< `JField > specFields ()`
- Collection< `ClassSpec > subTypes (JType.Unary jtype)`
- Collection< `ClassSpec > subTypes (Class<?> cls)`
- void `translateSpecs (ForgeScene forgeScene)`

Private Member Functions

- Collection< `ClassSpec > subTypes (ClassSpec clsSpec)`
- `ClassSpec createClassSpec (JType.Unary jtype)`

Private Attributes

- Map< `JType.Unary, ClassSpec > classes = new HashMap<JType.Unary, ClassSpec>()`
- Map< `Object, ClassSpec > obj2spec = new IdentityHashMap<Object, ClassSpec>()`
- `JMethod method`
- Object `caller`
- Object[] `methodArgs = new Object[0]`
- boolean `finished = false`

9.137.1 Detailed Description

Definition at line 25 of file JavaScene.java.

9.137.2 Member Function Documentation

9.137.2.1 void edu.mit.csail.sdg.squander.spec.JavaScene.addObj2spec (Object *object*, ClassSpec *cs*)

Definition at line 38 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject().

9.137.2.2 Object edu.mit.csail.sdg.squander.spec.JavaScene.caller ()

Definition at line 154 of file JavaScene.java.

9.137.2.3 Collection<Class<?>> edu.mit.csail.sdg.squander.spec.JavaScene.classes ()

Definition at line 122 of file JavaScene.java.

9.137.2.4 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.classSpec (Unary *jtype*)

Definition at line 140 of file JavaScene.java.

9.137.2.5 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.classSpecForObj (Object *o*)

Definition at line 138 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.serializer.special.SetSer.absFunc(),
edu.mit.csail.sdg.squander.serializer.special.MapSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.ListSer.absFunc(),
edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), and
edu.mit.csail.sdg.squander.serializer.special.ArraySer.absFunc().

9.137.2.6 Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.classSpecs ()

Definition at line 112 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(),
edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Spec.funcConstraint(),
and edu.mit.csail.sdg.squander.spec.Spec.invariant().

9.137.2.7 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.createClassSpec (JType.Unary *jtype*) [private]

Definition at line 206 of file JavaScene.java.

References edu.mit.csail.sdg.squander.spec.ClassSpec.addInvariant(), edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecField()
and edu.mit.csail.sdg.squander.spec.ISpecProvider.extractClassSpec().

9.137.2.8 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass (JType.Unary *type*)

Definition at line 44 of file JavaScene.java.

References by edu.mit.csail.sdg.squander.spec.ClassSpec.addSuper(), and edu.mit.csail.sdg.squander.spec.ClassSpec.typecheck().

9.137.2.9 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass (Class<?> *cls*)

Definition at line 40 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.NameSpace.findField(), edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(), edu.mit.csail.sdg.squander.engine.ForgeConverter.initJavaScene(), edu.mit.csail.sdg.squander.engine.Heap2Bounds.newObject(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitName(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitRefType().

9.137.2.10 ClassSpec edu.mit.csail.sdg.squander.spec.JavaScene.findSpec (Class *cls*, boolean *ensureSingle*)

Definition at line 141 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems(), and edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength().

9.137.2.11 void edu.mit.csail.sdg.squander.spec.JavaScene.finish ()

Definition at line 63 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.137.2.12 boolean edu.mit.csail.sdg.squander.spec.JavaScene.isFinished ()

Definition at line 36 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.addInvariant(), edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecField(), edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecFieldSource(), and edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField().

9.137.2.13 JType.Unary edu.mit.csail.sdg.squander.spec.JavaScene.jtypeForObj (Object *o*)

Definition at line 139 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLiteral().

9.137.2.14 List<JType.Unary> edu.mit.csail.sdg.squander.spec.JavaScene.jtypes (Class<?> *cls*)

Definition at line 129 of file JavaScene.java.

9.137.2.15 JMethod edu.mit.csail.sdg.squander.spec.JavaScene.method ()

Definition at line 110 of file JavaScene.java.

9.137.2.16 Object [] edu.mit.csail.sdg.squander.spec.JavaScene.methodArgs ()

Definition at line 155 of file JavaScene.java.

9.137.2.17 MethodSpec edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec ()

Definition at line 111 of file JavaScene.java.

References edu.mit.csail.sdg.squander.spec.JMethod.spec.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec(),
edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.ForgeConverter.finish()
edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.proc().

9.137.2.18 void edu.mit.csail.sdg.squander.spec.JavaScene.setArgs (Object[] methodArgs)

Definition at line 103 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.137.2.19 void edu.mit.csail.sdg.squander.spec.JavaScene.setCaller (Object caller)

Definition at line 153 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.137.2.20 void edu.mit.csail.sdg.squander.spec.JavaScene.setMethod (JMethod method)

Definition at line 98 of file JavaScene.java.

References edu.mit.csail.sdg.squander.spec.JMethod.spec, and edu.mit.csail.sdg.squander.spec.MethodSpec.typecheck().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext().

9.137.2.21 Collection<JField> edu.mit.csail.sdg.squander.spec.JavaScene.specFields ()

Definition at line 157 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundSpecFields().

**9.137.2.22 Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.subTypes
(ClassSpec *clsSpec*) [private]**

Definition at line 175 of file JavaScene.java.

References edu.mit.csail.sdg.squander.spec.ClassSpec.clz(), edu.mit.csail.sdg.squander.spec.ClassSpec.jtype,
edu.mit.csail.sdg.squander.spec.ClassSpec.setSubs(), and edu.mit.csail.sdg.squander.spec.ClassSpec.subs.

**9.137.2.23 Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.subTypes
(Class<?> *cls*)**

Definition at line 171 of file JavaScene.java.

9.137.2.24 Collection<ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.subTypes (JType.Unary *jtype*)

Definition at line 167 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

9.137.2.25 void edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs (ForgeScene *forgeScene*)

Definition at line 193 of file JavaScene.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.getEnv(), edu.mit.csail.sdg.squander.spec.JMethod.spec, edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar, and edu.mit.csail.sdg.squander.spec.MethodSpec.translateSpecs().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.137.3 Member Data Documentation

9.137.3.1 Object edu.mit.csail.sdg.squander.spec.JavaScene.caller [private]

Definition at line 31 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff().

9.137.3.2 Map<JType.Unary, ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.classes = new HashMap<JType.Unary, ClassSpec>() [private]

Definition at line 27 of file JavaScene.java.

9.137.3.3 boolean edu.mit.csail.sdg.squander.spec.JavaScene.finished = false [private]

Definition at line 34 of file JavaScene.java.

9.137.3.4 JMethod edu.mit.csail.sdg.squander.spec.JavaScene.method [private]

Definition at line 30 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.finish(), edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.proc().

9.137.3.5 Object [] edu.mit.csail.sdg.squander.spec.JavaScene.methodArgs = new Object[0] [private]

Definition at line 32 of file JavaScene.java.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.boundOtherStuff().

9.137.3.6 Map<Object, ClassSpec> edu.mit.csail.sdg.squander.spec.JavaScene.obj2spec = new IdentityHashMap<Object, ClassSpec>() [private]

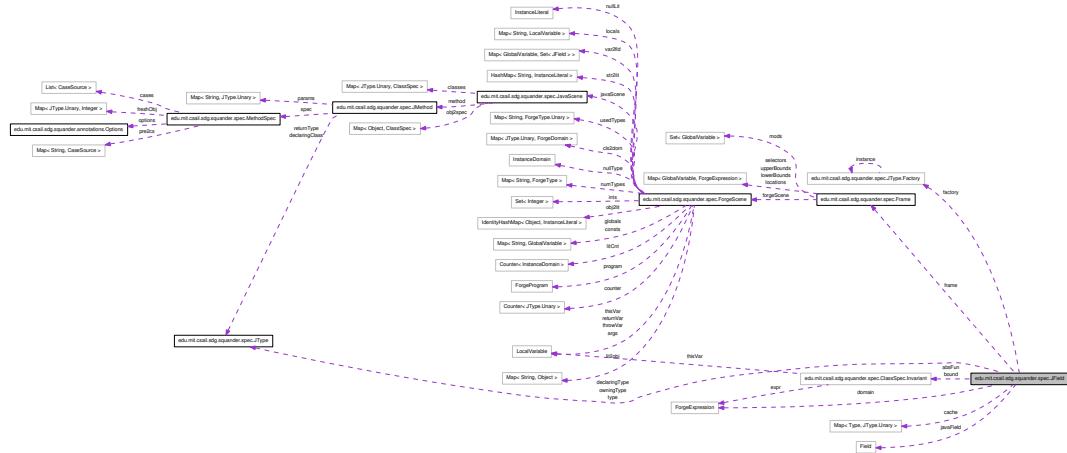
Definition at line 28 of file JavaScene.java.

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/JavaScene.java](#)

9.138 edu.mit.csail.sdg.squander.spec.JField Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.JField:



Public Member Functions

- `String name()`
- `JType type()`
- `JType.Unary owningType()`
- `JType.Unary declaringType()`
- `Field getJavaField()`
- `boolean isStatic()`
- `boolean isSpec()`
- `boolean isFunc()`
- `boolean isPureAbstract()`
- `ForgeExpression getDomain()`
- `Invariant getAbsFun()`
- `Invariant getBound()`
- `Frame getFrame()`
- `void setDomain(ForgeExpression dom)`
- `void setAbsFun(Invariant absFun)`
- `void setBound(Invariant bound)`
- `void setFrame(Frame frame)`
- `void setFuncFlag(boolean flag)`
- `boolean equals(Object obj)`
- `int hashCode()`
- `String fullName()`
- `Unary[][] getTypeParams()`
- `String toString()`

Static Public Member Functions

- static `JField newSpecField (String name, Class<?> owner, Class<?> declarer, JType type)`
- static `JField newSpecField (String name, Unary owningType, Unary declaringType, JType type)`
- static `JField newJavaField (Field f)`
- static `Unary[] getTypeParams (Type genericType)`
- static `Unary convertToJType (Type t)`

Package Functions

- `JField (String name, JType type, Unary owningType, Unary declaringType, Field javaField)`

Private Attributes

- final `JType type`
- final `JType.Unary owningType`
- final `JType.Unary declaringType`
- final `String name`
- final `Field javaField`
- `ForgeExpression domain`
- Invariant `absFun`
- Invariant `bound`
- `Frame frame`
- boolean `funcFlag` = false

Static Private Attributes

- static final `Factory factory` = `JType.Factory.instance`
- static `Map< Type, JType.Unary > cache` = `new HashMap<Type, Unary>()`

9.138.1 Detailed Description

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kuat
Aleksandar Milicevic

Definition at line 25 of file `JField.java`.

9.138.2 Constructor & Destructor Documentation

9.138.2.1 `edu.mit.csail.sdg.squander.spec.JField.JField (String name, JType type, Unary owningType, Unary declaringType, Field javaField) [package]`

Definition at line 61 of file `JField.java`.

Referenced by `edu.mit.csail.sdg.squander.spec.JField.newJavaField()`, and `edu.mit.csail.sdg.squander.spec.JField.newSpecField()`.

9.138.3 Member Function Documentation

9.138.3.1 static Unary edu.mit.csail.sdg.squander.spec.JField.convertToJType (Type *t*) [static]

Definition at line 149 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.cache, and edu.mit.csail.sdg.squander.spec.JField.getTypeParams().

Referenced by edu.mit.csail.sdg.squander.spec.JField.getTypeParams().

9.138.3.2 JType.Unary edu.mit.csail.sdg.squander.spec.JField.declaringType ()

Definition at line 72 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.newJavaField(), edu.mit.csail.sdg.squander.spec.JField.newSpecField(), and edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.3 boolean edu.mit.csail.sdg.squander.spec.JField.equals (Object *obj*)

Definition at line 91 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.4 String edu.mit.csail.sdg.squander.spec.JField.fullName ()

Definition at line 104 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.name(), edu.mit.csail.sdg.squander.spec.JField.owningType(), and edu.mit.csail.sdg.squander.spec.JType.simpleName().

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal(), and edu.mit.csail.sdg.squander.spec.ForgeScene.global().

9.138.3.5 Invariant edu.mit.csail.sdg.squander.spec.JField.getAbsFun ()

Definition at line 80 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.absFun.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint().

9.138.3.6 Invariant edu.mit.csail.sdg.squander.spec.JField.getBound ()

Definition at line 81 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.bound.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), and edu.mit.csail.sdg.squander.spec.ForgeScene.isOneField().

9.138.3.7 ForgeExpression edu.mit.csail.sdg.squander.spec.JField.getDomain ()

Definition at line 79 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.domain.

9.138.3.8 Frame edu.mit.csail.sdg.squander.spec.JField.getFrame ()

Definition at line 82 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.frame.

9.138.3.9 Field edu.mit.csail.sdg.squander.spec.JField.getJavaField ()

Definition at line 73 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.javaField.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.concrFunc().

9.138.3.10 static Unary [] edu.mit.csail.sdg.squander.spec.JField.getTypeParams (Type genericType) [static]

Definition at line 135 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.convertToJType().

9.138.3.11 Unary [][] edu.mit.csail.sdg.squander.spec.JField.getTypeParams ()

Definition at line 109 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.JField.javaField, edu.mit.csail.sdg.squander.spec.JType.projection(), and edu.mit.csail.sdg.squander.spec.JField.type().

Referenced by edu.mit.csail.sdg.squander.spec.JField.convertToJType(), and edu.mit.csail.sdg.squander.spec.JField.newJavaField().

9.138.3.12 int edu.mit.csail.sdg.squander.spec.JField.hashCode ()

Definition at line 100 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.13 boolean edu.mit.csail.sdg.squander.spec.JField.isFunc ()

Definition at line 76 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.funcFlag, and edu.mit.csail.sdg.squander.spec.JField.isSpec().

9.138.3.14 boolean edu.mit.csail.sdg.squander.spec.JField.isPureAbstract ()

Definition at line 77 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.absFun.

Referenced by edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer.absFunc(), edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc(), and edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc().

9.138.3.15 boolean edu.mit.csail.sdg.squander.spec.JField.isSpec ()

Definition at line 75 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.javaField.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecField(),
edu.mit.csail.sdg.squander.spec.ForgeScene.ensureGlobal(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(),
edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField(), edu.mit.csail.sdg.squander.spec.JField.isFunc(),
edu.mit.csail.sdg.squander.spec.ForgeScene.isOneField(), and edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.16 boolean edu.mit.csail.sdg.squander.spec.JField.isStatic ()

Definition at line 74 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.javaField.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField()
and edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.17 String edu.mit.csail.sdg.squander.spec.JField.name ()

Definition at line 69 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.fullName(), edu.mit.csail.sdg.squander.spec.JField.newJavaField(),
and edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.3.18 static JField edu.mit.csail.sdg.squander.spec.JField.newJavaField (Field f) [static]

Definition at line 53 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.declaringType(), edu.mit.csail.sdg.squander.spec.JField.factory,
edu.mit.csail.sdg.squander.spec.JField.getTypeParams(), edu.mit.csail.sdg.squander.spec.JField.JField(),
edu.mit.csail.sdg.squander.spec.JField.name(), and edu.mit.csail.sdg.squander.spec.JField.type().

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField().

**9.138.3.19 static JField edu.mit.csail.sdg.squander.spec.JField.newSpecField (String name, Unary
owningType, Unary declaringType, JType type) [static]**

Definition at line 49 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.JField().

**9.138.3.20 static JField edu.mit.csail.sdg.squander.spec.JField.newSpecField (String name,
Class<?> owner, Class<?> declarer, JType type) [static]**

Definition at line 43 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.declaringType(), edu.mit.csail.sdg.squander.spec.JField.factory,
and edu.mit.csail.sdg.squander.spec.JField.owningType().

9.138.3.21 JType.Unary edu.mit.csail.sdg.squander.spec.JField.owningType ()

Definition at line 71 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.fullName(), and edu.mit.csail.sdg.squander.spec.JField.newSpecField().

9.138.3.22 void edu.mit.csail.sdg.squander.spec.JField.setAbsFun (Invariant *absFun*)

Definition at line 85 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.138.3.23 void edu.mit.csail.sdg.squander.spec.JField.setBound (Invariant *bound*)

Definition at line 86 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.138.3.24 void edu.mit.csail.sdg.squander.spec.JField.setDomain (ForgeExpression *dom*)

Definition at line 84 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.domain.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.138.3.25 void edu.mit.csail.sdg.squander.spec.JField setFrame (Frame *frame*)

Definition at line 87 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.138.3.26 void edu.mit.csail.sdg.squander.spec.JField.setFuncFlag (boolean *flag*)

Definition at line 88 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.funcFlag.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField().

9.138.3.27 String edu.mit.csail.sdg.squander.spec.JField.toString ()

Definition at line 123 of file JField.java.

References edu.mit.csail.sdg.squander.spec.JField.declaringType(), edu.mit.csail.sdg.squander.spec.JField.isSpec(), edu.mit.csail.sdg.squander.spec.JField.isStatic(), edu.mit.csail.sdg.squander.spec.JField.name(), and edu.mit.csail.sdg.squander.spec.JField.type().

Referenced by edu.mit.csail.sdg.squander.spec.JField.equals(), and edu.mit.csail.sdg.squander.spec.JField.hashCode().

9.138.3.28 JType edu.mit.csail.sdg.squander.spec.JField.type ()

Definition at line 70 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getTypeParams(),
edu.mit.csail.sdg.squander.spec.JField.newJavaField(), and edu.mit.csail.sdg.squander.spec.JField.toString().

9.138.4 Member Data Documentation

9.138.4.1 Invariant edu.mit.csail.sdg.squander.spec.JField.absFun [private]

Definition at line 38 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getAbsFun(), and
edu.mit.csail.sdg.squander.spec.JField.isPureAbstract().

9.138.4.2 Invariant edu.mit.csail.sdg.squander.spec.JField.bound [private]

Definition at line 39 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getBound().

9.138.4.3 Map<Type, JType.Unary> edu.mit.csail.sdg.squander.spec.JField.cache = new HashMap<Type, Unary>() [static, private]

Definition at line 133 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.convertToJType().

9.138.4.4 final JType.Unary edu.mit.csail.sdg.squander.spec.JField.declaringType [private]

Definition at line 31 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), and
edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField().

9.138.4.5 ForgeExpression edu.mit.csail.sdg.squander.spec.JField.domain [private]

Definition at line 37 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getDomain(), and
edu.mit.csail.sdg.squander.spec.JField.setDomain().

9.138.4.6 final Factory edu.mit.csail.sdg.squander.spec.JField.factory = JType.Factory.instance [static, private]

Definition at line 27 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.newJavaField(), edu.mit.csail.sdg.squander.spec.JField.newSpecField(), and
edu.mit.csail.sdg.squander.engine.SquanderResult.restoreEmpty().

9.138.4.7 Frame edu.mit.csail.sdg.squander.spec.JField.frame [private]

Definition at line 40 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getFrame().

9.138.4.8 boolean edu.mit.csail.sdg.squander.spec.JField.funcFlag = false [private]

Definition at line 41 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.isFunc(), and edu.mit.csail.sdg.squander.spec.JField.setFuncFlag().

9.138.4.9 final Field edu.mit.csail.sdg.squander.spec.JField.javaField [private]

Definition at line 33 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.JField.getJavaField(), edu.mit.csail.sdg.squander.spec.JField.getTypeParams(), edu.mit.csail.sdg.squander.spec.JField.isSpec(), and edu.mit.csail.sdg.squander.spec.JField.isStatic().

9.138.4.10 final String edu.mit.csail.sdg.squander.spec.JField.name [private]

Definition at line 32 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.absstate.ObjAbsState.add(), edu.mit.csail.sdg.squander.spec.ClassSpec.addUsedField(), edu.mit.csail.sdg.squander.serializer.special.SetSer.concrFunc(), edu.mit.csail.sdg.squander.serializer.special.MapSer.concrFunc(), edu.mit.csail.sdg.squander.serializer.special.ListSer.concrFunc(), edu.mit.csail.sdg.squander.serializer.special.ArraySer.concrFunc(), edu.mit.csail.sdg.squander.absstate.ObjAbsState.getOrAddSpecField(), and edu.mit.csail.sdg.squander.absstate.FieldValue.toString().

9.138.4.11 final JType.Unary edu.mit.csail.sdg.squander.spec.JField.owningType [private]

Definition at line 30 of file JField.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createGlobalVar(), and edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint().

9.138.4.12 final JType edu.mit.csail.sdg.squander.spec.JField.type [private]

Definition at line 29 of file JField.java.

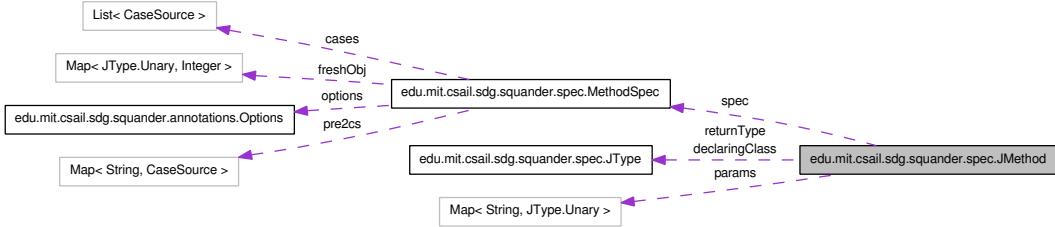
Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField(), and edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/JField.java

9.139 edu.mit.csail.sdg.squander.spec.JMethod Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.JMethod:



Public Member Functions

- `JMethod (String methodName, Class<?> declaringClass, Map< String, Class<?>> params, Class<?> returnType, boolean isStatic)`
- `JMethod (String methodName, JType.Unary declaringClass, Map< String, JType.Unary > params, JType.Unary returnType, boolean isStatic)`
- `String name ()`
- `Unary declaringClass ()`
- `Map< String, Unary > params ()`
- `List< Unary > paramTypes ()`
- `Unary returnType ()`
- `boolean isStatic ()`
- `MethodSpec spec ()`
- `void setSpec (MethodSpec spec)`

Static Public Member Functions

- static `JMethod forJavaMethod (Method m)`

Static Private Member Functions

- static `Map< String, Unary > convertMap (Map< String, Class<?>> map)`

Private Attributes

- final String `methodName`
- final JType.Unary `declaringClass`
- final Map< String, JType.Unary > `params`
- final JType.Unary `returnType`
- final boolean `isStatic`
- `MethodSpec spec`

9.139.1 Detailed Description

Definition at line 23 of file JMethod.java.

9.139.2 Constructor & Destructor Documentation

9.139.2.1 `edu.mit.csail.sdg.squander.spec.JMethod.JMethod (String methodName, Class<?> declaringClass, Map< String, Class<?>> params, Class<?> returnType, boolean isStatic)`

Definition at line 33 of file JMethod.java.

References [edu.mit.csail.sdg.squander.spec.JMethod.convertMap\(\)](#), [edu.mit.csail.sdg.squander.spec.JMethod.params\(\)](#). and

Referenced by [edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod\(\)](#).

9.139.2.2 `edu.mit.csail.sdg.squander.spec.JMethod.JMethod (String methodName, JType.Unary declaringClass, Map< String, JType.Unary > params, JType.Unary returnType, boolean isStatic)`

Definition at line 47 of file JMethod.java.

References [edu.mit.csail.sdg.squander.spec.JMethod.declaringClass\(\)](#), [edu.mit.csail.sdg.squander.spec.JMethod.returnType\(\)](#). and

9.139.3 Member Function Documentation

9.139.3.1 `static Map<String, Unary> edu.mit.csail.sdg.squander.spec.JMethod.convertMap (Map< String, Class<?>> map) [static, private]`

Definition at line 39 of file JMethod.java.

Referenced by [edu.mit.csail.sdg.squander.spec.JMethod.JMethod\(\)](#).

9.139.3.2 `Unary edu.mit.csail.sdg.squander.spec.JMethod.declaringClass ()`

Definition at line 57 of file JMethod.java.

Referenced by [edu.mit.csail.sdg.squander.spec.JMethod.JMethod\(\)](#).

9.139.3.3 `static JMethod edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod (Method m) [static]`

Definition at line 66 of file JMethod.java.

References [edu.mit.csail.sdg.squander.spec.JMethod.isStatic\(\)](#), [edu.mit.csail.sdg.squander.spec.JMethod.JMethod\(\)](#), [edu.mit.csail.sdg.squander.spec.JMethod.name\(\)](#), [edu.mit.csail.sdg.squander.spec.JMethod.params\(\)](#), and [edu.mit.csail.sdg.squander.spec.JMethod.spec\(\)](#).

Referenced by [edu.mit.csail.sdg.squander.engine.SquanderImpl.convToJMethod\(\)](#).

9.139.3.4 `boolean edu.mit.csail.sdg.squander.spec.JMethod.isStatic ()`

Definition at line 61 of file JMethod.java.

Referenced by [edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod\(\)](#).

9.139.3.5 String edu.mit.csail.sdg.squander.spec.JMethod.name ()

Definition at line 56 of file JMethod.java.

References edu.mit.csail.sdg.squander.spec.JMethod.methodName.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(),
edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.proc().

9.139.3.6 Map<String, Unary> edu.mit.csail.sdg.squander.spec.JMethod.params ()

Definition at line 58 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod(),
edu.mit.csail.sdg.squander.spec.JMethod.JMethod(), and edu.mit.csail.sdg.squander.spec.JMethod.paramTypes().

9.139.3.7 List<Unary> edu.mit.csail.sdg.squander.spec.JMethod.paramTypes ()

Definition at line 59 of file JMethod.java.

References edu.mit.csail.sdg.squander.spec.JMethod.params().

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext(), and
edu.mit.csail.sdg.squander.spec.TypeChecker.visitArgument().

9.139.3.8 Unary edu.mit.csail.sdg.squander.spec.JMethod.returnType ()

Definition at line 60 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.JMethod.JMethod().

9.139.3.9 void edu.mit.csail.sdg.squander.spec.JMethod.setSpec (MethodSpec *spec*)

Definition at line 64 of file JMethod.java.

9.139.3.10 MethodSpec edu.mit.csail.sdg.squander.spec.JMethod.spec ()

Definition at line 62 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod().

9.139.4 Member Data Documentation**9.139.4.1 final JType.Unary edu.mit.csail.sdg.squander.spec.JMethod.declaringClass
[private]**

Definition at line 26 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), and
edu.mit.csail.sdg.squander.spec.NameSpace.forMethod().

9.139.4.2 final boolean edu.mit.csail.sdg.squander.spec.JMethod.isStatic [private]

Definition at line 29 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitThis().

9.139.4.3 final String edu.mit.csail.sdg.squander.spec.JMethod.methodName [private]

Definition at line 25 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.JMethod.name().

9.139.4.4 final Map<String, JType.Unary> edu.mit.csail.sdg.squander.spec.JMethod.params [private]

Definition at line 27 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), and edu.mit.csail.sdg.squander.spec.NameSpace.forMethod().

9.139.4.5 final JType.Unary edu.mit.csail.sdg.squander.spec.JMethod.returnType [private]

Definition at line 28 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.createLocalsForMethod(), edu.mit.csail.sdg.squander.engine.SquanderResult.getReturnValue(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitReturn().

9.139.4.6 MethodSpec edu.mit.csail.sdg.squander.spec.JMethod.spec [private]

Definition at line 31 of file JMethod.java.

Referenced by edu.mit.csail.sdg.squander.spec.JMethod.forJavaMethod(), edu.mit.csail.sdg.squander.spec.JavaScene.methodSpec(), edu.mit.csail.sdg.squander.engine.ForgeConverter.setCallContext(), edu.mit.csail.sdg.squander.spec.JavaScene.setMethod(), and edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/JMethod.java

9.140 edu.mit.csail.sdg.squander.spec.JType Interface Reference

Inherited by edu.mit.csail.sdg.squander.spec.JType.AbstractJType.

Classes

- class **AbstractJType**
- class **Factory**
- class **Tuple**
- class **Unary**

Public Member Functions

- boolean [isUnary \(\)](#)
- int [arity \(\)](#)
- String [name \(\)](#)
- String [simpleName \(\)](#)
- JType.Unary [domain \(\)](#)
- JType.Unary [range \(\)](#)
- List< JType.Unary > [tuple \(\)](#)
- JType [projection \(int...columns\)](#)
- JType.Unary [projection \(int column\)](#)
- JType [projectionFrom \(int start\)](#)
- JType [projectionFromTo \(int start, int end\)](#)
- JType [transpose \(\)](#)
- JType [union \(JType type\)](#)
- JType [difference \(JType type\)](#)
- JType [intersection \(JType type\)](#)
- JType [product \(JType that\)](#)
- JType [join \(JType type\)](#)
- boolean [isInteger \(\)](#)
- boolean [isBoolean \(\)](#)
- boolean [isSubtypeOf \(JType that\)](#)

9.140.1 Detailed Description

Definition at line 18 of file JType.java.

9.140.2 Member Function Documentation

9.140.2.1 int edu.mit.csail.sdg.squander.spec.JType.arity ()

Arity of a type

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType(),
edu.mit.csail.sdg.squander.spec.JField.getTypeParams(), edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(),
edu.mit.csail.sdg.squander.spec.TypeChecker.setTypeParams(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinReflexive()

9.140.2.2 JType edu.mit.csail.sdg.squander.spec.JType.difference (JType type)

$x :- (A_j), y :- (B_j) \Rightarrow x - y :- (A_j)$

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary().

9.140.2.3 JType.Unary edu.mit.csail.sdg.squander.spec.JType.domain ()

Domain of a type is its leftmost type in the tuple

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayElems(),
 edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv.arrayLength(), edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForge,
 edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitArrayType(),
 edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame(),
 and edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification().

9.140.2.4 JType edu.mit.csail.sdg.squander.spec.JType.intersection (JType type)

$x :- (A_1, , A_i), y :- (B_1, , B_i) \Rightarrow x - y :- (A_j)$

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary().

9.140.2.5 boolean edu.mit.csail.sdg.squander.spec.JType.isBoolean ()

9.140.2.6 boolean edu.mit.csail.sdg.squander.spec.JType.isInteger ()

Common types

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary(), and
 edu.mit.csail.sdg.squander.spec.TypeChecker.visitUnary().

9.140.2.7 boolean edu.mit.csail.sdg.squander.spec.JType.isSubtypeOf (JType that)

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame().

9.140.2.8 boolean edu.mit.csail.sdg.squander.spec.JType.isUnary ()

A unary type has arity 1

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitName().

9.140.2.9 JType edu.mit.csail.sdg.squander.spec.JType.join (JType type)

$x :- (A_1, A_2, , A_i), y :- (B_1, B_2, , B_j) \Rightarrow x.y :- (A_1, A_2, , A_{i-1}, B_2, , B_j)$

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(),
 edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoin(),
 and edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinReflexive().

9.140.2.10 String edu.mit.csail.sdg.squander.spec.JType.name ()

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.replaceParamTypes().

9.140.2.11 JType edu.mit.csail.sdg.squander.spec.JType.product (JType *that*)

x :- (A_1, A_2, , A_i), y :- (B_1, B_2, , B_j) => x -> y :- (A_1, A_2, , A_i, B_1, , B_j)

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification()

9.140.2.12 JType.Unary edu.mit.csail.sdg.squander.spec.JType.projection (int *column*)

Projection of a type onto its columns

9.140.2.13 JType edu.mit.csail.sdg.squander.spec.JType.projection (int... *columns*)

Projection of a type onto its columns

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.convertToForgeType(),
edu.mit.csail.sdg.squander.spec.JField.getTypeParams(), and edu.mit.csail.sdg.squander.spec.TypeChecker.setTypeParams().

9.140.2.14 JType edu.mit.csail.sdg.squander.spec.JType.projectionFrom (int *start*)**9.140.2.15 JType edu.mit.csail.sdg.squander.spec.JType.projectionFromTo (int *start*, int *end*)**

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame().

9.140.2.16 JType.Unary edu.mit.csail.sdg.squander.spec.JType.range ()

Range of a type is its rightmost type in the tuple

Referenced by edu.mit.csail.sdg.squander.spec.ForgeScene.getRangeForField(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldRelation(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoin(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinReflexive(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitName(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitRefType().

9.140.2.17 String edu.mit.csail.sdg.squander.spec.JType.simpleName ()

Referenced by edu.mit.csail.sdg.squander.spec.JField.fullName().

9.140.2.18 JType edu.mit.csail.sdg.squander.spec.JType.transpose ()

Transpose of a tuple type

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitUnary().

9.140.2.19 List<JType.Unary> edu.mit.csail.sdg.squander.spec.JType.tuple ()

All atoms in the tuple

9.140.2.20 JType edu.mit.csail.sdg.squander.spec.JType.union (JType type)

x :- (A_1, , A_i), y :- (B_1, , B_i) => x + y :- (LCA(A_j,B_j)) (j=1,,i)

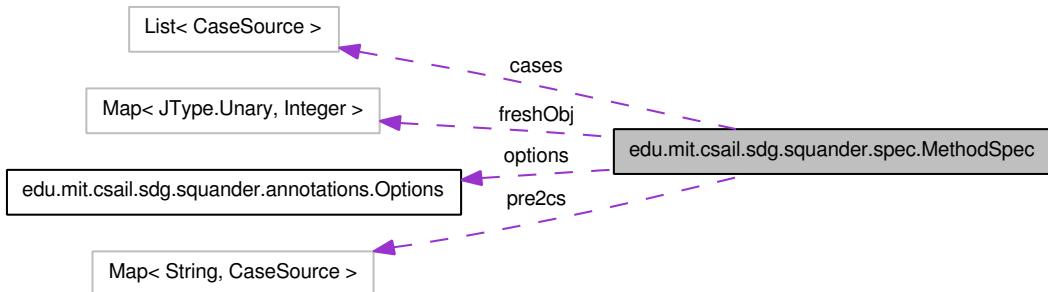
Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitConditional(), and
edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinRef()

The documentation for this interface was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[JType.java](#)

9.141 edu.mit.csail.sdg.squander.spec.MethodSpec Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.MethodSpec:



Classes

- class [CaseSource](#)

Public Member Functions

- [Options options \(\)](#)
- boolean [isHelper \(\)](#)
- boolean [isPure \(\)](#)
- List< [CaseSource](#) > [cases \(\)](#)
- boolean [isTrivial \(\)](#)
- Map< [JType.Unary](#), Integer > [freshObjects \(\)](#)
- void [typecheck \(JavaScene javaScene\)](#)
- void [translateSpecs \(ForgeEnv env, ForgeScene forgeScene\)](#)
- void [addOptions \(Options opt\)](#)

Package Functions

- [MethodSpec \(\)](#)
- void [addFreshObj \(Class<?> cls, Class<?>\[\] typeParams, int num\)](#)
- void [addCase \(Source requires, Source ensures, Source modifies, boolean exceptional\)](#)
- void [mergeCasesWith \(MethodSpec ms\)](#)
- void [makeHelper \(\)](#)
- void [makePure \(\)](#)

Private Attributes

- final List< [CaseSource](#) > [cases](#)
- final Map< [String](#), [CaseSource](#) > [pre2cs](#) = new HashMap<[String](#), [CaseSource](#)>()
- final Map< [JType.Unary](#), Integer > [freshObj](#) = new HashMap<[JType.Unary](#), Integer>()
- [Options options](#)
- boolean [helper](#)
- boolean [pure](#)

9.141.1 Detailed Description

Method specification source. Abstract data type that holds method specifications.

Empty specification source should be the identity with respect to the union operation.

Author:

kuat
Aleksandar Milicevic

Definition at line 27 of file MethodSpec.java.

9.141.2 Constructor & Destructor Documentation

9.141.2.1 edu.mit.csail.sdg.squander.spec.MethodSpec.MethodSpec () [package]

Definition at line 73 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.cases(), edu.mit.csail.sdg.squander.spec.MethodSpec.helper, and edu.mit.csail.sdg.squander.spec.MethodSpec.pure.

9.141.3 Member Function Documentation

9.141.3.1 void edu.mit.csail.sdg.squander.spec.MethodSpec.addCase (Source *requires*, Source *ensures*, Source *modifies*, boolean *exceptional*) [package]

Definition at line 114 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.cases(), edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.exceptional(), edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frmSrc, edu.mit.csail.sdg.squander.spec.Source.ns, edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.postSrc(), edu.mit.csail.sdg.squander.spec.MethodSpec.pre2cs, edu.mit.csail.sdg.squander.spec.Source.rule, and edu.mit.csail.sdg.squander.spec.Source.source.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.141.3.2 void edu.mit.csail.sdg.squander.spec.MethodSpec.addFreshObj (Class<?> *cls*, Class<?>[] *typeParams*, int *num*) [package]

Definition at line 103 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.freshObj.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.141.3.3 void edu.mit.csail.sdg.squander.spec.MethodSpec.addOptions (Options *opt*)

Definition at line 99 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.options().

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.141.3.4 List<CaseSource> edu.mit.csail.sdg.squander.spec.MethodSpec.cases ()

Definition at line 68 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addCase(),
edu.mit.csail.sdg.squander.spec.MethodSpec.isTrivial(), edu.mit.csail.sdg.squander.spec.MethodSpec.mergeCasesWith(),
edu.mit.csail.sdg.squander.spec.MethodSpec.MethodSpec(), edu.mit.csail.sdg.squander.spec.MethodSpec.translateSpecs(),
and edu.mit.csail.sdg.squander.spec.MethodSpec.typecheck().

9.141.3.5 Map<JType.Unary, Integer> edu.mit.csail.sdg.squander.spec.MethodSpec.freshObjects ()

Definition at line 71 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.freshObj.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.createFreshObjects().

9.141.3.6 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.isHelper ()

Definition at line 66 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.helper.

Referenced by edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec().

9.141.3.7 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.isPure ()

Definition at line 67 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.pure.

9.141.3.8 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.isTrivial ()

Definition at line 69 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.cases(), and edu.mit.csail.sdg.squander.spec.MethodSpec.pure.

9.141.3.9 void edu.mit.csail.sdg.squander.spec.MethodSpec.makeHelper () [package]

Definition at line 145 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.helper.

9.141.3.10 void edu.mit.csail.sdg.squander.spec.MethodSpec.makePure () [package]

Definition at line 149 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.pure.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.141.3.11 void edu.mit.csail.sdg.squander.spec.MethodSpec.mergeCasesWith (MethodSpec *ms* [private])

Definition at line 140 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.cases.

9.141.3.12 Options edu.mit.csail.sdg.squander.spec.MethodSpec.options ()

Definition at line 65 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addOptions().

9.141.3.13 void edu.mit.csail.sdg.squander.spec.MethodSpec.translateSpecs (ForgeEnv *env*, ForgeScene *forgeScene*)

Definition at line 88 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.cases().

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.translateSpecs().

9.141.3.14 void edu.mit.csail.sdg.squander.spec.MethodSpec.typecheck (JavaScene *javaScene*)

Definition at line 79 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.cases().

Referenced by edu.mit.csail.sdg.squander.spec.JavaScene.setMethod().

9.141.4 Member Data Documentation

9.141.4.1 final List<CaseSource> edu.mit.csail.sdg.squander.spec.MethodSpec.cases [private]

Definition at line 57 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.CompositeSpecProvider.extractMethodSpec(), edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec(), and edu.mit.csail.sdg.squander.spec.MethodSpec.mergeCasesWith()

9.141.4.2 final Map<JType.Unary, Integer> edu.mit.csail.sdg.squander.spec.MethodSpec.freshObj = new HashMap<JType.Unary, Integer>() [private]

Definition at line 59 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addFreshObj(), and edu.mit.csail.sdg.squander.spec.MethodSpec.freshObjects().

9.141.4.3 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.helper [private]

Definition at line 62 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.isHelper(), edu.mit.csail.sdg.squander.spec.MethodSpec.makeHelper(), and edu.mit.csail.sdg.squander.spec.MethodSpec.MethodSpec().

9.141.4.4 Options edu.mit.csail.sdg.squander.spec.MethodSpec.options [private]

Definition at line 60 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.exeSpec(), and edu.mit.csail.sdg.squander.engine.ForgeConverter.finish().

9.141.4.5 final Map<String, CaseSource> edu.mit.csail.sdg.squander.spec.MethodSpec.pre2cs = new HashMap<String, CaseSource>() [private]

Definition at line 58 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addCase().

9.141.4.6 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.pure [private]

Definition at line 63 of file MethodSpec.java.

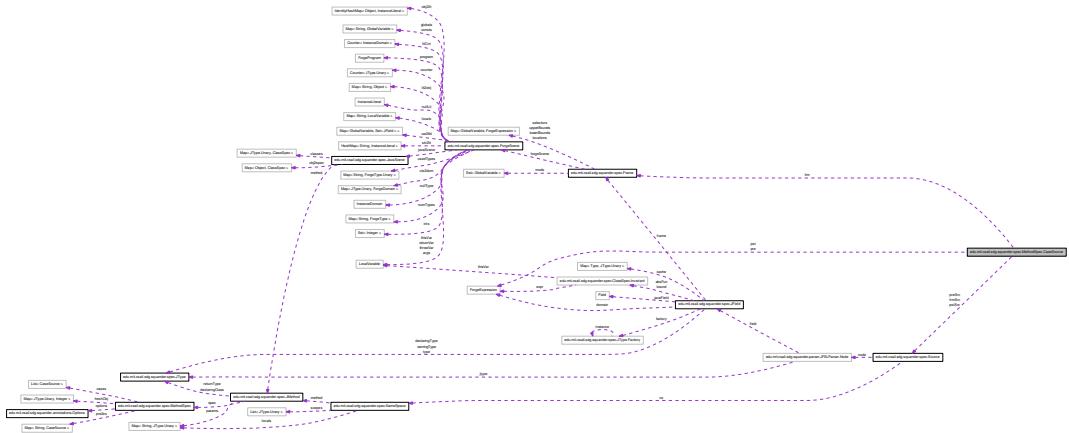
Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.isPure(), edu.mit.csail.sdg.squander.spec.MethodSpec.isTrivial(), edu.mit.csail.sdg.squander.spec.MethodSpec.makePure(), and edu.mit.csail.sdg.squander.spec.MethodSpec.MethodSpec().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[MethodSpec.java](#)

9.142 edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource:



Public Member Functions

- `Source preSrc ()`
 - `Source postSrc ()`
 - `Source frameSrc ()`
 - `boolean exceptional ()`
 - `ForgeExpression pre ()`
 - `ForgeExpression post ()`
 - `Frame frame ()`

Package Functions

- CaseSource (Source requires, Source ensures, Source modifies, boolean exceptional)

Private Attributes

- Source preSrc
 - Source pstSrc
 - Source frmSrc
 - boolean exceptional
 - ForgeExpression pre
 - ForgeExpression pst
 - Frame frm

9.142.1 Detailed Description

Specification case source

Definition at line 30 of file MethodSpec.java.

9.142.2 Constructor & Destructor Documentation

9.142.2.1 edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource (Source *requires*, Source *ensures*, Source *modifies*, boolean *exceptional*) [package]

Definition at line 49 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frmSrc, edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.preSrc(), and edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.

9.142.3 Member Function Documentation

9.142.3.1 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.exceptional ()

Definition at line 43 of file MethodSpec.java.

9.142.3.2 Frame edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frame ()

Definition at line 47 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frm.

9.142.3.3 Source edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frameSrc ()

Definition at line 42 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frmSrc.

9.142.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.post ()

Definition at line 46 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pst.

9.142.3.5 Source edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.postSrc ()

Definition at line 41 of file MethodSpec.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pstSrc.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addCase().

9.142.3.6 ForgeExpression edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pre ()

Definition at line 45 of file MethodSpec.java.

9.142.3.7 Source edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.preSrc ()

Definition at line 40 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.CaseSource().

9.142.4 Member Data Documentation

9.142.4.1 boolean edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.exceptional [private]

Definition at line 34 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addCase().

9.142.4.2 Frame edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frm [private]

Definition at line 38 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frame().

9.142.4.3 Source edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frmSrc [private]

Definition at line 33 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addCase(),
edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.CaseSource(), and
edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.frameSrc().

9.142.4.4 ForgeExpression edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pre [private]

Definition at line 36 of file MethodSpec.java.

9.142.4.5 Source edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.preSrc [private]

Definition at line 31 of file MethodSpec.java.

9.142.4.6 ForgeExpression edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pst [private]

Definition at line 37 of file MethodSpec.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.post().

9.142.4.7 Source edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.pstSrc [private]

Definition at line 32 of file MethodSpec.java.

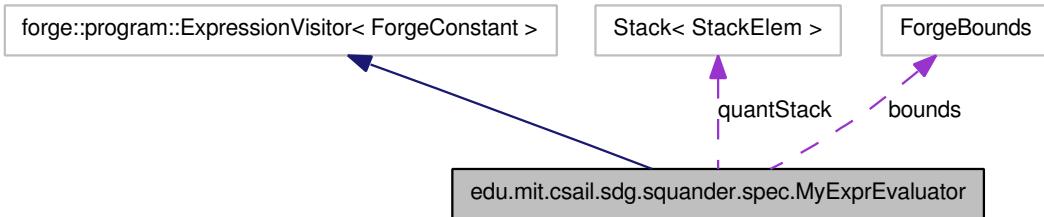
Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.CaseSource(), and
edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource.postSrc().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[MethodSpec.java](#)

9.143 edu.mit.csail.sdg.squander.spec.MyExprEvaluator Class Reference

Inherits forge::program::ExpressionVisitor< ForgeConstant >.Collaboration diagram for edu.mit.csail.sdg.squander.spec.MyExprEvaluator:



Classes

- interface **BinFunc< R, T >**
- class **StackElem**

Public Member Functions

- [MyExprEvaluator](#) (ForgeBounds **bounds**)

Protected Member Functions

- ForgeConstant [visit](#) (BinaryExpression expr)
- ForgeConstant [visit](#) (ConditionalExpression expr)
- ForgeConstant [visit](#) (ForgeVariable expr)
- ForgeConstant [visit](#) (ProjectionExpression expr)
- ForgeConstant [visit](#) (QuantifyExpression expr)
- ForgeConstant [visit](#) (UnaryExpression expr)
- abstract ForgeConstant [visitGlobalVariable](#) (GlobalVariable var)
- abstract ForgeConstant [visitLocalVariable](#) (LocalVariable var)
- StackElem [searchStack](#) (LocalVariable var)

Protected Attributes

- ForgeBounds **bounds**
- final Stack<StackElem> **quantStack** = new Stack<StackElem>()

Package Functions

- private< R > ForgeConstant [visitIntBinExpr](#) (BinaryExpression expr, BinFunc< R, Integer > f)

Private Member Functions

- ForgeConstant [visitEquals](#) (BinaryExpression expr)
- ForgeConstant [visitJoin](#) (BinaryExpression expr)
- ForgeConstant [visitProduct](#) (BinaryExpression expr)
- ForgeConstant [visitRelUnion](#) (BinaryExpression expr)
- ForgeConstant [visitDiff](#) (BinaryExpression expr)
- ForgeConstant [visitSubset](#) (BinaryExpression expr)
- ForgeConstant [visitClosure](#) (ForgeConstant res)
- ForgeConstant [visitBoolBinExpr](#) (BinaryExpression expr, BinFunc< Boolean, Boolean > f)
- ForgeConstant [visitUnion](#) (QuantifyExpression expr)
- ForgeConstant [visitAll](#) (QuantifyExpression expr)
- ForgeConstant [visitExists](#) (QuantifyExpression expr)

9.143.1 Detailed Description

Definition at line 27 of file MyExprEvaluator.java.

9.143.2 Constructor & Destructor Documentation

9.143.2.1 `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.MyExprEvaluator (ForgeBounds bounds)`

Definition at line 63 of file MyExprEvaluator.java.

9.143.3 Member Function Documentation

9.143.3.1 `StackElem edu.mit.csail.sdg.squander.spec.MyExprEvaluator.searchStack (LocalVariable var) [protected]`

Definition at line 193 of file MyExprEvaluator.java.

References `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.quantStack`.

9.143.3.2 `ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit (UnaryExpression expr) [protected]`

Definition at line 154 of file MyExprEvaluator.java.

References `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds`, and `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitClosure()`.

9.143.3.3 `ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit (QuantifyExpression expr) [protected]`

Definition at line 140 of file MyExprEvaluator.java.

References `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitAll()`, `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitExists()`, and `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitUni`

**9.143.3.4 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit
(ProjectionExpression *expr*) [protected]**

Definition at line 134 of file MyExprEvaluator.java.

**9.143.3.5 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit (ForgeVariable
expr) [protected]**

Definition at line 126 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitGlobalVariable(), and
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitLocalVariable().

**9.143.3.6 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit
(ConditionalExpression *expr*) [protected]**

Definition at line 116 of file MyExprEvaluator.java.

**9.143.3.7 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit
(BinaryExpression *expr*) [protected]**

Definition at line 68 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitBoolBinExpr(),
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitDiff(), edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitEquals(),
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitIntBinExpr(), edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitJoin()
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitProduct(), edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitRelUn
and edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitSubset().

**9.143.3.8 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitAll
(QuantifyExpression *expr*) [private]**

Definition at line 297 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds, and
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.quantStack.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.9 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitBoolBinExpr
(BinaryExpression *expr*, BinFunc< Boolean, Boolean >*f*) [private]**

Definition at line 253 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.10 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitClosure
(ForgeConstant *res*) [private]**

Definition at line 239 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.3.11 ForgeConstant `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitDiff(BinaryExpression expr)` [private]

Definition at line 226 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.3.12 ForgeConstant `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitEquals(BinaryExpression expr)` [private]

Definition at line 202 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.3.13 ForgeConstant `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitExists(QuantifyExpression expr)` [private]

Definition at line 312 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds, and
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.quantStack.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.14 abstract ForgeConstant
`edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitGlobalVariable(GlobalVariable var)` [protected, pure virtual]**

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.15 private<R> ForgeConstant
`edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitIntBinExpr(BinaryExpression expr, BinFunc<R, Integer> f)` [package]**

Definition at line 264 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.3.16 ForgeConstant `edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitJoin(BinaryExpression expr)` [private]

Definition at line 208 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.3.17 abstract ForgeConstant

**edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitLocalVariable
(LocalVariable *var*) [protected, pure virtual]**

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.18 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitProduct
(BinaryExpression *expr*) [private]**

Definition at line 214 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.19 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitRelUnion
(BinaryExpression *expr*) [private]**

Definition at line 220 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.20 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitSubset
(BinaryExpression *expr*) [private]**

Definition at line 233 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

**9.143.3.21 ForgeConstant edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitUnion
(QuantifyExpression *expr*) [private]**

Definition at line 280 of file MyExprEvaluator.java.

References edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds, and
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.quantStack.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit().

9.143.4 Member Data Documentation

**9.143.4.1 ForgeBounds edu.mit.csail.sdg.squander.spec.MyExprEvaluator.bounds
[protected]**

Definition at line 60 of file MyExprEvaluator.java.

Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visit(),
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitAll(), edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitBoolBinEx
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitEquals(), edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitExists()
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitIntBinExpr(), edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitSub
and edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitUnion().

**9.143.4.2 final Stack<StackElem> edu.mit.csail.sdg.squander.spec.MyExprEvaluator.quantStack
= new Stack<StackElem>() [protected]**

Definition at line 61 of file MyExprEvaluator.java.

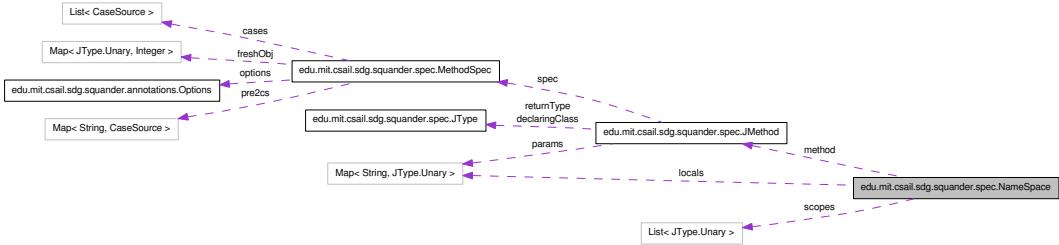
Referenced by edu.mit.csail.sdg.squander.spec.MyExprEvaluator.searchStack(),
edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitAll(), edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitExists(),
and edu.mit.csail.sdg.squander.spec.MyExprEvaluator.visitUnion().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[MyExprEvaluator.java](#)

9.144 edu.mit.csail.sdg.squander.spec.NameSpace Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.NameSpace:



Public Member Functions

- `NameSpace addLocal (String name, JType.Unary type)`
- `NameSpace addScope (JType.Unary clz)`
- `JField findField (String name, JavaScene scene)`
- `JType.Unary findLocal (String name)`
- `boolean inArray ()`
- `JMethod method ()`
- `JType.Unary scope ()`
- `JType.Unary declarer ()`

Static Public Member Functions

- static `NameSpace forMethod (JMethod method)`
- static `NameSpace forClass (Unary type)`

Private Member Functions

- `NameSpace (JMethod method, Map< String, Unary > locals, List< Unary > scopes)`

Private Attributes

- final `Map< String, JType.Unary > locals`
- final `List< JType.Unary > scopes`
- final `JMethod method`

9.144.1 Detailed Description

Definition at line 14 of file `NameSpace.java`.

9.144.2 Constructor & Destructor Documentation

9.144.2.1 edu.mit.csail.sdg.squander.spec.NameSpace.NameSpace (JMethod *method*, Map< String, Unary > *locals*, List< Unary > *scopes*) [private]

Definition at line 42 of file NameSpace.java.

Referenced by edu.mit.csail.sdg.squander.spec.NameSpace.addLocal(), edu.mit.csail.sdg.squander.spec.NameSpace.addScope(), edu.mit.csail.sdg.squander.spec.NameSpace.forName(), and edu.mit.csail.sdg.squander.spec.NameSpace.forMethod().

9.144.3 Member Function Documentation

9.144.3.1 NameSpace edu.mit.csail.sdg.squander.spec.NameSpace.addLocal (String *name*, JType.Unary *type*)

Definition at line 48 of file NameSpace.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.locals, edu.mit.csail.sdg.squander.spec.NameSpace.method(), edu.mit.csail.sdg.squander.spec.NameSpace(), and edu.mit.csail.sdg.squander.spec.NameSpace.scopes.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification().

9.144.3.2 NameSpace edu.mit.csail.sdg.squander.spec.NameSpace.addScope (JType.Unary *clz*)

Definition at line 55 of file NameSpace.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.locals, edu.mit.csail.sdg.squander.spec.NameSpace.method(), edu.mit.csail.sdg.squander.spec.NameSpace(), and edu.mit.csail.sdg.squander.spec.NameSpace.scopes.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldRelation(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoin(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinReflexive().

9.144.3.3 JType.Unary edu.mit.csail.sdg.squander.spec.NameSpace.declarer ()

Definition at line 91 of file NameSpace.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.scopes.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitThis().

9.144.3.4 JField edu.mit.csail.sdg.squander.spec.NameSpace.findField (String *name*, JavaScene *scene*)

Definition at line 62 of file NameSpace.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.declarer(), edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField(), and edu.mit.csail.sdg.squander.spec.NameSpace.scope().

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField().

9.144.3.5 JType.Unary edu.mit.csail.sdg.squander.spec.NameSpace.findLocal (String name)

Definition at line 70 of file NameSpace.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.locals.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitName().

9.144.3.6 static NameSpace edu.mit.csail.sdg.squander.spec.NameSpace.forName (Unary type) [static]

Definition at line 30 of file NameSpace.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.locals, edu.mit.csail.sdg.squander.spec.NameSpace.NameSpace(), and edu.mit.csail.sdg.squander.spec.NameSpace.scopes.

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.MyVisitor().

9.144.3.7 static NameSpace edu.mit.csail.sdg.squander.spec.NameSpace.forMethod (JMethod method) [static]

Definition at line 24 of file NameSpace.java.

References edu.mit.csail.sdg.squander.spec.JMethod.declaringClass, edu.mit.csail.sdg.squander.spec.NameSpace.NameSpace(), edu.mit.csail.sdg.squander.spec.JMethod.params, and edu.mit.csail.sdg.squander.spec.NameSpace.scopes.

9.144.3.8 boolean edu.mit.csail.sdg.squander.spec.NameSpace.inArray ()

Definition at line 74 of file NameSpace.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.scope().

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket().

9.144.3.9 JMethod edu.mit.csail.sdg.squander.spec.NameSpace.method ()

Definition at line 81 of file NameSpace.java.

Referenced by edu.mit.csail.sdg.squander.spec.NameSpace.addLocal(), and
edu.mit.csail.sdg.squander.spec.NameSpace.addScope().

9.144.3.10 JType.Unary edu.mit.csail.sdg.squander.spec.NameSpace.scope ()

Definition at line 85 of file NameSpace.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.scopes.

Referenced by edu.mit.csail.sdg.squander.spec.NameSpace.findField(),
edu.mit.csail.sdg.squander.spec.NameSpace.inArray(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket().

9.144.4 Member Data Documentation

9.144.4.1 final Map<String, JType.Unary> edu.mit.csail.sdg.squander.spec.NameSpace.locals [private]

Definition at line 16 of file NameSpace.java.

Referenced by edu.mit.csail.sdg.squander.spec.NameSpace.addLocal(),
edu.mit.csail.sdg.squander.spec.NameSpace.addScope(), edu.mit.csail.sdg.squander.spec.NameSpace.findLocal(),
and edu.mit.csail.sdg.squander.spec.NameSpace.forClass().

9.144.4.2 final JMethod edu.mit.csail.sdg.squander.spec.NameSpace.method [private]

Definition at line 18 of file NameSpace.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitArgument(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitReturn(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitThis().

9.144.4.3 final List<JType.Unary> edu.mit.csail.sdg.squander.spec.NameSpace.scopes [private]

Definition at line 17 of file NameSpace.java.

Referenced by edu.mit.csail.sdg.squander.spec.NameSpace.addLocal(),
edu.mit.csail.sdg.squander.spec.NameSpace.addScope(), edu.mit.csail.sdg.squander.spec.NameSpace.declarer(),
edu.mit.csail.sdg.squander.spec.NameSpace.forClass(), edu.mit.csail.sdg.squander.spec.NameSpace.forMethod(),
and edu.mit.csail.sdg.squander.spec.NameSpace.scope().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[NameSpace.java](#)

9.145 edu.mit.csail.sdg.squander.spec.Null Class Reference

9.145.1 Detailed Description

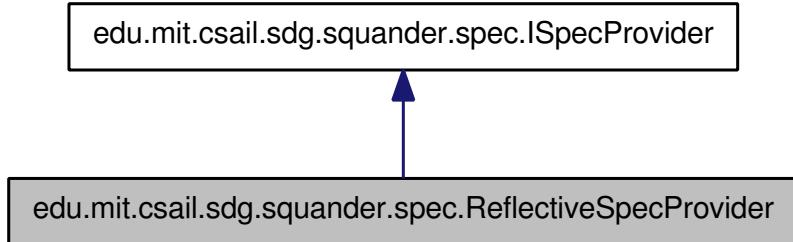
Definition at line 7 of file Null.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[Null.java](#)

9.146 edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::ISpecProvider.Collaboration](#) diagram for [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider](#):



Public Member Functions

- [MethodSpec extractMethodSpec \(Method method, NameSpace ns\)](#)
- [List< Source > extractClassSpec \(JType.Unary jtype\)](#)
- [List< Source > extractFieldSpec \(Field field, JType.Unary declType\)](#)

Private Member Functions

- [void extractMethodSpec \(Method method, MethodSpec result, NameSpace ns\)](#)
- [void extractMethodSpecNonRecursive \(Method method, MethodSpec result, NameSpace ns\)](#)
- [List< String > convertArray \(String\[\] strs\)](#)
- [String clause \(Collection< String > clauses\)](#)
- [String frame \(Collection< String > frames\)](#)

Private Attributes

- final String [TYPE_EXCEPTIONAL](#) = "EXCEPTIONAL"
- final String [CLAUSE_DEFAULT](#) = "true"
- final String [RETURNS_FORMAT](#) = "return = (%s)"
- final String [NONNULL_FORMAT](#) = "(%s) != null"

9.146.1 Detailed Description

Definition at line 38 of file [ReflectiveSpecProvider.java](#).

9.146.2 Member Function Documentation

9.146.2.1 [String edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.clause \(Collection< String > clauses\) \[private\]](#)

Definition at line 190 of file [ReflectiveSpecProvider.java](#).

References edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.CLAUSE_DEFAULT.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.2.2 **List<String> edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.convertArray (String[] strs) [private]**

Extracts elements of a string array annotation

Definition at line 180 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.2.3 **List<Source> edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractClassSpec (JType.Unary jtype)**

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 144 of file ReflectiveSpecProvider.java.

9.146.2.4 **List<Source> edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractFieldSpec (Field field, JType.Unary declType)**

Definition at line 164 of file ReflectiveSpecProvider.java.

References edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.NONNULL_FORMAT.

9.146.2.5 **void edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpec (Method method, MethodSpec result, NameSpace ns) [private]**

Definition at line 53 of file ReflectiveSpecProvider.java.

References edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpec(), and
edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.2.6 **MethodSpec edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpec (Method method, NameSpace ns)**

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 47 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpec().

9.146.2.7 **void edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive (Method method, MethodSpec result, NameSpace ns) [private]**

Definition at line 72 of file ReflectiveSpecProvider.java.

References edu.mit.csail.sdg.squander.spec.MethodSpec.addCase(), edu.mit.csail.sdg.squander.spec.MethodSpec.addFreshObj(),
edu.mit.csail.sdg.squander.spec.MethodSpec.addOptions(), edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.clause(),
edu.mit.csail.sdg.squander.annotations.FreshObjects.cls(), edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.convertArray(),
edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.frame(), edu.mit.csail.sdg.squander.spec.MethodSpec.makePure(),

edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.NONNULL_FORMAT,
edu.mit.csail.sdg.squander.annotations.FreshObjects.num(), edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.RETURNS_
FORMAT, edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.TYPE_-
EXCEPTIONAL, edu.mit.csail.sdg.squander.annotations.FreshObjects.typeParams(), and
edu.mit.csail.sdg.squander.annotations.Fresh.value().

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpec().

9.146.2.8 String **edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.frame** (Collection< String > frames) [private]

Definition at line 203 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.3 Member Data Documentation

9.146.3.1 final String **edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.CLAUSE_DEFAULT** = "true" [private]

Definition at line 43 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.clause().

9.146.3.2 final String **edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.NONNULL_- FORMAT** = "(%s) != null" [private]

Definition at line 45 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractFieldSpec(), and
edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.3.3 final String **edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.RETURNS_- FORMAT** = "return = (%s)" [private]

Definition at line 44 of file ReflectiveSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

9.146.3.4 final String **edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.TYPE_- EXCEPTIONAL** = "EXCEPTIONAL" [private]

Definition at line 40 of file ReflectiveSpecProvider.java.

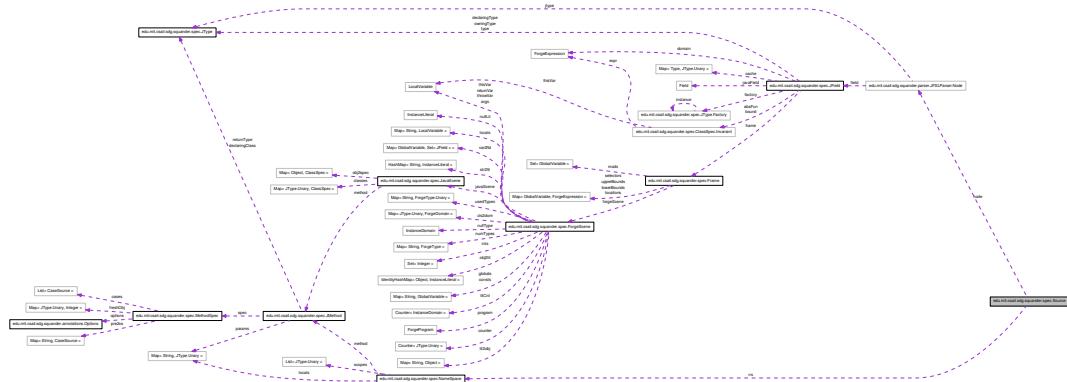
Referenced by edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider.extractMethodSpecNonRecursive().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[ReflectiveSpecProvider.java](#)

9.147 edu.mit.csail.sdg.squander.spec.Source Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec. Source:



Public Member Functions

- boolean `isClause ()`
 - boolean `isFrame ()`
 - boolean `isDecl ()`
 - boolean `isFuncField ()`
 - Node `node ()`
 - void `parse ()`
 - void `typecheck (TypeChecker checker)`
 - ForgeExpression `translate (Tr tr, ForgeEnv env)`
 - String `toString ()`

Public Attributes

- final String source
 - final NameSpace ns
 - final Rule rule
 - final boolean isFuncFlag

Package Types

- enum Rule { CLAUSE, DECLARATION, FRAME }

Package Functions

- Source (String source, NameSpace ns, Rule kind)
 - Source (String source, NameSpace ns, Rule kind, boolean isFuncFlag)

Private Attributes

- Node `node`
 - boolean `typechecked` = false

9.147.1 Detailed Description

Wraps a source string and presents a type checked abstract syntax tree. The source is parsed and type-checked lazily.

Author:

kuat
Aleksandar Milicevic

Definition at line 28 of file Source.java.

9.147.2 Member Enumeration Documentation

9.147.2.1 enum edu::mit::csail::sdg::squander::spec::Source::Rule [package]

Enumerator:

CLAUSE
DECLARATION
FRAME

Definition at line 29 of file Source.java.

9.147.3 Constructor & Destructor Documentation

9.147.3.1 edu.mit.csail.sdg.squander.spec.Source.Source (String *source*, NameSpace *ns*, Rule *kind*) [package]

Unparsed specification

Definition at line 44 of file Source.java.

9.147.3.2 edu.mit.csail.sdg.squander.spec.Source.Source (String *source*, NameSpace *ns*, Rule *kind*, boolean *isFuncFlag*) [package]

Definition at line 48 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.node(), and edu.mit.csail.sdg.squander.spec.Source.rule.

9.147.4 Member Function Documentation

9.147.4.1 boolean edu.mit.csail.sdg.squander.spec.Source.isClause ()

Definition at line 58 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.rule.

9.147.4.2 boolean edu.mit.csail.sdg.squander.spec.Source.isDecl ()

Definition at line 60 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.rule.

9.147.4.3 boolean edu.mit.csail.sdg.squander.spec.Source.isFrame ()

Definition at line 59 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.rule.

9.147.4.4 boolean edu.mit.csail.sdg.squander.spec.Source.isFuncField ()

Definition at line 61 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.isFuncFlag.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField().

9.147.4.5 Node edu.mit.csail.sdg.squander.spec.Source.node ()

Definition at line 63 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.parse(), and edu.mit.csail.sdg.squander.spec.Source.source.

Referenced by edu.mit.csail.sdg.squander.spec.Source.parse(), edu.mit.csail.sdg.squander.spec.Source.Source(),
edu.mit.csail.sdg.squander.spec.Source.translate(), and edu.mit.csail.sdg.squander.spec.Source.typecheck().

9.147.4.6 void edu.mit.csail.sdg.squander.spec.Source.parse ()

Definition at line 76 of file Source.java.

References edu.mit.csail.sdg.squander.parser.JFSLParser.clause(), edu.mit.csail.sdg.squander.parser.JFSLParser.modifies(),
edu.mit.csail.sdg.squander.spec.Source.node(), edu.mit.csail.sdg.squander.spec.Source.rule,
edu.mit.csail.sdg.squander.parser.JFSLParser.setTreeAdaptor(), edu.mit.csail.sdg.squander.spec.Source.source,
and edu.mit.csail.sdg.squander.parser.JFSLParser.specField().

Referenced by edu.mit.csail.sdg.squander.spec.Source.node(), and edu.mit.csail.sdg.squander.spec.Source.typecheck().

9.147.4.7 String edu.mit.csail.sdg.squander.spec.Source.toString ()

Definition at line 149 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.rule, and edu.mit.csail.sdg.squander.spec.Source.source.

9.147.4.8 ForgeExpression edu.mit.csail.sdg.squander.spec.Source.translate (Tr *tr*, ForgeEnv *env*)

MUST CALL "typecheck" PRIOR TO CALLING THIS METHOD

Definition at line 137 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.node(), edu.mit.csail.sdg.squander.spec.Source.source,
and edu.mit.csail.sdg.squander.spec.Source.typechecked.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.translateSpecs().

9.147.4.9 void edu.mit.csail.sdg.squander.spec.Source.typecheck (TypeChecker *checker*)

Definition at line 119 of file Source.java.

References edu.mit.csail.sdg.squander.spec.Source.node(), edu.mit.csail.sdg.squander.spec.Source.ns, edu.mit.csail.sdg.squander.spec.Source.parse(), edu.mit.csail.sdg.squander.parser.JFSLParserException.setSource(), edu.mit.csail.sdg.squander.spec.Source.source, and edu.mit.csail.sdg.squander.spec.Source.typechecked.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField().

9.147.5 Member Data Documentation

9.147.5.1 final boolean edu.mit.csail.sdg.squander.spec.Source.isFuncFlag

Definition at line 37 of file Source.java.

Referenced by edu.mit.csail.sdg.squander.spec.Source.isFuncField().

9.147.5.2 Node edu.mit.csail.sdg.squander.spec.Source.node [private]

Definition at line 40 of file Source.java.

9.147.5.3 final NameSpace edu.mit.csail.sdg.squander.spec.Source.ns

Definition at line 35 of file Source.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addCase(), and edu.mit.csail.sdg.squander.spec.Source.typecheck().

9.147.5.4 final Rule edu.mit.csail.sdg.squander.spec.Source.rule

Definition at line 36 of file Source.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addCase(), edu.mit.csail.sdg.squander.spec.Source.isClause(), edu.mit.csail.sdg.squander.spec.Source.isDecl(), edu.mit.csail.sdg.squander.spec.Source.isFrame(), edu.mit.csail.sdg.squander.spec.Source.parse(), edu.mit.csail.sdg.squander.spec.Source.Source(), and edu.mit.csail.sdg.squander.spec.Source.toString().

9.147.5.5 final String edu.mit.csail.sdg.squander.spec.Source.source

Definition at line 31 of file Source.java.

Referenced by edu.mit.csail.sdg.squander.spec.MethodSpec.addCase(), edu.mit.csail.sdg.squander.spec.ClassSpec.extractSpecFieldName(), edu.mit.csail.sdg.squander.spec.Source.node(), edu.mit.csail.sdg.squander.spec.Source.parse(), edu.mit.csail.sdg.squander.spec.Source.toString(), edu.mit.csail.sdg.squander.spec.Source.translate(), and edu.mit.csail.sdg.squander.spec.Source.typecheck().

9.147.5.6 boolean edu.mit.csail.sdg.squander.spec.Source.typechecked = false [private]

Definition at line 41 of file Source.java.

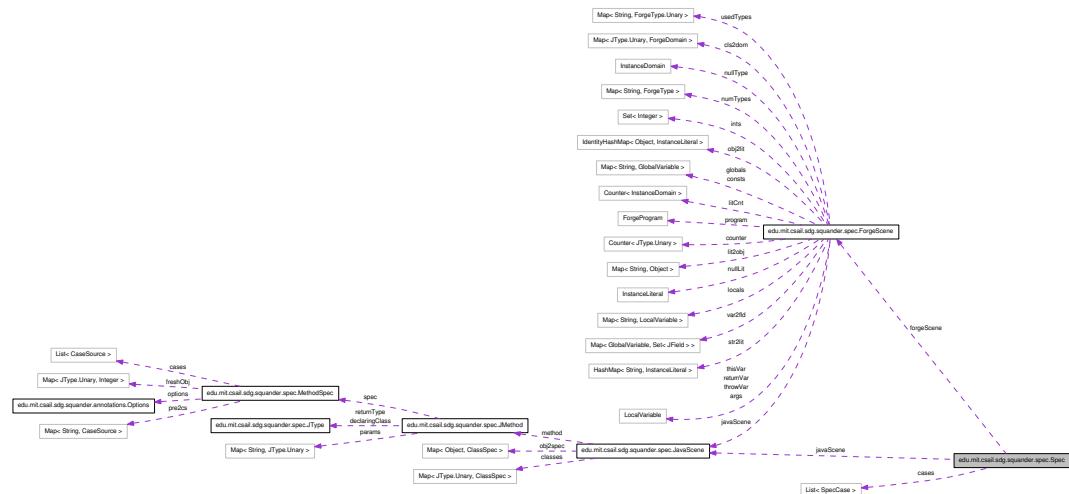
Referenced by edu.mit.csail.sdg.squander.spec.Source.translate(), and edu.mit.csail.sdg.squander.spec.Source.typecheck().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/Source.java

9.148 edu.mit.csail.sdg.squander.spec.Spec Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.Spec:



Classes

- class SpecCase

Public Member Functions

- `Spec` (`JavaScene javaScene, ForgeScene forgeScene`)
 - `JavaScene javaScene ()`
 - `ForgeScene forgeScene ()`
 - `Collection< SpecCase > cases ()`
 - `boolean isEmpty ()`
 - `void addCase (ForgeExpression requires, ForgeExpression ensures, Frame frame, boolean helper)`
 - `ForgeExpression invariant ()`
 - `ForgeExpression wellformedPre (Set< GlobalVariable > modifiable)`
 - `ForgeExpression wellformedPost (Set< GlobalVariable > modifiable)`
 - `ForgeExpression concreteConstraint (Set< GlobalVariable > unmodifiable)`
 - `ForgeExpression abstractConstraint ()`
 - `ForgeExpression funcConstraint ()`
 - `String toString ()`

Private Member Functions

- `ForgeExpression fieldConstraint (JField field)`

Private Attributes

- final JavaScene javaScene
 - final ForgeScene forgeScene
 - final List< SpecCase > cases

Static Private Attributes

- static int `fieldCounter` = 0

9.148.1 Detailed Description

Specification.

proc: Procedure cases: set [SpecCase](#)

Author:

Kuat Yessenov (kuat@mit.edu)
Aleksandar Milicevic

Definition at line 32 of file Spec.java.

9.148.2 Constructor & Destructor Documentation

9.148.2.1 `edu.mit.csail.sdg.squander.spec.Spec.Spec (JavaScene javaScene, ForgeScene forgeScene)`

Definition at line 83 of file Spec.java.

References `edu.mit.csail.sdg.squander.spec.Spec.cases()`.

9.148.3 Member Function Documentation

9.148.3.1 `ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint ()`

Definition at line 226 of file Spec.java.

References `edu.mit.csail.sdg.squander.spec.JavaScene.classSpecs()`, `edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint()`, `edu.mit.csail.sdg.squander.spec.Spec.forgeScene()`, `edu.mit.csail.sdg.squander.spec.Spec.javaScene()`, and `edu.mit.csail.sdg.squander.spec.ForgeScene.program`.

Referenced by `edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPostSpec()`, `edu.mit.csail.sdg.squander.engine.SquanderImpl.getPreSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPreSpec()`, `edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPreSpec()`, and `edu.mit.csail.sdg.squander.spec.Spec.toString()`.

9.148.3.2 `void edu.mit.csail.sdg.squander.spec.Spec.addCase (ForgeExpression requires, ForgeExpression ensures, Frame frame, boolean helper)`

Definition at line 103 of file Spec.java.

References `edu.mit.csail.sdg.squander.spec.Spec.cases()`.

Referenced by `edu.mit.csail.sdg.squander.engine.ForgeConverter.getSpec()`.

9.148.3.3 Collection<SpecCase> edu.mit.csail.sdg.squander.spec.Spec.cases ()

Definition at line 96 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.addCase(), edu.mit.csail.sdg.squander.spec.Spec.isEmpty(), edu.mit.csail.sdg.squander.spec.Spec.Spec(), and edu.mit.csail.sdg.squander.spec.Spec.toString().

9.148.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint (Set<GlobalVariable > unmodifiable)

Skips over the unmodifiable vars

Definition at line 208 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.classSpecs(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.spec.Spec.forgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.global(), edu.mit.csail.sdg.squander.spec.Spec.javaScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.toString(), edu.mit.csail.sdg.squander.spec.Spec.wellformedPost(), and edu.mit.csail.sdg.squander.spec.Spec.wellformedPre().

9.148.3.5 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint (JField field) [private]

Definition at line 275 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.JField.declaringType, edu.mit.csail.sdg.squander.spec.Spec.fieldCounter, edu.mit.csail.sdg.squander.spec.Spec.forgeScene(), edu.mit.csail.sdg.squander.spec.JField.getAbsFun(), edu.mit.csail.sdg.squander.spec.JField.getBound(), edu.mit.csail.sdg.squander.spec.ForgeScene.global(), edu.mit.csail.sdg.squander.spec.JField.isSpec(), edu.mit.csail.sdg.squander.spec.JField.isStatic(), edu.mit.csail.sdg.squander.spec.JField.owningType, edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

Referenced by edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), and edu.mit.csail.sdg.squander.spec.Spec.funcConstraint().

9.148.3.6 ForgeScene edu.mit.csail.sdg.squander.spec.Spec.forgeScene ()

Definition at line 95 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.spec.Spec.funcConstraint(), edu.mit.csail.sdg.squander.spec.Spec.invariant(), edu.mit.csail.sdg.squander.spec.Spec.wellformedPost(), and edu.mit.csail.sdg.squander.spec.Spec.wellformedPre().

9.148.3.7 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.funcConstraint ()

Definition at line 238 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.classSpecs(), edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint(), edu.mit.csail.sdg.squander.spec.Spec.forgeScene(), edu.mit.csail.sdg.squander.spec.Spec.javaScene(), and edu.mit.csail.sdg.squander.spec.ForgeScene.program.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(),

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPostSpec(),
and
edu.mit.csail.sdg.squander.spec.Spec.toString().

9.148.3.8 **ForgeExpression** edu.mit.csail.sdg.squander.spec.Spec.invariant ()

Semantic meaning of a specification. OR of old(pre) AND of old(pre) => post /\ frame All modifiable global variables across frames. Expression denoting the valid state semantics of invariants: For all relevant classes, for any instance in the class all invariants must hold. The only exception is for constructors to avoid invariant condition on the of "this" (the exact type, not super-types.)

Definition at line 150 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.classSpecs(), edu.mit.csail.sdg.squander.spec.Spec.forgeScene(),
edu.mit.csail.sdg.squander.spec.Spec.javaScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.program,
and edu.mit.csail.sdg.squander.spec.ForgeScene.typeForCls().

Referenced by edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post().

9.148.3.9 **boolean** edu.mit.csail.sdg.squander.spec.Spec.isEmpty ()

Definition at line 97 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.cases().

9.148.3.10 **JavaScene** edu.mit.csail.sdg.squander.spec.Spec.javaScene ()

Definition at line 94 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(),
edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Spec.funcConstraint(),
and edu.mit.csail.sdg.squander.spec.Spec.invariant().

9.148.3.11 **String** edu.mit.csail.sdg.squander.spec.Spec.toString ()

Definition at line 251 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.abstractConstraint(), edu.mit.csail.sdg.squander.spec.Spec.cases(),
edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), and edu.mit.csail.sdg.squander.spec.Spec.funcConstraint().

9.148.3.12 **ForgeExpression** edu.mit.csail.sdg.squander.spec.Spec.wellformedPost (*Set<GlobalVariable > modifiable*)

Java language constraints for the post-state Language constraints for post-state

Parameters:

modifiable

Definition at line 193 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Spec.forgeScene(),
edu.mit.csail.sdg.squander.spec.ForgeScene.program, edu.mit.csail.sdg.squander.spec.ForgeScene.returnVar,
and edu.mit.csail.sdg.squander.spec.ForgeScene.throwVar.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec().

9.148.3.13 **ForgeExpression** edu.mit.csail.sdg.squander.spec.Spec.wellformedPre (Set<GlobalVariable > *modifiable*)

Java language constraints for the pre-state

Parameters:

modifiable

Definition at line 172 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.ForgeScene.args, edu.mit.csail.sdg.squander.spec.Spec.concreteConstraint(), edu.mit.csail.sdg.squander.spec.Spec.forgeScene(), edu.mit.csail.sdg.squander.spec.ForgeScene.program, and edu.mit.csail.sdg.squander.spec.ForgeScene.thisVar.

9.148.4 Member Data Documentation

9.148.4.1 final List<SpecCase> edu.mit.csail.sdg.squander.spec.Spec.cases [private]

Definition at line 77 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.exeMethod().

9.148.4.2 int edu.mit.csail.sdg.squander.spec.Spec.fieldCounter = 0 [static, private]

Definition at line 73 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.fieldConstraint().

9.148.4.3 final ForgeScene edu.mit.csail.sdg.squander.spec.Spec.forgescene [private]

Definition at line 76 of file Spec.java.

9.148.4.4 final JavaScene edu.mit.csail.sdg.squander.spec.Spec.javaScene [private]

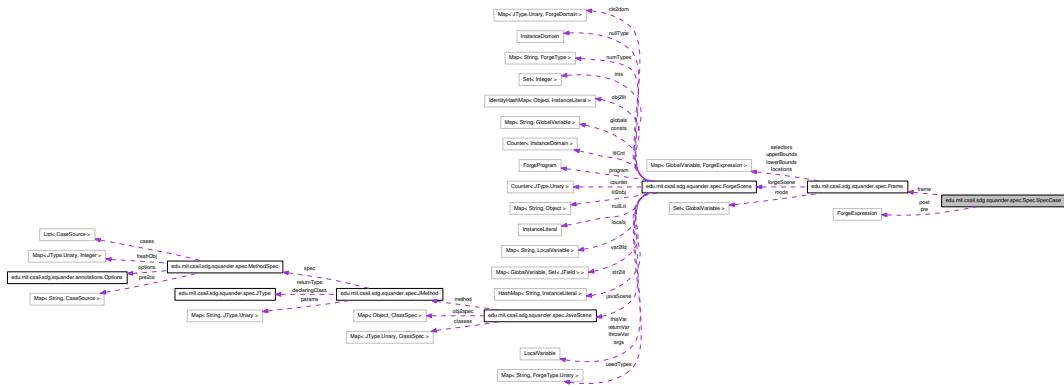
Definition at line 75 of file Spec.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/Spec.java

9.149 edu.mit.csail.sdg.squander.spec.Spec.SpecCase Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.Spec.SpecCase:



Public Member Functions

- `ForgeExpression preOnly ()`
 - `ForgeExpression postOnly ()`
 - `ForgeExpression pre ()`
 - `ForgeExpression post ()`
 - **Frame frame ()**
 - **Spec spec ()**
 - `String toString ()`

Private Member Functions

- `SpecCase` (`ForgeExpression requires`, `ForgeExpression ensures`, `Frame frame`, `boolean helper`)

Private Attributes

- final ForgeExpression pre
 - final ForgeExpression post
 - final Frame frame
 - final boolean helper

9.149.1 Detailed Description

Specification case. Remark that the pre-condition is **not** in the pre-state.

Author:

Kuat Yessenov (kuat@mit.edu)
Aleksandar Milicevic

Definition at line 41 of file Spec.java.

9.149.2 Constructor & Destructor Documentation

9.149.2.1 edu.mit.csail.sdg.squander.spec.Spec.SpecCase.SpecCase (ForgeExpression *requires*, ForgeExpression *ensures*, Frame *frame*, boolean *helper*) [private]

Definition at line 47 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post(), and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre().

9.149.3 Member Function Documentation

9.149.3.1 Frame edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame ()

Definition at line 59 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.SpecCase.toString().

9.149.3.2 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post ()

Definition at line 57 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.helper, and edu.mit.csail.sdg.squander.spec.Spec.invariant().

Referenced by edu.mit.csail.sdg.squander.spec.Spec.SpecCase.postOnly(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.SpecCase(), and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.toString().

9.149.3.3 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.postOnly ()

Definition at line 55 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post().

9.149.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre ()

Definition at line 56 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.SpecCase.preOnly(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.SpecCase(), and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.toString().

9.149.3.5 ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.preOnly ()

Definition at line 54 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre().

9.149.3.6 Spec edu.mit.csail.sdg.squander.spec.Spec.SpecCase.spec ()

Definition at line 60 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(),

edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPostSpec(),
 edu.mit.csail.sdg.squander.engine.SquanderImpl.getPreSpec(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(),
 and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPreSpec().

9.149.3.7 String edu.mit.csail.sdg.squander.spec.Spec.SpecCase.toString ()

Definition at line 63 of file Spec.java.

References edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame(), edu.mit.csail.sdg.squander.spec.Spec.SpecCase.helper(),
 edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post(), and edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre().

9.149.4 Member Data Documentation

9.149.4.1 final Frame edu.mit.csail.sdg.squander.spec.Spec.SpecCase.frame [private]

Definition at line 44 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.createRelations(),
 edu.mit.csail.sdg.squander.engine.SquanderImpl.ensurePost(), edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getFrame(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getModsForPostState(),
 edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(), and edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec().

9.149.4.2 final boolean edu.mit.csail.sdg.squander.spec.Spec.SpecCase.helper [private]

Definition at line 45 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post(), and
 edu.mit.csail.sdg.squander.spec.Spec.SpecCase.toString().

9.149.4.3 final ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.post [private]

Definition at line 43 of file Spec.java.

Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getPostSpec(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPostSpec(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPostSpec().

9.149.4.4 final ForgeExpression edu.mit.csail.sdg.squander.spec.Spec.SpecCase.pre [private]

Definition at line 42 of file Spec.java.

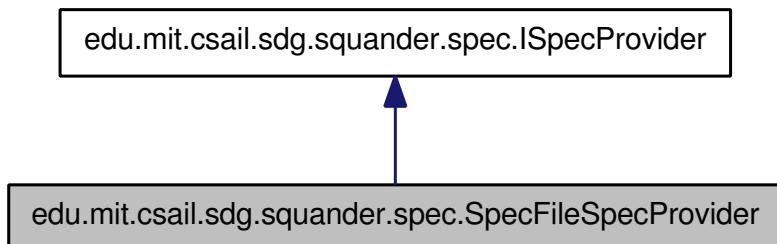
Referenced by edu.mit.csail.sdg.squander.engine.SquanderImpl.getPreSpec(),
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.getPreSpec(), and
 edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.getPreSpec().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/Spec.java

9.150 edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider Class Reference

Inherits [edu::mit::csail::sdg::squander::spec::ISpecProvider](#).Collaboration diagram for [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider](#):



Classes

- class [MyVisitor](#)

Public Member Functions

- List< [Source](#) > [extractFieldSpec](#) (Field field, JType.Unary declaringType)
- [MethodSpec](#) [extractMethodSpec](#) (Method method, [NameSpace](#) ns)
- List< [Source](#) > [extractClassSpec](#) (JType.Unary jtype)

Private Member Functions

- URL [findSpecFile](#) (Class<?> clazz)
- Node [parse](#) (URL specFile)

9.150.1 Detailed Description

Definition at line 27 of file [SpecFileSpecProvider.java](#).

9.150.2 Member Function Documentation

9.150.2.1 List<Source> [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.extractClassSpec](#) (JType.Unary *jtype*)

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 118 of file [SpecFileSpecProvider.java](#).

References [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.findSpecFile\(\)](#), and [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.parse\(\)](#).

9.150.2.2 List<Source> edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.extractFieldSpec (Field *field*, JType.Unary *declaringType*)

Definition at line 108 of file SpecFileSpecProvider.java.

9.150.2.3 MethodSpec edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.extractMethodSpec (Method *method*, NameSpace *ns*)

Implements [edu.mit.csail.sdg.squander.spec.ISpecProvider](#).

Definition at line 113 of file SpecFileSpecProvider.java.

9.150.2.4 URL edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.findSpecFile (Class<?> *clazz*) [private]

Definition at line 126 of file SpecFileSpecProvider.java.

Referenced by [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.extractClassSpec\(\)](#).

9.150.2.5 Node edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.parse (URL *specFile*) [private]

Definition at line 138 of file SpecFileSpecProvider.java.

References [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.setTreeAdaptor\(\)](#), and [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.specfile\(\)](#).

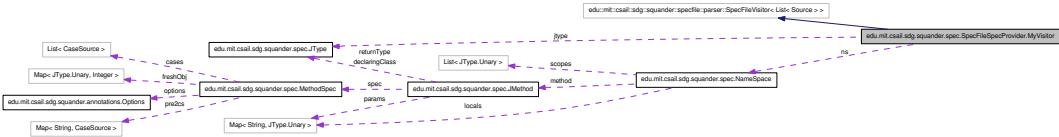
Referenced by [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.extractClassSpec\(\)](#).

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/SpecFileSpecProvider.java](#)

9.151 edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor Class Reference

Inherits edu::mit::csail::sdg::squander::specfile::parser::SpecFileVisitor< List< Source > >. Collaboration diagram for edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor:



Public Member Functions

- [MyVisitor \(JType.Unary jtype\)](#)

Protected Member Functions

- List< Source > [visitInvariant \(Node n\)](#)
- List< Source > [visitSpecField \(Node n\)](#)
- List< Source > [visitFuncField \(Node n\)](#)
- List< Source > [visitSpecFile \(String modifiers, String name, List< String > paramNames, List< List< Source > > specSources\)](#)

Private Member Functions

- String [replaceParamTypes \(String source, List< String > paramNames\)](#)
- String [escapeClsName \(String name\)](#)

Private Attributes

- final JType.Unary [jtype](#)
- final [NameSpace ns](#)

9.151.1 Detailed Description

Definition at line 29 of file SpecFileSpecProvider.java.

9.151.2 Constructor & Destructor Documentation

9.151.2.1 edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.MyVisitor (JType.Unary jtype)

Definition at line 34 of file SpecFileSpecProvider.java.

References `edu.mit.csail.sdg.squander.spec.NameSpace.forName()`, `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor` and `edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns`.

9.151.3 Member Function Documentation

9.151.3.1 String edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.escapeClsName (String name) [private]

Definition at line 102 of file SpecFileSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.replaceParamTypes().

**9.151.3.2 String
edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.replaceParamTypes (String source, List< String > paramNames) [private]**

Definition at line 76 of file SpecFileSpecProvider.java.

References edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.escapeClsName(), edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.jtype, and edu.mit.csail.sdg.squander.spec.JType.name().

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitSpecFile().

**9.151.3.3 List<Source>
edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitFuncField (Node n) [protected]**

Definition at line 56 of file SpecFileSpecProvider.java.

References edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns.

**9.151.3.4 List<Source>
edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitInvariant (Node n) [protected]**

Definition at line 40 of file SpecFileSpecProvider.java.

References edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns.

**9.151.3.5 List<Source>
edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitSpecField (Node n) [protected]**

Definition at line 48 of file SpecFileSpecProvider.java.

References edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns.

**9.151.3.6 List<Source>
edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitSpecFile (String modifiers, String name, List< String > paramNames, List< List< Source >> specSources) [protected]**

Definition at line 64 of file SpecFileSpecProvider.java.

References edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns, and edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.replaceParamTypes().

9.151.4 Member Data Documentation

9.151.4.1 final JType.Unary edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.jtype [private]

Definition at line 31 of file SpecFileSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.MyVisitor(), and edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.replaceParamTypes().

9.151.4.2 final NameSpace edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.ns [private]

Definition at line 32 of file SpecFileSpecProvider.java.

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.MyVisitor(), edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitFuncField(), edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitInvariant(), edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitSpecField(), and edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor.visitSpecFile().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[SpecFileSpecProvider.java](#)

9.152 edu.mit.csail.sdg.squander.spec.SqFunc Class Reference

Classes

- interface **Binary< R, A1, A2 >**
- class **Func**

Static Public Member Functions

- static Func [mkFunc](#) (String ensures)
- static Func [mkFunc](#) (String requires, String ensures, String modifies)

9.152.1 Detailed Description

Definition at line 16 of file SqFunc.java.

9.152.2 Member Function Documentation

9.152.2.1 static Func [edu.mit.csail.sdg.squander.spec.SqFunc.mkFunc](#) (String *requires*, String *ensures*, String *modifies*) [static]

Definition at line 52 of file SqFunc.java.

9.152.2.2 static Func [edu.mit.csail.sdg.squander.spec.SqFunc.mkFunc](#) (String *ensures*) [static]

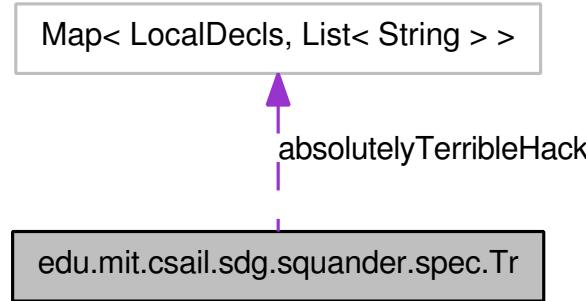
Definition at line 48 of file SqFunc.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[SqFunc.java](#)

9.153 edu.mit.csail.sdg.squander.spec.Tr Class Reference

Inherited by edu.mit.csail.sdg.squander.spec.Tr.FrameConstructor, edu.mit.csail.sdg.squander.spec.Tr.SpecFieldBoundTranslator and edu.mit.csail.sdg.squander.spec.Tr.SpecFieldTranslator.Collaboration diagram for edu.mit.csail.sdg.squander.spec.Tr:



Classes

- class **FrameConstructor**
- class **SpecFieldBoundTranslator**
- class **SpecFieldTranslator**

Static Public Attributes

- static `Map< LocalDecls, List< String > > > absolutelyTerribleHack = new IdentityHashMap<LocalDecls, List<String>>()`

Protected Member Functions

- `ForgeExpression visitBinary (ForgeEnv env, Node tree, int op, Node leftTree, Node rightTree)`
- `ForgeExpression visitConditional (ForgeEnv env, Node condTree, Node leftTree, Node rightTree)`
- `ForgeExpression visitDecimal (ForgeEnv env, int i)`
- `ForgeExpression visitString (ForgeEnv env, String text)`
- `ForgeExpression visitTrue (ForgeEnv env)`
- `ForgeExpression visitFalse (ForgeEnv env)`
- `ForgeExpression visitNull (ForgeEnv env)`
- `ForgeExpression visitReturn (ForgeEnv env)`
- `ForgeExpression visitThrow (ForgeEnv env)`
- `ForgeExpression visitThis (ForgeEnv env)`
- `ForgeExpression visitSuper (ForgeEnv env)`
- `ForgeExpression visitArgument (ForgeEnv env, int i)`
- `ForgeExpression visitOld (ForgeEnv env, Node sub)`
- `ForgeExpression visitQuantification (ForgeEnv env, int op, List< String > names, List< String > mults, List< Node > sets, Node expr)`
- `ForgeExpression visitUnary (ForgeEnv env, Node tree, int op, Node expr)`
- `ForgeExpression visitName (ForgeEnv env, Node ident)`
- `ForgeExpression visitAmbiguous (ForgeEnv env, List< Node > idents)`

- `ForgeExpression visitBracket (ForgeEnv env, ForgeExpression primary, Node tree)`
- `ForgeExpression visitJoin (ForgeEnv env, ForgeExpression primary, Node tree)`
- `ForgeExpression visitJoinReflexive (ForgeEnv env, ForgeExpression primary, Node tree)`
- `ForgeExpression visitMethodCall (ForgeEnv env, ForgeExpression receiver, String id, Node arguments)`
- `ForgeExpression visitFieldDeclaration (ForgeEnv env, Node ident, int op, Node set, Node frame, Node constraint)`
- `ForgeExpression visitCastExpression (ForgeEnv env, Node type, Node sub)`
- `ForgeExpression visitFieldRelation (ForgeEnv env, Node type, Node ident)`
- `ForgeExpression visitArrayType (ForgeEnv env, Node base)`
- `ForgeExpression visitBooleanType (ForgeEnv env)`
- `ForgeExpression visitIntegralType (ForgeEnv env)`
- `ForgeExpression visitRefType (ForgeEnv env, Node source, List< Node > idents)`
- `ForgeExpression visitFrame (ForgeEnv env, List< ForgeExpression > locations, List< Node > fields, List< ForgeExpression > selectors, List< ForgeExpression > lowers, List< ForgeExpression > uppers)`

Package Functions

- `Tr ()`

Private Member Functions

- `int[] reverse (int i)`

9.153.1 Detailed Description

Definition at line 72 of file Tr.java.

9.153.2 Constructor & Destructor Documentation

9.153.2.1 `edu.mit.csail.sdg.squander.spec.Tr.Tr () [package]`

Definition at line 76 of file Tr.java.

9.153.3 Member Function Documentation

9.153.3.1 `int [] edu.mit.csail.sdg.squander.spec.Tr.reverse (int i) [private]`

Definition at line 362 of file Tr.java.

Referenced by `edu.mit.csail.sdg.squander.spec.Tr.visitUnary()`.

9.153.3.2 `ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitAmbiguous (ForgeEnv env, List< Node > idents) [protected]`

Definition at line 403 of file Tr.java.

References `edu.mit.csail.sdg.squander.spec.Tr.visitName()`.

9.153.3.3 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitArgument (ForgeEnv *env*, int *i*) [protected]

Definition at line 225 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.arg().

9.153.3.4 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitArrayType (ForgeEnv *env*, Node *base*) [protected]

Definition at line 472 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureDomain().

9.153.3.5 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitBinary (ForgeEnv *env*, Node *tree*, int *op*, Node *leftTree*, Node *rightTree*) [protected]

Definition at line 79 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureAllInts().

9.153.3.6 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitBooleanType (ForgeEnv *env*) [protected]

Definition at line 479 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.booleanType().

9.153.3.7 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitBracket (ForgeEnv *env*, ForgeExpression *primary*, Node *tree*) [protected]

Definition at line 416 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.arrayElems(), and
edu.mit.csail.sdg.squander.spec.ForgeEnv.classForDomain().

9.153.3.8 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitCastExpression (ForgeEnv *env*, Node *type*, Node *sub*) [protected]

Definition at line 460 of file Tr.java.

9.153.3.9 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitConditional (ForgeEnv *env*, Node *condTree*, Node *leftTree*, Node *rightTree*) [protected]

Definition at line 172 of file Tr.java.

9.153.3.10 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitDecimal (ForgeEnv *env*, int *i*) [protected]

Definition at line 180 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.intExpr().

9.153.3.11 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitFalse (ForgeEnv *env*) [protected]

Definition at line 195 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.falseExpr().

9.153.3.12 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitFieldDeclaration (ForgeEnv *env*, Node *ident*, int *op*, Node *set*, Node *frame*, Node *constraint*) [protected]

Returns field declaration set expression for type information

Definition at line 454 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.integerType().

9.153.3.13 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitFieldRelation (ForgeEnv *env*, Node *type*, Node *ident*) [protected]

Definition at line 465 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureGlobal(), and
edu.mit.csail.sdg.squander.spec.ForgeEnv.globalVar().

9.153.3.14 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitFrame (ForgeEnv *env*, List<ForgeExpression > *locations*, List<Node > *fields*, List<ForgeExpression > *selectors*, List<ForgeExpression > *lowers*, List<ForgeExpression > *uppers*) [protected]

Definition at line 496 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.trueExpr().

9.153.3.15 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitIntegralType (ForgeEnv *env*) [protected]

Definition at line 484 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.integerType().

9.153.3.16 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitJoin (ForgeEnv *env*, ForgeExpression *primary*, Node *tree*) [protected]

Definition at line 438 of file Tr.java.

9.153.3.17 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitJoinReflexive (ForgeEnv *env*, ForgeExpression *primary*, Node *tree*) [protected]

Definition at line 443 of file Tr.java.

**9.153.3.18 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitMethodCall (ForgeEnv *env*,
ForgeExpression *receiver*, String *id*, Node *arguments*) [protected]**

Definition at line 448 of file Tr.java.

**9.153.3.19 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitName (ForgeEnv *env*, Node
ident) [protected]**

Definition at line 370 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureConst(), edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureGlobal(),
edu.mit.csail.sdg.squander.spec.ForgeEnv.findLocal(), edu.mit.csail.sdg.squander.spec.ForgeEnv.globalVar(),
and edu.mit.csail.sdg.squander.spec.ForgeEnv.typeForCls().

Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitAmbiguous().

**9.153.3.20 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitNull (ForgeEnv *env*)
[protected]**

Definition at line 200 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.nullType().

**9.153.3.21 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitOld (ForgeEnv *env*, Node *sub*)
[protected]**

Definition at line 230 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.setPreStateMode().

**9.153.3.22 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitQuantification (ForgeEnv *env*,
int *op*, List< String > *names*, List< String > *mults*, List< Node > *sets*, Node *expr*)
[protected]**

Definition at line 235 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.Tr.absolutelyTerribleHack, edu.mit.csail.sdg.squander.spec.ForgeEnv.addLocal(),
edu.mit.csail.sdg.squander.spec.ForgeEnv.emptyDecls(), edu.mit.csail.sdg.squander.spec.ForgeEnv.intExpr(),
edu.mit.csail.sdg.squander.spec.ForgeEnv.newLocalVar(), and edu.mit.csail.sdg.squander.spec.ForgeEnv.trueExpr().

**9.153.3.23 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitRefType (ForgeEnv *env*, Node
source, List< Node > *idents*) [protected]**

Definition at line 489 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureDomain().

**9.153.3.24 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitReturn (ForgeEnv *env*)
[protected]**

Definition at line 205 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.returnVar().

9.153.3.25 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitString (ForgeEnv *env*, String *text*) [protected]

Definition at line 185 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.stringExpr().

9.153.3.26 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitSuper (ForgeEnv *env*) [protected]

Definition at line 220 of file Tr.java.

9.153.3.27 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitThis (ForgeEnv *env*) [protected]

Definition at line 215 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.thisVar().

9.153.3.28 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitThrow (ForgeEnv *env*) [protected]

Definition at line 210 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.throwVar().

9.153.3.29 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitTrue (ForgeEnv *env*) [protected]

Definition at line 190 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.trueExpr().

9.153.3.30 ForgeExpression edu.mit.csail.sdg.squander.spec.Tr.visitUnary (ForgeEnv *env*, Node *tree*, int *op*, Node *expr*) [protected]

Definition at line 323 of file Tr.java.

References edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureInt(), edu.mit.csail.sdg.squander.spec.ForgeEnv.ensureNum(), and edu.mit.csail.sdg.squander.spec.Tr.reverse().

9.153.4 Member Data Documentation

**9.153.4.1 Map<LocalDecls, List<String> >
edu.mit.csail.sdg.squander.spec.Tr.absolutelyTerribleHack = new
IdentityHashMap<LocalDecls, List<String>>() [static]**

Definition at line 74 of file Tr.java.

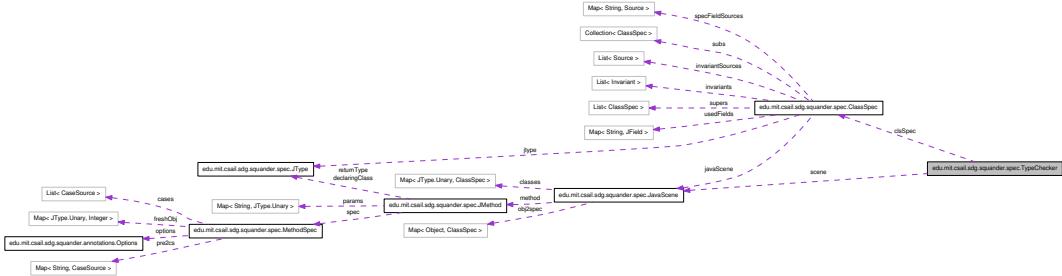
Referenced by edu.mit.csail.sdg.squander.spec.Tr.visitQuantification().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[Tr.java](#)

9.154 edu.mit.csail.sdg.squander.spec.TypeChecker Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.spec.TypeChecker:



Public Member Functions

- [TypeChecker \(JavaScene scene\)](#)
- void [setClsSpecForSpecField \(ClassSpec clsSpec\)](#)
- [JType visitAmbiguous \(NameSpace env, List< Node > idents\)](#)
- [JType visitName \(NameSpace env, Node ident\)](#)

Static Public Member Functions

- static void [main \(String\[\] args\)](#)

Protected Member Functions

- void [validate \(Node tree, JType type\)](#)
- void [checkSubtype \(String expr, JType sub, JType supr\) throws TypeCheckException](#)
- void [checkJoin \(JType primary, JType rest\) throws TypeCheckException](#)
- void [checkArity \(String inExpr, JType...expressions\) throws TypeCheckException](#)
- void [checkBoolean \(JType expr, Node node\) throws TypeCheckException](#)
- void [checkInteger \(JType expr, Node node\) throws TypeCheckException](#)
- void [checkUnary \(JType expr, Node node\) throws TypeCheckException](#)
- [JType visitArgument \(NameSpace env, int i\)](#)
- [JType visitBracket \(NameSpace env, JType primary, Node tree\)](#)
- [JType visitJoin \(NameSpace env, JType primary, Node tree\)](#)
- [JType visitJoinReflexive \(NameSpace env, JType primary, Node tree\)](#)
- [JType visitMethodCall \(NameSpace env, JType receiver, String name, Node arguments\)](#)
- [JType visitBinary \(NameSpace env, Node tree, int op, Node leftTree, Node rightTree\)](#)
- [JType visitConditional \(NameSpace env, Node condTree, Node leftTree, Node rightTree\)](#)
- [JType visitDecimal \(NameSpace env, int i\)](#)
- [JType visitString \(NameSpace env, String s\)](#)
- [JType visitFalse \(NameSpace env\)](#)
- [JType visitNull \(NameSpace env\)](#)
- [JType visitOld \(NameSpace env, Node sub\)](#)
- [JType visitQuantification \(NameSpace env, int op, List< String > names, List< String > multis, List< Node > sets, Node expr\)](#)
- [JType visitReturn \(NameSpace env\)](#)

- `JType visitThrow (NameSpace env)`
- `JType visitSuper (NameSpace env)`
- `JType visitThis (NameSpace env)`
- `JType visitTrue (NameSpace env)`
- `JType visitUnary (NameSpace env, Node tree, int op, Node expr)`
- `JType visitFieldDeclaration (NameSpace env, Node ident, int op, Node set, Node frame, Node constraint)`
- `JType visitCastExpression (NameSpace env, Node type, Node sub)`
- `JType visitFieldRelation (NameSpace env, Node type, Node ident)`
- `JType visitFrame (NameSpace env, List< JType > joins, List< Node > fields, List< JType > selectors, List< JType > lowers, List< JType > uppers)`
- `JType visitArrayType (NameSpace env, Node base)`
- `JType visitBooleanType (NameSpace env)`
- `JType visitIntegralType (NameSpace env)`
- `JType visitRefType (NameSpace env, Node source, List< Node > idents)`

Protected Attributes

- final `JavaScene scene`

Private Member Functions

- `JType.Unary getFldOwner (String fldName)`
- `String print (List< Node > rest)`
- `JType setTypeParams (JType primary, JType.Unary[] typeParams)`
- `JType.Unary[] visitTypeParams (NameSpace env, Node node)`
- `JType resolveField (NameSpace env, Node tree)`
- `JType resolveType (NameSpace env, String name)`
- `Class<?> getClass (String name)`

Private Attributes

- `ClassSpec clsSpec`

9.154.1 Detailed Description

Analysis that tries to determine the type of expressions in the expression tree. In addition, it resolves all name identifiers to corresponding fields, determines the meaning of syntactically ambiguous expressions (which may depend on semantic type information.)

The analysis runs without any knowledge of relevant sub types of any given Java type (unlike subsequent translation phase.) The goal is to determine the scope of specification expressions in terms of elements of a Java program. The scope includes:

1. all relevant types (most importantly the type of fields) that are directly or indirectly referenced in the source;;
2. all relevant concrete and abstract fields;

The analysis mutates the tree by augmenting nodes with type information that is reused in translation.

Type inference is performed by the rules described in the corresponding comment sections. The rules follow Java guide lines of static type checking in combination of Alloy-style higher-arity types and set operations on types.

Author:

kuat
Aleksandar Milicevic

Definition at line 99 of file TypeChecker.java.

9.154.2 Constructor & Destructor Documentation

9.154.2.1 edu.mit.csail.sdg.squander.spec.TypeChecker.TypeChecker (*JavaScene scene*)

Parameters:

scene

***clsSpec* should be non-null only when type-checking spec fields, in which cases the value of this field should be the declaring class of the spec field.**

Definition at line 116 of file TypeChecker.java.

9.154.3 Member Function Documentation

9.154.3.1 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkArity (String *inExpr*, JType... *expressions*) throws TypeCheckException [protected]

Definition at line 157 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.checkSubtype().

9.154.3.2 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoolean (JType *expr*, Node *node*) throws TypeCheckException [protected]

Definition at line 167 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitConditional(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitUnary().

9.154.3.3 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkInteger (JType *expr*, Node *node*) throws TypeCheckException [protected]

Definition at line 173 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification()
and edu.mit.csail.sdg.squander.spec.TypeChecker.visitUnary().

9.154.3.4 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkJoin (JType *primary*, JType *rest*) throws TypeCheckException [protected]

Definition at line 150 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoin().

9.154.3.5 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkSubtype (String *expr*, JType *sub*, JType *supr*) throws TypeCheckException [protected]

Definition at line 140 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.checkArity().

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary().

9.154.3.6 void edu.mit.csail.sdg.squander.spec.TypeChecker.checkUnary (JType *expr*, Node *node*) throws TypeCheckException [protected]

Definition at line 179 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitArrayType(), and
edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification().

9.154.3.7 Class<?> edu.mit.csail.sdg.squander.spec.TypeChecker.getClass (String *name*) [private]

Definition at line 806 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(), and
edu.mit.csail.sdg.squander.spec.TypeChecker.visitArrayType().

9.154.3.8 JType.Unary edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner (String *fldName*) [private]

Definition at line 509 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.clsSpec, edu.mit.csail.sdg.squander.spec.ClassSpec.clz(),
edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.spec.ClassSpec.hasSpecField(),
edu.mit.csail.sdg.squander.spec.ClassSpec.jtype, edu.mit.csail.sdg.squander.spec.TypeChecker.scene, and
edu.mit.csail.sdg.squander.spec.ClassSpec.typeParams().

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration().

9.154.3.9 static void edu.mit.csail.sdg.squander.spec.TypeChecker.main (String[] *args*) [static]

Definition at line 741 of file TypeChecker.java.

9.154.3.10 String edu.mit.csail.sdg.squander.spec.TypeChecker.print (List< Node > *rest*) [private]

Definition at line 676 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous().

9.154.3.11 JType edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField (NameSpace *env*, Node *tree*) [private]

Checks whether the node is a field (length and elems are considered fields.)

Definition at line 748 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.JField.declaringType, edu.mit.csail.sdg.squander.spec.NameSpace.findField(), edu.mit.csail.sdg.squander.spec.JField.isStatic(), edu.mit.csail.sdg.squander.spec.JType.product(), edu.mit.csail.sdg.squander.spec.TypeChecker.scene, and edu.mit.csail.sdg.squander.spec.JField.type.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldRelation(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitName().

9.154.3.12 JType edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType (NameSpace *env*, String *name*) [private]

Definition at line 764 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.NameSpace.declarer(), edu.mit.csail.sdg.squander.spec.JType.domain(), and edu.mit.csail.sdg.squander.spec.TypeChecker.getClass().

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitName(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitRefType().

9.154.3.13 void edu.mit.csail.sdg.squander.spec.TypeChecker.setClsSpecForSpecField (ClassSpec *clsSpec*)

Parameters:

<*b>should* be non-null only when type-checking spec fields, in which cases the value of this field should be the declaring class of the spec field.

Definition at line 126 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.ClassSpec.ensureField().

9.154.3.14 JType edu.mit.csail.sdg.squander.spec.TypeChecker.setTypeParams (JType *primary*, JType.Unary[] *typeParams*) [private]

Definition at line 684 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.JType.arity(), and edu.mit.csail.sdg.squander.spec.JType.projection().

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous().

9.154.3.15 void edu.mit.csail.sdg.squander.spec.TypeChecker.validate (Node *tree*, JType *type*) [protected]

Definition at line 131 of file TypeChecker.java.

9.154.3.16 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous (NameSpace *env*, List< Node > *idents*)

This part is somewhat tricky due to ambiguity between package names, type names, and field dereferences. The best strategy that we may follow is to consult JLS 3.0. Refer to section 6.5 for details of classification of ambiguous names.

Ambiguous qualified names A.n where n is a simple name are classified as follows:

- if A is a package name, then check if n is a type declared in the package, in which case reclassify as type name; otherwise, leave as a package name
- if A is a type name, then check if n is a field of A; else check if n is a member type of A; else report an error
- if A is an expression, then let T be its type. If n is a field of T, classify as an expression, else if n is a member type, classify of a type name, else report an error

Definition at line 625 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.addScope(), edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.spec.JType.join(), edu.mit.csail.sdg.squander.spec.ClassSpec.jtype, edu.mit.csail.sdg.squander.spec.TypeChecker.print(), edu.mit.csail.sdg.squander.spec.JType.range(), edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(), edu.mit.csail.sdg.squander.spec.TypeChecker.scene, edu.mit.csail.sdg.squander.spec.TypeChecker.setTypeParams(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitName(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitTypeParams().

9.154.3.17 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitArgument (NameSpace *env*, int *i*) [protected]

Implementation of a visitor

Definition at line 190 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.method, and edu.mit.csail.sdg.squander.spec.JMethod.paramTypes().

9.154.3.18 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitArrayType (NameSpace *env*, Node *base*) [protected]

Definition at line 577 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.checkUnary(), edu.mit.csail.sdg.squander.spec.JType.domain(), and edu.mit.csail.sdg.squander.spec.TypeChecker.getClass().

9.154.3.19 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitBinary (NameSpace *env*, Node *tree*, int *op*, Node *leftTree*, Node *rightTree*) [protected]

Definition at line 241 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoolean(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkInteger(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkSubtype(), edu.mit.csail.sdg.squander.spec.JType.difference(), edu.mit.csail.sdg.squander.spec.JType.intersection(), edu.mit.csail.sdg.squander.spec.JType.isInteger(), edu.mit.csail.sdg.squander.spec.JType.product(), and edu.mit.csail.sdg.squander.spec.JType.union().

9.154.3.20 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitBooleanType (NameSpace *env*) [protected]

Definition at line 584 of file TypeChecker.java.

9.154.3.21 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitBracket (NameSpace *env*, JType *primary*, Node *tree*) [protected]

Definition at line 200 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.addScope(), edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkInteger(), edu.mit.csail.sdg.squander.spec.JType.domain(), edu.mit.csail.sdg.squander.spec.NameSpace.inArray(), edu.mit.csail.sdg.squander.spec.JType.join(), edu.mit.csail.sdg.squander.spec.JType.range(), and edu.mit.csail.sdg.squander.spec.NameSpace.scope().

9.154.3.22 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitCastExpression (NameSpace *env*, Node *type*, Node *sub*) [protected]

Definition at line 525 of file TypeChecker.java.

9.154.3.23 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitConditional (NameSpace *env*, Node *condTree*, Node *leftTree*, Node *rightTree*) [protected]

Definition at line 340 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoolean(), and edu.mit.csail.sdg.squander.spec.JType.union().

9.154.3.24 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitDecimal (NameSpace *env*, int *i*) [protected]

Definition at line 349 of file TypeChecker.java.

9.154.3.25 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitFalse (NameSpace *env*) [protected]

Definition at line 359 of file TypeChecker.java.

9.154.3.26 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration (NameSpace *env*, Node *ident*, int *op*, Node *set*, Node *frame*, Node *constraint*) [protected]

Definition at line 491 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.ClassSpec.addSpecField(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkBool(), edu.mit.csail.sdg.squander.spec.TypeChecker.clsSpec, edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(), and edu.mit.csail.sdg.squander.spec.ClassSpec.jtype.

9.154.3.27 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldRelation (NameSpace *env*, Node *type*, Node *ident*) [protected]

Definition at line 531 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.addScope(), edu.mit.csail.sdg.squander.spec.JType.range(), and edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField().

9.154.3.28 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitFrame (NameSpace *env*, List< JType > *joins*, List< Node > *fields*, List< JType > *selectors*, List< JType > *lowers*, List< JType > *uppers*) [protected]

Definition at line 538 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.addScope(), edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.JType.domain(), edu.mit.csail.sdg.squander.spec.JType.isSubtypeOf(), edu.mit.csail.sdg.squander.spec.JType.projectionFromTo(), edu.mit.csail.sdg.squander.spec.JType.range(), and edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField().

9.154.3.29 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitIntegralType (NameSpace *env*) [protected]

Definition at line 589 of file TypeChecker.java.

9.154.3.30 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoin (NameSpace *env*, JType *primary*, Node *tree*) [protected]

Definition at line 218 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.addScope(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkJoin(), edu.mit.csail.sdg.squander.spec.JType.join(), and edu.mit.csail.sdg.squander.spec.JType.range().

9.154.3.31 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitJoinReflexive (NameSpace *env*, JType *primary*, Node *tree*) [protected]

Definition at line 225 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.addScope(), edu.mit.csail.sdg.squander.spec.JType.arity(), edu.mit.csail.sdg.squander.spec.JType.join(), edu.mit.csail.sdg.squander.spec.JType.range(), and edu.mit.csail.sdg.squander.spec.JType.union().

9.154.3.32 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitMethodCall (NameSpace *env*, JType *receiver*, String *name*, Node *arguments*) [protected]

Definition at line 236 of file TypeChecker.java.

9.154.3.33 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitName (NameSpace *env*, Node *ident*)

Definition at line 707 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.spec.NameSpace.findLocal(),
edu.mit.csail.sdg.squander.spec.JType.isUnary(), edu.mit.csail.sdg.squander.spec.JType.range(),
edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField(), edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(),
and edu.mit.csail.sdg.squander.spec.TypeChecker.scene.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous().

9.154.3.34 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitNull (NameSpace *env*) [protected]

Definition at line 364 of file TypeChecker.java.

9.154.3.35 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitOld (NameSpace *env*, Node *sub*) [protected]

Definition at line 369 of file TypeChecker.java.

9.154.3.36 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitQuantification (NameSpace *env*, int *op*, List< String > *names*, List< String > *mults*, List< Node > *sets*, Node *expr*) [protected]

Definition at line 374 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.addLocal(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoolean(),
edu.mit.csail.sdg.squander.spec.TypeChecker.checkInteger(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkUnary(),
edu.mit.csail.sdg.squander.spec.JType.domain(), and edu.mit.csail.sdg.squander.spec.JType.product().

9.154.3.37 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitRefType (NameSpace *env*, Node *source*, List< Node > *idents*) [protected]

Definition at line 594 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.JavaScene.ensureClass(), edu.mit.csail.sdg.squander.spec.JType.range(),
edu.mit.csail.sdg.squander.spec.TypeChecker.resolveType(), and edu.mit.csail.sdg.squander.spec.TypeChecker.scene.

9.154.3.38 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitReturn (NameSpace *env*) [protected]

Definition at line 410 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.method, and edu.mit.csail.sdg.squander.spec.JMethod.returnType.

9.154.3.39 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitString (NameSpace *env*, String *s*) [protected]

Definition at line 354 of file TypeChecker.java.

9.154.3.40 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitSuper (NameSpace *env*) [protected]

Definition at line 420 of file TypeChecker.java.

9.154.3.41 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitThis (NameSpace *env*) [protected]

Definition at line 425 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.NameSpace.declarer(), edu.mit.csail.sdg.squander.spec.JMethod.isStatic, and edu.mit.csail.sdg.squander.spec.NameSpace.method.

9.154.3.42 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitThrow (NameSpace *env*) [protected]

Definition at line 415 of file TypeChecker.java.

9.154.3.43 JType edu.mit.csail.sdg.squander.spec.TypeChecker.visitTrue (NameSpace *env*) [protected]

Definition at line 434 of file TypeChecker.java.

9.154.3.44 JType.Unary [] edu.mit.csail.sdg.squander.spec.TypeChecker.visitTypeParams (NameSpace *env*, Node *node*) [private]

Definition at line 696 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous().

9.154.3.45 JType.edu.mit.csail.sdg.squander.spec.TypeChecker.visitUnary (NameSpace *env*, Node *tree*, int *op*, Node *expr*) [protected]

Definition at line 439 of file TypeChecker.java.

References edu.mit.csail.sdg.squander.spec.TypeChecker.checkBoolean(), edu.mit.csail.sdg.squander.spec.TypeChecker.checkInteger(), edu.mit.csail.sdg.squander.spec.JType.isInteger(), and edu.mit.csail.sdg.squander.spec.JType.transpose().

9.154.4 Member Data Documentation

9.154.4.1 ClassSpec edu.mit.csail.sdg.squander.spec.TypeChecker.clsSpec [private]

should be non-null only when type-checking spec fields, in which cases the value of this field should be the declaring class of the spec field.

Definition at line 107 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitFieldDeclaration().

9.154.4.2 final JavaScene edu.mit.csail.sdg.squander.spec.TypeChecker.scene [protected]

Definition at line 101 of file TypeChecker.java.

Referenced by edu.mit.csail.sdg.squander.spec.TypeChecker.getFldOwner(),
edu.mit.csail.sdg.squander.spec.TypeChecker.resolveField(), edu.mit.csail.sdg.squander.spec.TypeChecker.visitAmbiguous(),
edu.mit.csail.sdg.squander.spec.TypeChecker.visitName(), and edu.mit.csail.sdg.squander.spec.TypeChecker.visitRefType().

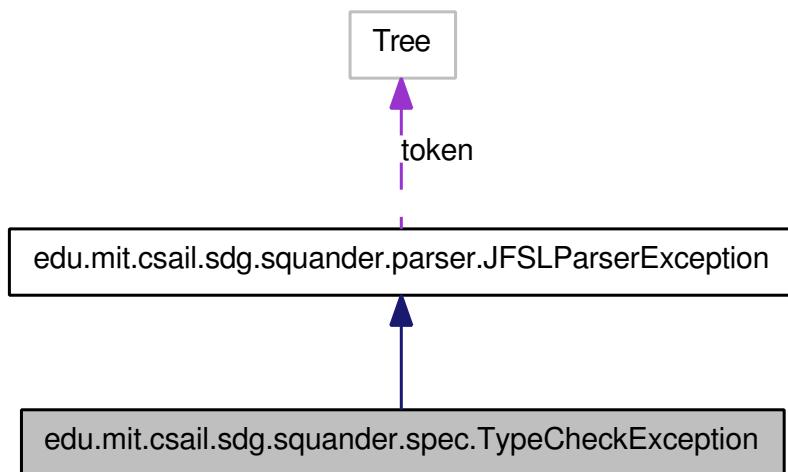
The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/[TypeChecker.java](#)

9.155 edu.mit.csail.sdg.squander.spec.TypeCheckException Class Reference

Inherits [edu::mit::csail::sdg::squander::parser::JFSLParserException](#).

Inherited by [edu.mit.csail.sdg.squander.spec.ArityMismatchException](#), [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException](#). Collaboration diagram for [edu.mit.csail.sdg.squander.spec.TypeCheckException](#):



Public Member Functions

- [TypeCheckException \(String msg, Throwable t\)](#)
- [TypeCheckException \(String msg\)](#)
- [TypeCheckException \(String msg, String src\)](#)
- String [getSrc \(\)](#)

Private Attributes

- final String [src](#)

Static Private Attributes

- static final long [serialVersionUID](#) = -6673030100868748117L

9.155.1 Detailed Description

Indicates an error in type checking phase.

Author:

kuat

Definition at line 15 of file [TypeCheckException.java](#).

9.155.2 Constructor & Destructor Documentation

9.155.2.1 `edu.mit.csail.sdg.squander.spec.TypeCheckException.TypeCheckException (String msg, Throwable t)`

Definition at line 19 of file TypeCheckException.java.

References edu.mit.csail.sdg.squander.spec.TypeCheckException.src.

9.155.2.2 `edu.mit.csail.sdg.squander.spec.TypeCheckException.TypeCheckException (String msg)`

Definition at line 24 of file TypeCheckException.java.

9.155.2.3 `edu.mit.csail.sdg.squander.spec.TypeCheckException.TypeCheckException (String msg, String src)`

Definition at line 28 of file TypeCheckException.java.

9.155.3 Member Function Documentation

9.155.3.1 `String edu.mit.csail.sdg.squander.spec.TypeCheckException.getSrc ()`

Definition at line 33 of file TypeCheckException.java.

References edu.mit.csail.sdg.squander.spec.TypeCheckException.src.

9.155.4 Member Data Documentation

9.155.4.1 `final long edu.mit.csail.sdg.squander.spec.TypeCheckException.serialVersionUID = -6673030100868748117L [static, private]`

Reimplemented in [edu.mit.csail.sdg.squander.spec.ArityMismatchException](#), and [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException](#).

Definition at line 16 of file TypeCheckException.java.

9.155.4.2 `final String edu.mit.csail.sdg.squander.spec.TypeCheckException.src [private]`

Definition at line 17 of file TypeCheckException.java.

Referenced by [edu.mit.csail.sdg.squander.spec.TypeCheckException.getSrc\(\)](#), and [edu.mit.csail.sdg.squander.spec.TypeCheckException.TypeCheckException\(\)](#).

The documentation for this class was generated from the following file:

- [src/edu/mit/csail/sdg/squander/spec/TypeCheckException.java](#)

9.156 edu.mit.csail.sdg.squander.spec.Visitor< N, M > Class Reference

Public Member Functions

- final N [visit](#) (M env, Tree tree)

Static Public Member Functions

- static int [parseInt](#) (Tree tree)

Protected Member Functions

- void [validate](#) (Node node, N result)
- N [visitFieldDeclaration](#) (M env, Node ident, int op, Node set, Node frame, Node constraint)
- N [visitFrame](#) (M env, List< N > joins, List< Node > fields, List< N > selectors, List< N > lowers, List< N > uppers)
- N [visitBinary](#) (M env, Node tree, int op, Node leftTree, Node rightTree)
- N [visitUnary](#) (M env, Node tree, int op, Node expr)
- N [visitQuantification](#) (M env, int op, List< String > names, List< String > multis, List< Node > sets, Node expr)
- N [visitConditional](#) (M env, Node condTree, Node leftTree, Node rightTree)
- N [visitOld](#) (M env, Node sub)
- N [visitName](#) (M env, Node tree)
- N [visitAmbiguous](#) (M env, List< Node > idents)
- N [visitCastExpression](#) (M env, Node type, Node sub)
- N [visitFieldRelation](#) (M env, Node type, Node ident)
- N [visitBracket](#) (M env, N primary, Node selector)
- N [visitJoin](#) (M env, N primary, Node selector)
- N [visitJoinReflexive](#) (M env, N primary, Node selector)
- N [visitMethodCall](#) (M env, N receiver, String id, Node arguments)
- N [visitThis](#) (M env)
- N [visitSuper](#) (M env)
- N [visitReturn](#) (M env)
- N [visitThrow](#) (M env)
- N [visitDecimal](#) (M env, int i)
- N [visitString](#) (M env, String s)
- N [visitTrue](#) (M env)
- N [visitFalse](#) (M env)
- N [visitNull](#) (M env)
- N [visitArgument](#) (M env, int i)
- N [visitIntegralType](#) (M env)
- N [visitBooleanType](#) (M env)
- N [visitArrayType](#) (M env, Node base)
- N [visitRefType](#) (M env, Node source, List< Node > idents)
- List< Node > [children](#) (Tree node)
- Node [child](#) (Node parent)
- String [asText](#) (Tree node)

Private Member Functions

- final N `visitChain` (M env, List< Node > children)
- Node `cast` (Tree tree)

9.156.1 Detailed Description

Abstract visitor of unparsed specification expressions.

Author:

kuat

Parameters:

<N> type of the output value

<M> type of the input value, presumably a context of evaluation

Definition at line 67 of file Visitor.java.

9.156.2 Member Function Documentation

9.156.2.1 String `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.asText` (Tree *node*) [protected]

Returns the text content of a token node

Definition at line 410 of file Visitor.java.

9.156.2.2 Node `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.cast` (Tree *tree*) [private]

Performs casting

Definition at line 398 of file Visitor.java.

9.156.2.3 Node `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.child` (Node *parent*) [protected]

Get a single child

Definition at line 405 of file Visitor.java.

9.156.2.4 List<Node> `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.children` (Tree *node*) [protected]

Definition at line 389 of file Visitor.java.

9.156.2.5 static int `edu.mit.csail.sdg.squander.spec.Visitor< N, M >.parseInt` (Tree *tree*) [static]

Assumes the content is a decimal expression text

Definition at line 417 of file Visitor.java.

9.156.2.6 void edu.mit.csail.sdg.squander.spec.Visitor< N, M >.validate (Node node, N result) [protected]

Validate the result of a visit

Definition at line 314 of file Visitor.java.

9.156.2.7 final N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visit (M env, Tree tree)

Invoking a visitor method based on the type of the tree nodes.

Top-level expression

Composite expression

Simple expressions

Definition at line 73 of file Visitor.java.

References edu.mit.csail.sdg.squander.parser.JFSLParserException.setToken(), and edu.mit.csail.sdg.squander.parser.JFSLParserException.token.

9.156.2.8 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitAmbiguous (M env, List< Node > idents) [protected]

Definition at line 339 of file Visitor.java.

9.156.2.9 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitArgument (M env, int i) [protected]

Definition at line 375 of file Visitor.java.

9.156.2.10 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitArrayType (M env, Node base) [protected]

Definition at line 383 of file Visitor.java.

9.156.2.11 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitBinary (M env, Node tree, int op, Node leftTree, Node rightTree) [protected]

Definition at line 327 of file Visitor.java.

9.156.2.12 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitBooleanType (M env) [protected]

Definition at line 381 of file Visitor.java.

9.156.2.13 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitBracket (M env, N primary, Node selector) [protected]

Definition at line 347 of file Visitor.java.

9.156.2.14 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitCastExpression (M env, Node type, Node sub) [protected]

Definition at line 341 of file Visitor.java.

9.156.2.15 final N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitChain (M env, List< Node > children) [private]

Process chain expression in EBNF

Definition at line 284 of file Visitor.java.

9.156.2.16 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitConditional (M env, Node condTree, Node leftTree, Node rightTree) [protected]

Definition at line 333 of file Visitor.java.

9.156.2.17 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitDecimal (M env, int i) [protected]

Definition at line 365 of file Visitor.java.

9.156.2.18 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitFalse (M env) [protected]

Definition at line 371 of file Visitor.java.

9.156.2.19 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitFieldDeclaration (M env, Node ident, int op, Node set, Node frame, Node constraint) [protected]

Definition at line 321 of file Visitor.java.

9.156.2.20 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitFieldRelation (M env, Node type, Node ident) [protected]

Definition at line 343 of file Visitor.java.

9.156.2.21 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitFrame (M env, List< N > joins, List< Node > fields, List< N > selectors, List< N > lowers, List< N > uppers) [protected]

Definition at line 323 of file Visitor.java.

9.156.2.22 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitIntegralType (M env) [protected]

Definition at line 379 of file Visitor.java.

9.156.2.23 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitJoin (M env, N primary, Node selector) [protected]

Definition at line 349 of file Visitor.java.

9.156.2.24 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitJoinReflexive (M env, N primary, Node selector) [protected]

Definition at line 351 of file Visitor.java.

9.156.2.25 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitMethodCall (M env, N receiver, String id, Node arguments) [protected]

Definition at line 353 of file Visitor.java.

9.156.2.26 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitName (M env, Node tree) [protected]

Definition at line 337 of file Visitor.java.

9.156.2.27 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitNull (M env) [protected]

Definition at line 373 of file Visitor.java.

9.156.2.28 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitOld (M env, Node sub) [protected]

Definition at line 335 of file Visitor.java.

9.156.2.29 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitQuantification (M env, int op, List< String > names, List< String > mults, List< Node > sets, Node expr) [protected]

Definition at line 331 of file Visitor.java.

9.156.2.30 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitRefType (M env, Node source, List< Node > idents) [protected]

Definition at line 385 of file Visitor.java.

9.156.2.31 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitReturn (M env) [protected]

Definition at line 361 of file Visitor.java.

9.156.2.32 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitString (M env, String s) [protected]

Definition at line 367 of file Visitor.java.

9.156.2.33 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitSuper (M env) [protected]

Definition at line 359 of file Visitor.java.

9.156.2.34 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitThis (M env) [protected]

Definition at line 357 of file Visitor.java.

9.156.2.35 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitThrow (M env) [protected]

Definition at line 363 of file Visitor.java.

9.156.2.36 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitTrue (M env) [protected]

Definition at line 369 of file Visitor.java.

9.156.2.37 N edu.mit.csail.sdg.squander.spec.Visitor< N, M >.visitUnary (M env, Node tree, int op, Node expr) [protected]

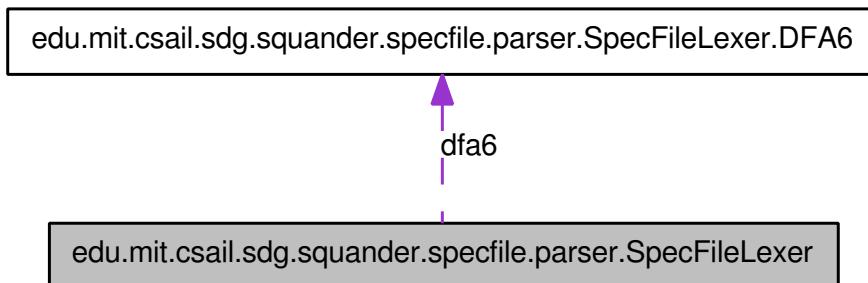
Definition at line 329 of file Visitor.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/spec/Visitor.java

9.157 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer:



Classes

- class [DFA6](#)

Public Member Functions

- [SpecFileLexer \(\)](#)
- [SpecFileLexer \(CharStream input\)](#)
- [SpecFileLexer \(CharStream input, RecognizerSharedState state\)](#)
- String [getGrammarFileName \(\)](#)
- final void [mT_18 \(\)](#) throws RecognitionException
- final void [mT_19 \(\)](#) throws RecognitionException
- final void [mT_20 \(\)](#) throws RecognitionException
- final void [mT_21 \(\)](#) throws RecognitionException
- final void [mT_22 \(\)](#) throws RecognitionException
- final void [mT_23 \(\)](#) throws RecognitionException
- final void [mT_24 \(\)](#) throws RecognitionException
- final void [mT_25 \(\)](#) throws RecognitionException
- final void [mT_26 \(\)](#) throws RecognitionException
- final void [mT_27 \(\)](#) throws RecognitionException
- final void [mT_28 \(\)](#) throws RecognitionException
- final void [mT_29 \(\)](#) throws RecognitionException
- final void [mT_30 \(\)](#) throws RecognitionException
- final void [mT_31 \(\)](#) throws RecognitionException
- final void [mT_32 \(\)](#) throws RecognitionException
- final void [mT_33 \(\)](#) throws RecognitionException
- final void [mIdentifier \(\)](#) throws RecognitionException
- final void [mStringLiteral \(\)](#) throws RecognitionException
- final void [mEscapeSequence \(\)](#) throws RecognitionException
- final void [mOctalEscape \(\)](#) throws RecognitionException
- final void [mUnicodeEscape \(\)](#) throws RecognitionException
- final void [mHexDigit \(\)](#) throws RecognitionException
- final void [mLetter \(\)](#) throws RecognitionException

- final void `mJavaIDDigit` () throws RecognitionException
- final void `mWS` () throws RecognitionException
- void `mTokens` () throws RecognitionException

Static Public Attributes

- static final int `T_29` = 29
- static final int `T_28` = 28
- static final int `T_27` = 27
- static final int `T_26` = 26
- static final int `T_25` = 25
- static final int `T_24` = 24
- static final int `SPECFILE` = 4
- static final int `T_23` = 23
- static final int `T_22` = 22
- static final int `T_21` = 21
- static final int `T_20` = 20
- static final int `INVARIANT` = 7
- static final int `EOF` = -1
- static final int `HexDigit` = 16
- static final int `Identifier` = 9
- static final int `StringLiteral` = 10
- static final int `T_30` = 30
- static final int `T_19` = 19
- static final int `T_31` = 31
- static final int `T_32` = 32
- static final int `T_33` = 33
- static final int `WS` = 17
- static final int `T_18` = 18
- static final int `SPECFIELD` = 5
- static final int `UnicodeEscape` = 14
- static final int `JavaIDDigit` = 12
- static final int `FUNCFIELD` = 6
- static final int `Letter` = 11
- static final int `EscapeSequence` = 13
- static final int `OctalEscape` = 15
- static final int `PARAMS` = 8

Protected Attributes

- `DFA6 dfa6` = new `DFA6(this)`

Static Package Functions

- [static initializer]

Static Package Attributes

- static final String [DFA6_eotS](#)
- static final String [DFA6_eofS](#)
- static final String [DFA6_minS](#)
- static final String [DFA6_maxS](#)
- static final String [DFA6_acceptS](#)
- static final String [DFA6_specialS](#)
- static final String[] [DFA6_transitions](#)
- static final short[] [DFA6_eot](#) = DFA.unpackEncodedString([DFA6_eotS](#))
- static final short[] [DFA6_eof](#) = DFA.unpackEncodedString([DFA6_eofS](#))
- static final char[] [DFA6_min](#) = DFA.unpackEncodedStringToUnsignedChars([DFA6_minS](#))
- static final char[] [DFA6_max](#) = DFA.unpackEncodedStringToUnsignedChars([DFA6_maxS](#))
- static final short[] [DFA6_accept](#) = DFA.unpackEncodedString([DFA6_acceptS](#))
- static final short[] [DFA6_special](#) = DFA.unpackEncodedString([DFA6_specialS](#))
- static final short[][] [DFA6_transitions](#)

9.157.1 Detailed Description

Definition at line 12 of file SpecFileLexer.java.

9.157.2 Constructor & Destructor Documentation

9.157.2.1 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.SpecFileLexer ()

Definition at line 48 of file SpecFileLexer.java.

9.157.2.2 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.SpecFileLexer (CharStream *input*)

Definition at line 49 of file SpecFileLexer.java.

9.157.2.3 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.SpecFileLexer (CharStream *input*, RecognizerSharedState *state*)

Definition at line 52 of file SpecFileLexer.java.

9.157.3 Member Function Documentation

9.157.3.1 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.[static initializer] () [static, package]

9.157.3.2 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.getGrammarFileName ()

Definition at line 56 of file SpecFileLexer.java.

9.157.3.3 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mEscapeSequence () throws RecognitionException

Definition at line 523 of file SpecFileLexer.java.

9.157.3.4 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mHexDigit () throws RecognitionException

Definition at line 754 of file SpecFileLexer.java.

9.157.3.5 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mIdentifier () throws RecognitionException

Definition at line 387 of file SpecFileLexer.java.

9.157.3.6 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mJavaIDDigit () throws RecognitionException

Definition at line 802 of file SpecFileLexer.java.

9.157.3.7 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mLetter () throws RecognitionException

Definition at line 778 of file SpecFileLexer.java.

9.157.3.8 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mOctalEscape () throws RecognitionException

Definition at line 614 of file SpecFileLexer.java.

9.157.3.9 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mStringLiteral () throws RecognitionException

Definition at line 459 of file SpecFileLexer.java.

9.157.3.10 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__18 () throws RecognitionException

Definition at line 59 of file SpecFileLexer.java.

9.157.3.11 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__19 () throws RecognitionException

Definition at line 79 of file SpecFileLexer.java.

9.157.3.12 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__20 () throws RecognitionException

Definition at line 99 of file SpecFileLexer.java.

9.157.3.13 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__21 () throws RecognitionException

Definition at line 119 of file SpecFileLexer.java.

9.157.3.14 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__22 () throws RecognitionException

Definition at line 139 of file SpecFileLexer.java.

9.157.3.15 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__23 () throws RecognitionException

Definition at line 160 of file SpecFileLexer.java.

9.157.3.16 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__24 () throws RecognitionException

Definition at line 181 of file SpecFileLexer.java.

9.157.3.17 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__25 () throws RecognitionException

Definition at line 202 of file SpecFileLexer.java.

9.157.3.18 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__26 () throws RecognitionException

Definition at line 223 of file SpecFileLexer.java.

9.157.3.19 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__27 () throws RecognitionException

Definition at line 244 of file SpecFileLexer.java.

9.157.3.20 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__28 () throws RecognitionException

Definition at line 265 of file SpecFileLexer.java.

9.157.3.21 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__29 () throws RecognitionException

Definition at line 285 of file SpecFileLexer.java.

9.157.3.22 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__30 () throws RecognitionException

Definition at line 305 of file SpecFileLexer.java.

9.157.3.23 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__31 () throws RecognitionException

Definition at line 325 of file SpecFileLexer.java.

9.157.3.24 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__32 () throws RecognitionException

Definition at line 346 of file SpecFileLexer.java.

9.157.3.25 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mT__33 () throws RecognitionException

Definition at line 367 of file SpecFileLexer.java.

9.157.3.26 void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mTokens () throws RecognitionException

Definition at line 854 of file SpecFileLexer.java.

9.157.3.27 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mUnicodeEscape () throws RecognitionException

Definition at line 733 of file SpecFileLexer.java.

9.157.3.28 final void edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.mWS () throws RecognitionException

Definition at line 826 of file SpecFileLexer.java.

9.157.4 Member Data Documentation

9.157.4.1 DFA6 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.dfa6 = new DFA6(this) [protected]

Definition at line 998 of file SpecFileLexer.java.

**9.157.4.2 final short [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_accept =
DFA.unpackEncodedString(DFA6_acceptS) [static, package]**

Definition at line 1103 of file SpecFileLexer.java.

**9.157.4.3 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_acceptS
[static, package]**

Initial value:

```
"\1\uffff\1\1\2\1\3\1\4\4\uffff\1\13\1\14\1\15\1\20\1\21\1\22\1"+  
"\23\4\uffff\1\12\1\16\1\17\22\uffff\1\10\3\uffff\1\6\1\uffff\1\5"+  
"\4\uffff\1\7\1\11"
```

Definition at line 1015 of file SpecFileLexer.java.

**9.157.4.4 final short [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_eof =
DFA.unpackEncodedString(DFA6_eofS) [static, package]**

Definition at line 1100 of file SpecFileLexer.java.

**9.157.4.5 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_eofS
[static, package]**

Initial value:

```
"\66\uffff"
```

Definition at line 1002 of file SpecFileLexer.java.

**9.157.4.6 final short [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_eot =
DFA.unpackEncodedString(DFA6_eotS) [static, package]**

Definition at line 1099 of file SpecFileLexer.java.

**9.157.4.7 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_eotS
[static, package]**

Initial value:

```
"\5\uffff\3\15\10\uffff\4\15\3\uffff\15\15\1\51\3\15\1\55\1\uffff"+  
"\1\15\1\57\1\15\1\uffff\1\15\1\uffff\2\15\1\64\1\65\2\uffff"
```

Definition at line 999 of file SpecFileLexer.java.

**9.157.4.8 final char [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_max =
DFA.unpackEncodedStringToUnsignedChars(DFA6_maxS) [static, package]**

Definition at line 1102 of file SpecFileLexer.java.

9.157.4.9 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_maxS [static, package]

Initial value:

```
"\1\ufaff\4\uffff\1\165\1\154\1\156\1\123\7\uffff\1\157\1\142\1\141"+
"\1\164\3\uffff\1\166\1\164\1\154\1\163\1\145\1\141\1\145\1\151\1"+
"\163\1\162\1\164\2\143\1\ufaff\1\146\1\145\1\164\1\ufaff\1\uffff"+
"\1\141\1\ufaff\1\145\1\uffff\1\143\1\uffff\1\144\1\145\2\ufaff\2"+
"\uffff"
```

Definition at line 1009 of file SpecFileLexer.java.

9.157.4.10 final char [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_min = DFA.unpackEncodedStringToUnsignedChars(DFA6_minS) [static, package]

Definition at line 1101 of file SpecFileLexer.java.

9.157.4.11 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_minS [static, package]

Initial value:

```
"\1\11\4\uffff\1\162\1\154\1\156\1\106\7\uffff\1\151\1\142\1\141"+
"\1\164\3\uffff\1\166\1\164\1\154\1\163\1\145\1\141\1\145\1\151\1"+
"\163\1\162\1\164\2\143\1\44\1\146\1\145\1\164\1\44\1\uffff\1\141"+
"\1\44\1\145\1\uffff\1\143\1\uffff\1\144\1\145\2\44\2\uffff"
```

Definition at line 1004 of file SpecFileLexer.java.

9.157.4.12 final short [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_special = DFA.unpackEncodedString(DFA6_specialS) [static, package]

Definition at line 1104 of file SpecFileLexer.java.

9.157.4.13 final String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_specialS [static, package]

Initial value:

\66\uffff}>"

Definition at line 1019 of file SpecFileLexer.java.

9.157.4.14 final short [][] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_transition [static, package]

Definition at line 1105 of file SpecFileLexer.java.

9.157.4.15 final String [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6_-transitionS [static, package]

Definition at line 1021 of file SpecFileLexer.java.

9.157.4.16 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.EOF = -1 [static]

Definition at line 25 of file SpecFileLexer.java.

9.157.4.17 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.EscapeSequence = 13 [static]

Definition at line 41 of file SpecFileLexer.java.

9.157.4.18 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.FUNCFIELD = 6 [static]

Definition at line 39 of file SpecFileLexer.java.

9.157.4.19 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.HexDigit = 16 [static]

Definition at line 26 of file SpecFileLexer.java.

9.157.4.20 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.Identifier = 9 [static]

Definition at line 27 of file SpecFileLexer.java.

9.157.4.21 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.INVARIANT = 7 [static]

Definition at line 24 of file SpecFileLexer.java.

9.157.4.22 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.JavaIDDigit = 12 [static]

Definition at line 38 of file SpecFileLexer.java.

9.157.4.23 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.Letter = 11 [static]

Definition at line 40 of file SpecFileLexer.java.

9.157.4.24 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.OctalEscape = 15 [static]

Definition at line 42 of file SpecFileLexer.java.

9.157.4.25 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.PARAMS = 8
[static]

Definition at line 43 of file SpecFileLexer.java.

9.157.4.26 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.SPECFIELD = 5
[static]

Definition at line 36 of file SpecFileLexer.java.

9.157.4.27 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.SPECFILE = 4
[static]

Definition at line 19 of file SpecFileLexer.java.

9.157.4.28 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.StringLiteral = 10
[static]

Definition at line 28 of file SpecFileLexer.java.

9.157.4.29 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__18 = 18
[static]

Definition at line 35 of file SpecFileLexer.java.

9.157.4.30 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__19 = 19
[static]

Definition at line 30 of file SpecFileLexer.java.

9.157.4.31 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__20 = 20
[static]

Definition at line 23 of file SpecFileLexer.java.

9.157.4.32 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__21 = 21
[static]

Definition at line 22 of file SpecFileLexer.java.

9.157.4.33 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__22 = 22
[static]

Definition at line 21 of file SpecFileLexer.java.

**9.157.4.34 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T_23 = 23
[static]**

Definition at line 20 of file SpecFileLexer.java.

**9.157.4.35 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T_24 = 24
[static]**

Definition at line 18 of file SpecFileLexer.java.

**9.157.4.36 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T_25 = 25
[static]**

Definition at line 17 of file SpecFileLexer.java.

**9.157.4.37 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T_26 = 26
[static]**

Definition at line 16 of file SpecFileLexer.java.

**9.157.4.38 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T_27 = 27
[static]**

Definition at line 15 of file SpecFileLexer.java.

**9.157.4.39 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T_28 = 28
[static]**

Definition at line 14 of file SpecFileLexer.java.

**9.157.4.40 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T_29 = 29
[static]**

Definition at line 13 of file SpecFileLexer.java.

**9.157.4.41 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T_30 = 30
[static]**

Definition at line 29 of file SpecFileLexer.java.

**9.157.4.42 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T_31 = 31
[static]**

Definition at line 31 of file SpecFileLexer.java.

**9.157.4.43 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__32 = 32
[static]**

Definition at line 32 of file SpecFileLexer.java.

**9.157.4.44 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.T__33 = 33
[static]**

Definition at line 33 of file SpecFileLexer.java.

**9.157.4.45 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.UnicodeEscape = 14
[static]**

Definition at line 37 of file SpecFileLexer.java.

9.157.4.46 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.WS = 17 [static]

Definition at line 34 of file SpecFileLexer.java.

The documentation for this class was generated from the following file:

- spec/edu/mit/csail/sdg/squander/specfile/parser/[SpecFileLexer.java](#)

9.158 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6 Class Reference

Public Member Functions

- [DFA6](#) (`BaseRecognizer recognizer`)
- String [getDescription \(\)](#)

9.158.1 Detailed Description

Definition at line 1115 of file `SpecFileLexer.java`.

9.158.2 Constructor & Destructor Documentation

9.158.2.1 edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6 (`BaseRecognizer recognizer`)

Definition at line 1117 of file `SpecFileLexer.java`.

9.158.3 Member Function Documentation

9.158.3.1 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6.getDescription ()

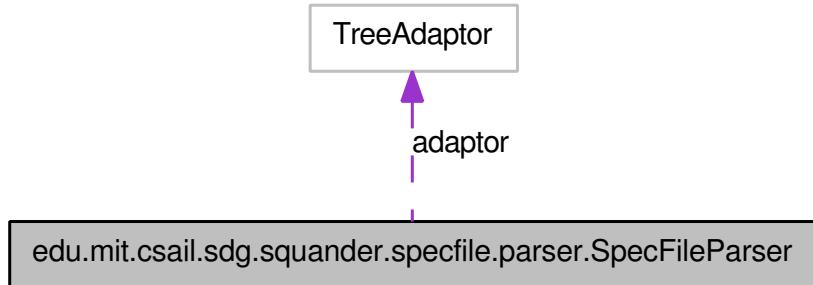
Definition at line 1128 of file `SpecFileLexer.java`.

The documentation for this class was generated from the following file:

- spec/edu/mit/csail/sdg/squander/specfile/parser/[SpecFileLexer.java](#)

9.159 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser:



Classes

- class **cls_return**
- class **funcfield_return**
- class **invariant_return**
- class **mod_return**
- class **Node**
- class **NodeAdaptor**
- class **params_return**
- class **specfield_return**
- class **specfile_return**
- class **strings_return**
- class **type_return**

Public Member Functions

- [SpecFileParser](#) (TokenStream input)
- [SpecFileParser](#) (TokenStream input, RecognizerSharedState state)
- void [setTreeAdaptor](#) (TreeAdaptor adaptor)
- TreeAdaptor [getTreeAdaptor](#) ()
- String[] [getTokenNames](#) ()
- String [getGrammarFileName](#) ()
- void [displayRecognitionError](#) (String[] tokenNames, RecognitionException e)
- final SpecFileParser.specfile_return [specfile](#) () throws RecognitionException
- final SpecFileParser.type_return [type](#) () throws RecognitionException
- final SpecFileParser.mod_return [mod](#) () throws RecognitionException
- final SpecFileParser.cls_return [cls](#) () throws RecognitionException
- final SpecFileParser.specfield_return [specfield](#) () throws RecognitionException
- final SpecFileParser.funcfield_return [funcfield](#) () throws RecognitionException
- final SpecFileParser.invariant_return [invariant](#) () throws RecognitionException
- final SpecFileParser.params_return [params](#) () throws RecognitionException
- final SpecFileParser.strings_return [strings](#) () throws RecognitionException

Static Public Attributes

- static final String[] `tokenNames`
- static final int `T_29` = 29
- static final int `T_28` = 28
- static final int `T_27` = 27
- static final int `T_26` = 26
- static final int `T_25` = 25
- static final int `T_24` = 24
- static final int `SPECFILE` = 4
- static final int `T_23` = 23
- static final int `T_22` = 22
- static final int `T_21` = 21
- static final int `T_20` = 20
- static final int `INVARIANT` = 7
- static final int `EOF` = -1
- static final int `HexDigit` = 16
- static final int `Identifier` = 9
- static final int `StringLiteral` = 10
- static final int `T_19` = 19
- static final int `T_30` = 30
- static final int `T_31` = 31
- static final int `T_32` = 32
- static final int `WS` = 17
- static final int `T_33` = 33
- static final int `T_18` = 18
- static final int `SPECFIELD` = 5
- static final int `UnicodeEscape` = 14
- static final int `JavaIDDigit` = 12
- static final int `OctalEscape` = 15
- static final int `EscapeSequence` = 13
- static final int `Letter` = 11
- static final int `FUNCFIELD` = 6
- static final int `PARAMS` = 8
- static final BitSet `FOLLOW_type_in_specfile105` = new BitSet(new long[]{0x0000000000000000200L})
- static final BitSet `FOLLOW_Identifier_in_specfile107` = new BitSet(new long[]{0x000000000000140000L})
- static final BitSet `FOLLOW_18_in_specfile110` = new BitSet(new long[]{0x0000000000000000200L})
- static final BitSet `FOLLOW_params_in_specfile112` = new BitSet(new long[]{0x00000000000080000L})
- static final BitSet `FOLLOW_19_in_specfile114` = new BitSet(new long[]{0x00000000000100000L})
- static final BitSet `FOLLOW_20_in_specfile118` = new BitSet(new long[]{0x0000000188200000L})
- static final BitSet `FOLLOW_specfield_in_specfile120` = new BitSet(new long[]{0x0000000188200000L})
- static final BitSet `FOLLOW_funcfield_in_specfile123` = new BitSet(new long[]{0x0000000180200000L})
- static final BitSet `FOLLOW_invariant_in_specfile126` = new BitSet(new long[]{0x0000000100200000L})
- static final BitSet `FOLLOW_21_in_specfile129` = new BitSet(new long[]{0x00000000000000002L})
- static final BitSet `FOLLOW_mod_in_type162` = new BitSet(new long[]{0x0000000000600000L})

- static final BitSet FOLLOW_cls_in_type165 = new BitSet(new long[]{0x00000000000000002L})
- static final BitSet FOLLOW_set_in_mod0 = new BitSet(new long[]{0x00000000000000002L})
- static final BitSet FOLLOW_set_in_cls0 = new BitSet(new long[]{0x00000000000000002L})
- static final BitSet FOLLOW_27_in_specfield202 = new BitSet(new long[]{0x0000000010000000L})
- static final BitSet FOLLOW_28_in_specfield204 = new BitSet(new long[]{0x0000000000000400L})
- static final BitSet FOLLOW_StringLiteral_in_specfield206 = new BitSet(new long[]{0x0000000020000000L})
- static final BitSet FOLLOW_29_in_specfield208 = new BitSet(new long[]{0x0000000040000002L})
- static final BitSet FOLLOW_30_in_specfield210 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_27_in_specfield230 = new BitSet(new long[]{0x0000000010000000L})
- static final BitSet FOLLOW_28_in_specfield232 = new BitSet(new long[]{0x0000000000100000L})
- static final BitSet FOLLOW_20_in_specfield234 = new BitSet(new long[]{0x0000000000000400L})
- static final BitSet FOLLOW_strings_in_specfield236 = new BitSet(new long[]{0x0000000002000000L})
- static final BitSet FOLLOW_21_in_specfield238 = new BitSet(new long[]{0x0000000002000000L})
- static final BitSet FOLLOW_29_in_specfield240 = new BitSet(new long[]{0x0000000040000002L})
- static final BitSet FOLLOW_30_in_specfield242 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_31_in_funcfield264 = new BitSet(new long[]{0x0000000010000000L})
- static final BitSet FOLLOW_28_in_funcfield266 = new BitSet(new long[]{0x0000000000000400L})
- static final BitSet FOLLOW_StringLiteral_in_funcfield268 = new BitSet(new long[]{0x0000000002000000L})
- static final BitSet FOLLOW_29_in_funcfield270 = new BitSet(new long[]{0x0000000040000002L})
- static final BitSet FOLLOW_30_in_funcfield272 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_31_in_funcfield292 = new BitSet(new long[]{0x0000000010000000L})
- static final BitSet FOLLOW_28_in_funcfield294 = new BitSet(new long[]{0x0000000000100000L})
- static final BitSet FOLLOW_20_in_funcfield296 = new BitSet(new long[]{0x0000000000000400L})
- static final BitSet FOLLOW_strings_in_funcfield298 = new BitSet(new long[]{0x0000000000200000L})
- static final BitSet FOLLOW_21_in_funcfield300 = new BitSet(new long[]{0x0000000020000000L})
- static final BitSet FOLLOW_29_in_funcfield302 = new BitSet(new long[]{0x0000000040000002L})
- static final BitSet FOLLOW_30_in_funcfield304 = new BitSet(new long[]{0x0000000000000002L})

- static final BitSet FOLLOW_32_in_invariant326 = new BitSet(new long[]{0x000000001000000L})
- static final BitSet FOLLOW_28_in_invariant328 = new BitSet(new long[]{0x0000000000000400L})
- static final BitSet FOLLOW_StringLiteral_in_invariant330 = new BitSet(new long[]{0x000000002000000L})
- static final BitSet FOLLOW_29_in_invariant332 = new BitSet(new long[]{0x0000000040000002L})
- static final BitSet FOLLOW_30_in_invariant334 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_32_in_invariant354 = new BitSet(new long[]{0x000000001000000L})
- static final BitSet FOLLOW_28_in_invariant356 = new BitSet(new long[]{0x000000000010000L})
- static final BitSet FOLLOW_20_in_invariant358 = new BitSet(new long[]{0x0000000000000400L})
- static final BitSet FOLLOW_strings_in_invariant360 = new BitSet(new long[]{0x000000000200000L})
- static final BitSet FOLLOW_21_in_invariant362 = new BitSet(new long[]{0x0000000020000000L})
- static final BitSet FOLLOW_29_in_invariant364 = new BitSet(new long[]{0x0000000040000002L})
- static final BitSet FOLLOW_30_in_invariant366 = new BitSet(new long[]{0x0000000000000002L})
- static final BitSet FOLLOW_Identifier_in_params388 = new BitSet(new long[]{0x0000000200000002L})
- static final BitSet FOLLOW_33_in_params391 = new BitSet(new long[]{0x0000000000000000200L})
- static final BitSet FOLLOW_Identifier_in_params393 = new BitSet(new long[]{0x0000000200000002L})
- static final BitSet FOLLOW_StringLiteral_in_strings430 = new BitSet(new long[]{0x0000000200000002L})
- static final BitSet FOLLOW_33_in_strings433 = new BitSet(new long[]{0x0000000000000000400L})
- static final BitSet FOLLOW_StringLiteral_in_strings435 = new BitSet(new long[]{0x0000000200000002L})

Protected Attributes

- TreeAdaptor adaptor = new CommonTreeAdaptor()

9.159.1 Detailed Description

Definition at line 16 of file SpecFileParser.java.

9.159.2 Constructor & Destructor Documentation

9.159.2.1 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.SpecFileParser (*TokenStream input*)

Definition at line 56 of file SpecFileParser.java.

**9.159.2.2 `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.SpecFileParser (TokenStream
input, RecognizerSharedState state)`**

Definition at line 59 of file SpecFileParser.java.

9.159.3 Member Function Documentation

**9.159.3.1 `final SpecFileParser.cls_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.cls () throws
RecognitionException`**

Definition at line 515 of file SpecFileParser.java.

**9.159.3.2 `void edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.displayRecognitionError
(String[] tokenNames, RecognitionException e)`**

Definition at line 104 of file SpecFileParser.java.

**9.159.3.3 `final SpecFileParser.funcfield_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.funcfield ()
throws RecognitionException`**

Definition at line 827 of file SpecFileParser.java.

**9.159.3.4 `String edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.getGrammarFileName
()`**

Definition at line 76 of file SpecFileParser.java.

9.159.3.5 `String [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.getTokenNames ()`

Definition at line 75 of file SpecFileParser.java.

**9.159.3.6 `TreeAdaptor edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.getTreeAdaptor
()`**

Definition at line 71 of file SpecFileParser.java.

**9.159.3.7 `final SpecFileParser.invariant_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.invariant ()
throws RecognitionException`**

Definition at line 1079 of file SpecFileParser.java.

**9.159.3.8 final SpecFileParser.mod_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.mod () throws
RecognitionException**

Definition at line 455 of file SpecFileParser.java.

**9.159.3.9 final SpecFileParser.params_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.params ()
throws RecognitionException**

Definition at line 1331 of file SpecFileParser.java.

**9.159.3.10 void edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.setTreeAdaptor
(TreeAdaptor *adaptor*)**

Definition at line 68 of file SpecFileParser.java.

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.parse().

**9.159.3.11 final SpecFileParser.specfield_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.specfield ()
throws RecognitionException**

Definition at line 575 of file SpecFileParser.java.

**9.159.3.12 final SpecFileParser.specfile_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.specfile ()
throws RecognitionException**

Definition at line 116 of file SpecFileParser.java.

Referenced by edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.parse().

**9.159.3.13 final SpecFileParser.strings_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.strings ()
throws RecognitionException**

Definition at line 1449 of file SpecFileParser.java.

**9.159.3.14 final SpecFileParser.type_return
edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.type ()
throws RecognitionException**

Definition at line 376 of file SpecFileParser.java.

9.159.4 Member Data Documentation

9.159.4.1 TreeAdaptor `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.adaptor = new CommonTreeAdaptor()` **[protected]**

Definition at line 66 of file SpecFileParser.java.

9.159.4.2 final int `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.EOF = -1` **[static]**

Definition at line 32 of file SpecFileParser.java.

9.159.4.3 final int `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.EscapeSequence = 13` **[static]**

Definition at line 47 of file SpecFileParser.java.

9.159.4.4 final BitSet `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-18_in_specfile110 = new BitSet(new long[] {0x000000000000000200L})` **[static]**

Definition at line 1559 of file SpecFileParser.java.

9.159.4.5 final BitSet `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-19_in_specfile114 = new BitSet(new long[] {0x0000000000010000L})` **[static]**

Definition at line 1561 of file SpecFileParser.java.

9.159.4.6 final BitSet `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-20_in_funcfield296 = new BitSet(new long[] {0x000000000000000400L})` **[static]**

Definition at line 1590 of file SpecFileParser.java.

9.159.4.7 final BitSet `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-20_in_invariant358 = new BitSet(new long[] {0x000000000000000400L})` **[static]**

Definition at line 1602 of file SpecFileParser.java.

9.159.4.8 final BitSet `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-20_in_specfield234 = new BitSet(new long[] {0x000000000000000400L})` **[static]**

Definition at line 1578 of file SpecFileParser.java.

**9.159.4.9 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
20_in_specfile118 = new BitSet(new long[]{0x0000000018820000L})
[static]**

Definition at line 1562 of file SpecFileParser.java.

**9.159.4.10 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
21_in_funcfield300 = new BitSet(new long[]{0x0000000020000000L})
[static]**

Definition at line 1592 of file SpecFileParser.java.

**9.159.4.11 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
21_in_invariant362 = new BitSet(new long[]{0x0000000020000000L})
[static]**

Definition at line 1604 of file SpecFileParser.java.

**9.159.4.12 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
21_in_specfield238 = new BitSet(new long[]{0x0000000020000000L})
[static]**

Definition at line 1580 of file SpecFileParser.java.

**9.159.4.13 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
21_in_specfile129 = new BitSet(new long[]{0x0000000000000002L})
[static]**

Definition at line 1566 of file SpecFileParser.java.

**9.159.4.14 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
27_in_specfield202 = new BitSet(new long[]{0x0000000010000000L})
[static]**

Definition at line 1571 of file SpecFileParser.java.

**9.159.4.15 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
27_in_specfield230 = new BitSet(new long[]{0x0000000010000000L})
[static]**

Definition at line 1576 of file SpecFileParser.java.

**9.159.4.16 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
28_in_funcfield266 = new BitSet(new long[]{0x000000000000400L})
[static]**

Definition at line 1584 of file SpecFileParser.java.

9.159.4.17 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
28_in_funcfield294 = new BitSet(new long[]{0x00000000000100000L})
[static]

Definition at line 1589 of file SpecFileParser.java.

9.159.4.18 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
28_in_invariant328 = new BitSet(new long[]{0x000000000000000400L})
[static]

Definition at line 1596 of file SpecFileParser.java.

9.159.4.19 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
28_in_invariant356 = new BitSet(new long[]{0x00000000000100000L})
[static]

Definition at line 1601 of file SpecFileParser.java.

9.159.4.20 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
28_in_specfield204 = new BitSet(new long[]{0x000000000000000400L})
[static]

Definition at line 1572 of file SpecFileParser.java.

9.159.4.21 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
28_in_specfield232 = new BitSet(new long[]{0x00000000000100000L})
[static]

Definition at line 1577 of file SpecFileParser.java.

9.159.4.22 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
29_in_funcfield270 = new BitSet(new long[]{0x0000000040000002L})
[static]

Definition at line 1586 of file SpecFileParser.java.

9.159.4.23 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
29_in_funcfield302 = new BitSet(new long[]{0x0000000040000002L})
[static]

Definition at line 1593 of file SpecFileParser.java.

9.159.4.24 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
29_in_invariant332 = new BitSet(new long[]{0x0000000040000002L})
[static]

Definition at line 1598 of file SpecFileParser.java.

```
9.159.4.25 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
29_inInvariant364 = new BitSet(new long[] {0x0000000040000002L})
[static]
```

Definition at line 1605 of file SpecFileParser.java.

```
9.159.4.26 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
29_inSpecfield208 = new BitSet(new long[] {0x0000000040000002L})
[static]
```

Definition at line 1574 of file SpecFileParser.java.

```
9.159.4.27 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
29_inSpecfield240 = new BitSet(new long[] {0x0000000040000002L})
[static]
```

Definition at line 1581 of file SpecFileParser.java.

```
9.159.4.28 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
30_inFuncfield272 = new BitSet(new long[] {0x00000000000000000002L})
[static]
```

Definition at line 1587 of file SpecFileParser.java.

```
9.159.4.29 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
30_inFuncfield304 = new BitSet(new long[] {0x00000000000000000002L})
[static]
```

Definition at line 1594 of file SpecFileParser.java.

```
9.159.4.30 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
30_inInvariant334 = new BitSet(new long[] {0x00000000000000000002L})
[static]
```

Definition at line 1599 of file SpecFileParser.java.

```
9.159.4.31 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
30_inInvariant366 = new BitSet(new long[] {0x00000000000000000002L})
[static]
```

Definition at line 1606 of file SpecFileParser.java.

```
9.159.4.32 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
30_inSpecfield210 = new BitSet(new long[] {0x00000000000000000002L})
[static]
```

Definition at line 1575 of file SpecFileParser.java.

9.159.4.33 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
30_in_specfield242 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 1582 of file SpecFileParser.java.

9.159.4.34 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
31_in_funcfield264 = new BitSet(new long[]{0x000000001000000L})
[static]

Definition at line 1583 of file SpecFileParser.java.

9.159.4.35 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
31_in_funcfield292 = new BitSet(new long[]{0x000000001000000L})
[static]

Definition at line 1588 of file SpecFileParser.java.

9.159.4.36 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
32_in_invariant326 = new BitSet(new long[]{0x000000001000000L})
[static]

Definition at line 1595 of file SpecFileParser.java.

9.159.4.37 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
32_in_invariant354 = new BitSet(new long[]{0x000000001000000L})
[static]

Definition at line 1600 of file SpecFileParser.java.

9.159.4.38 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
33_in_params391 = new BitSet(new long[]{0x00000000000000200L})
[static]

Definition at line 1608 of file SpecFileParser.java.

9.159.4.39 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
33_in_strings433 = new BitSet(new long[]{0x00000000000000400L})
[static]

Definition at line 1611 of file SpecFileParser.java.

9.159.4.40 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
cls_in_type165 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 1568 of file SpecFileParser.java.

9.159.4.41 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_funcfield_in_specfile123 = new BitSet(new long[]{0x0000000180200000L})
[static]

Definition at line 1564 of file SpecFileParser.java.

9.159.4.42 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_Identifier_in_params388 = new BitSet(new long[]{0x0000000200000002L})
[static]

Definition at line 1607 of file SpecFileParser.java.

9.159.4.43 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_Identifier_in_params393 = new BitSet(new long[]{0x0000000200000002L})
[static]

Definition at line 1609 of file SpecFileParser.java.

9.159.4.44 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_Identifier_in_specfile107 = new BitSet(new long[]{0x0000000000140000L})
[static]

Definition at line 1558 of file SpecFileParser.java.

9.159.4.45 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_invariant_in_specfile126 = new BitSet(new long[]{0x0000000100200000L})
[static]

Definition at line 1565 of file SpecFileParser.java.

9.159.4.46 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_mod_in_type162 = new BitSet(new long[]{0x0000000006000000L})
[static]

Definition at line 1567 of file SpecFileParser.java.

9.159.4.47 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_params_in_specfile112 = new BitSet(new long[]{0x00000000000080000L})
[static]

Definition at line 1560 of file SpecFileParser.java.

9.159.4.48 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_set_in_cls0 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 1570 of file SpecFileParser.java.

9.159.4.49 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
set_in_mod0 = new BitSet(new long[]{0x0000000000000002L})
[static]

Definition at line 1569 of file SpecFileParser.java.

9.159.4.50 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
specfield_in_specfile120 = new BitSet(new long[]{0x0000000188200000L})
[static]

Definition at line 1563 of file SpecFileParser.java.

9.159.4.51 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
StringLiteral_in_funcfield268 = new BitSet(new long[]{0x000000020000000L})
[static]

Definition at line 1585 of file SpecFileParser.java.

9.159.4.52 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
StringLiteral_in_invariant330 = new BitSet(new long[]{0x0000000020000000L})
[static]

Definition at line 1597 of file SpecFileParser.java.

9.159.4.53 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
StringLiteral_in_specfield206 = new BitSet(new long[]{0x0000000020000000L})
[static]

Definition at line 1573 of file SpecFileParser.java.

9.159.4.54 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
StringLiteral_in_strings430 = new BitSet(new long[]{0x0000000020000002L})
[static]

Definition at line 1610 of file SpecFileParser.java.

9.159.4.55 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
StringLiteral_in_strings435 = new BitSet(new long[]{0x0000000020000002L})
[static]

Definition at line 1612 of file SpecFileParser.java.

9.159.4.56 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-
strings_in_funcfield298 = new BitSet(new long[]{0x0000000000200000L})
[static]

Definition at line 1591 of file SpecFileParser.java.

**9.159.4.57 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-strings_in_invariant360 = new BitSet(new long[]{0x0000000000200000L})
[static]**

Definition at line 1603 of file SpecFileParser.java.

**9.159.4.58 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-strings_in_specfield236 = new BitSet(new long[]{0x0000000000200000L})
[static]**

Definition at line 1579 of file SpecFileParser.java.

**9.159.4.59 final BitSet edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FOLLOW_-type_in_specfile105 = new BitSet(new long[]{0x00000000000000200L})
[static]**

Definition at line 1557 of file SpecFileParser.java.

**9.159.4.60 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.FUNCFIELD = 6
[static]**

Definition at line 49 of file SpecFileParser.java.

**9.159.4.61 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.HexDigit = 16
[static]**

Definition at line 33 of file SpecFileParser.java.

**9.159.4.62 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.Identifier = 9
[static]**

Definition at line 34 of file SpecFileParser.java.

**9.159.4.63 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.INVARIANT = 7
[static]**

Definition at line 31 of file SpecFileParser.java.

**9.159.4.64 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.JavaIDDigit = 12
[static]**

Definition at line 45 of file SpecFileParser.java.

**9.159.4.65 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.Letter = 11
[static]**

Definition at line 48 of file SpecFileParser.java.

9.159.4.66 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.OctalEscape = 15
[static]

Definition at line 46 of file SpecFileParser.java.

9.159.4.67 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.PARAMS = 8
[static]

Definition at line 50 of file SpecFileParser.java.

9.159.4.68 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.SPECFIELD = 5
[static]

Definition at line 43 of file SpecFileParser.java.

9.159.4.69 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.SPECFILE = 4
[static]

Definition at line 26 of file SpecFileParser.java.

9.159.4.70 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.StringLiteral = 10
[static]

Definition at line 35 of file SpecFileParser.java.

9.159.4.71 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__18 = 18
[static]

Definition at line 42 of file SpecFileParser.java.

9.159.4.72 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__19 = 19
[static]

Definition at line 36 of file SpecFileParser.java.

9.159.4.73 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__20 = 20
[static]

Definition at line 30 of file SpecFileParser.java.

9.159.4.74 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__21 = 21
[static]

Definition at line 29 of file SpecFileParser.java.

9.159.4.75 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__22 = 22
[**static**]

Definition at line 28 of file SpecFileParser.java.

9.159.4.76 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__23 = 23
[**static**]

Definition at line 27 of file SpecFileParser.java.

9.159.4.77 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__24 = 24
[**static**]

Definition at line 25 of file SpecFileParser.java.

9.159.4.78 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__25 = 25
[**static**]

Definition at line 24 of file SpecFileParser.java.

9.159.4.79 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__26 = 26
[**static**]

Definition at line 23 of file SpecFileParser.java.

9.159.4.80 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__27 = 27
[**static**]

Definition at line 22 of file SpecFileParser.java.

9.159.4.81 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__28 = 28
[**static**]

Definition at line 21 of file SpecFileParser.java.

9.159.4.82 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__29 = 29
[**static**]

Definition at line 20 of file SpecFileParser.java.

9.159.4.83 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__30 = 30
[**static**]

Definition at line 37 of file SpecFileParser.java.

9.159.4.84 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__31 = 31 [static]

Definition at line 38 of file SpecFileParser.java.

9.159.4.85 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__32 = 32 [static]

Definition at line 39 of file SpecFileParser.java.

9.159.4.86 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.T__33 = 33 [static]

Definition at line 41 of file SpecFileParser.java.

9.159.4.87 final String [] edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.tokenNames [static]

Initial value:

```
new String[] {
    "<invalid>", "<EOR>", "<DOWN>", "<UP>", "SPECFILE", "SPECFIELD", "FUNCFILE",
    "INARIANT", "PARAMS", "Identifier", "StringLiteral", "Letter", "JavaIDDigit",
    "EscapeSequence", "UnicodeEscape", "OctalEscape", "HexDigit", "WS", "'<'", "'>'",
    "'{'", "'}'", "'private'", "'public'", "'protected'", "'class'", "'interface'",
    "'@SpecField'", "'('", "')'", "';', "'@FuncField'", "'@Invariant'", "'','"
}
```

Definition at line 17 of file SpecFileParser.java.

9.159.4.88 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.UnicodeEscape = 14 [static]

Definition at line 44 of file SpecFileParser.java.

9.159.4.89 final int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.WS = 17 [static]

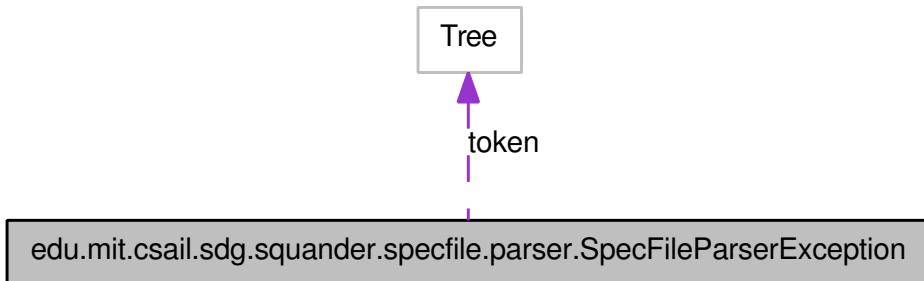
Definition at line 40 of file SpecFileParser.java.

The documentation for this class was generated from the following file:

- spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParser.java

9.160 edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException:



Public Member Functions

- [SpecFileParserException](#) (String msg)
- [SpecFileParserException](#) (String msg, Throwable cause)
- [SpecFileParserException](#) (String msg, Tree `token`)
- [SpecFileParserException](#) (String msg, String `source`)
- [SpecFileParserException](#) (RecognitionException cause)
- [SpecFileParserException](#) (Throwable cause)
- [SpecFileParserException](#) (Throwable cause, Tree `token`)
- void [setToken](#) (Tree `token`)
- void [setSource](#) (String `source`)
- String [source](#) ()
- int [column](#) ()
- int [line](#) ()
- String [token](#) ()

Private Member Functions

- StringBuilder [layout](#) (Tree t, StringBuilder sb, String buf)

Private Attributes

- int `line` = -1
- int `column` = -1
- Tree `token`
- String `source`

9.160.1 Detailed Description

Parsing exception.

Author:

kuat

Definition at line 12 of file SpecFileParserException.java.

9.160.2 Constructor & Destructor Documentation

9.160.2.1 `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (String msg)`

Definition at line 22 of file SpecFileParserException.java.

9.160.2.2 `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (String msg, Throwable cause)`

Definition at line 26 of file SpecFileParserException.java.

9.160.2.3 `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (String msg, Tree token)`

Definition at line 30 of file SpecFileParserException.java.

9.160.2.4 `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (String msg, String source)`

Definition at line 35 of file SpecFileParserException.java.

9.160.2.5 `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (RecognitionException cause)`

Definition at line 40 of file SpecFileParserException.java.

9.160.2.6 `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (Throwable cause)`

Definition at line 47 of file SpecFileParserException.java.

9.160.2.7 `edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.SpecFileParserException (Throwable cause, Tree token)`

Definition at line 51 of file SpecFileParserException.java.

9.160.3 Member Function Documentation

9.160.3.1 `int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.column ()`

Definition at line 72 of file SpecFileParserException.java.

**9.160.3.2 StringBuilder edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.layout
(Tree *t*, StringBuilder *sb*, String *buf*) [private]**

Token tree output

Definition at line 89 of file SpecFileParserException.java.

9.160.3.3 int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.line ()

Definition at line 76 of file SpecFileParserException.java.

**9.160.3.4 void edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.setSource
(String *source*)**

Definition at line 64 of file SpecFileParserException.java.

**9.160.3.5 void edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.setToken (Tree
token)**

Definition at line 56 of file SpecFileParserException.java.

Referenced by edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visit().

9.160.3.6 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.source ()

Definition at line 68 of file SpecFileParserException.java.

9.160.3.7 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.token ()

Report the deepest subtree in the tree as text

Definition at line 81 of file SpecFileParserException.java.

9.160.4 Member Data Documentation**9.160.4.1 int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.column = -1
[private]**

Definition at line 14 of file SpecFileParserException.java.

**9.160.4.2 int edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.line = -1
[private]**

line and column of the error, -1 if not specified

Definition at line 14 of file SpecFileParserException.java.

**9.160.4.3 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.source
[private]**

source string, may not correspond to the token

Definition at line 20 of file SpecFileParserException.java.

**9.160.4.4 Tree edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.token
[private]**

token at which the error occurred

Definition at line 17 of file SpecFileParserException.java.

Referenced by edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visit().

The documentation for this class was generated from the following file:

- spec/edu/mit/csail/sdg/squander/specfile/parser/[SpecFileParserException.java](#)

9.161 edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N > Class Reference

Public Member Functions

- final N [visit](#) (Tree tree)

Protected Member Functions

- Node [cast](#) (Tree tree)
- Node [child](#) (Node parent)
- String [trimQuotes](#) (String s)
- String [asText](#) (Tree node)
- abstract N [visitSpecFile](#) (String modifiers, String name, List< String > paramTypes, List< N > children)
- abstract N [visitSpecField](#) (Node source)
- abstract N [visitFuncField](#) (Node n)
- abstract N [visitInvariant](#) (Node source)
- List< String > [visitParams](#) (Node paramsNode)

9.161.1 Detailed Description

Definition at line 18 of file SpecFileVisitor.java.

9.161.2 Member Function Documentation

9.161.2.1 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.asText (Tree node) [protected]

Returns the text content of a token node

Definition at line 37 of file SpecFileVisitor.java.

9.161.2.2 Node edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.cast (Tree tree) [protected]

Casts a Tree to a Node

Definition at line 21 of file SpecFileVisitor.java.

9.161.2.3 Node edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.child (Node parent) [protected]

Gets a single child

Definition at line 28 of file SpecFileVisitor.java.

**9.161.2.4 String edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.trimQuotes
(String s) [protected]**

Definition at line 32 of file SpecFileVisitor.java.

9.161.2.5 final N edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visit (Tree tree)

Definition at line 45 of file SpecFileVisitor.java.

References edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.setToken(), and edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException.token.

9.161.2.6 abstract N edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visitFuncField (Node n) [protected, pure virtual]

**9.161.2.7 abstract N edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visitInvariant
(Node source) [protected, pure virtual]**

9.161.2.8 List<String> edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visitParams (Node paramsNode) [protected]

Definition at line 94 of file SpecFileVisitor.java.

9.161.2.9 abstract N edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visitSpecField (Node source) [protected, pure virtual]

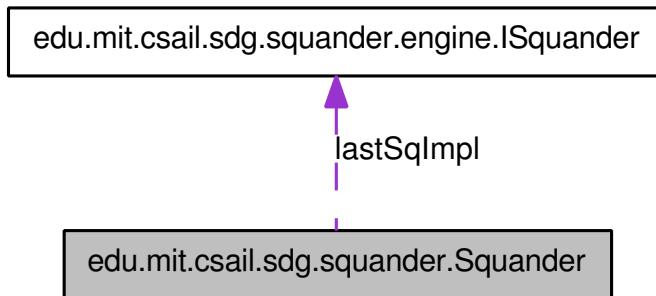
9.161.2.10 abstract N edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >.visitSpecFile (String modifiers, String name, List< String > paramTypes, List< N > children) [protected, pure virtual]

The documentation for this class was generated from the following file:

- spec/edu/mit/csail/sdg/squander/specfile/parser/[SpecFileVisitor.java](#)

9.162 edu.mit.csail.sdg.squander.Squander Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.Squander:



Static Public Member Functions

- static< R > R [exe](#) (Object caller, Object...methodArgs)
- static< R > R [exe](#) (Object caller, Class<?>[] methodParamTypes, Object[] methodArgs)
- static< R > R [exe](#) (Object caller, String clsName, String methodName)
- static< R > R [exe](#) (Object caller, String clsName, String methodName, Class<?>[] methodParamTypes, Object[] methodArgs)
- static [ISquanderResult getLastResult](#) ()

Private Member Functions

- [Squander](#) ()

Static Private Member Functions

- static String [getCallerMethod](#) (Throwable t)
- static String [getCallerClassName](#) (Throwable t)
- static StackTraceElement [getRightStackTraceElem](#) (Throwable t)

Static Private Attributes

- static [ISquander lastSqlImpl](#)

9.162.1 Detailed Description

Provides a public API to [Squander](#).

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 25 of file Squander.java.

9.162.2 Constructor & Destructor Documentation

9.162.2.1 edu.mit.csail.sdg.squander.Squander() [private]

Definition at line 27 of file Squander.java.

9.162.3 Member Function Documentation

9.162.3.1 static <R> R edu.mit.csail.sdg.squander.Squander.exe (Object caller, String *clsName*, String *methodName*, Class<?>[] *methodParamTypes*, Object[] *methodArgs*) [static]

The most general form

Parameters:

<*R*> - the return type
caller - the caller instance (`null` if static method)
clsName - declaring class full name
methodName - method name
methodParamTypes - method parameter types
methodArgs - invocation arguments

Returns:

- the return value of the invocation

Definition at line 112 of file Squander.java.

References [edu.mit.csail.sdg.squander.parser.JFSLParserException.column](#), [edu.mit.csail.sdg.squander.Squander.lastSqImpl](#), [edu.mit.csail.sdg.squander.engine.ISquander.magic\(\)](#), and [edu.mit.csail.sdg.squander.parser.JFSLParserException.source\(\)](#).

9.162.3.2 static <R> R edu.mit.csail.sdg.squander.Squander.exe (Object caller, String *clsName*, String *methodName*) [static]

Executes the given method's specification. *Assumes that the method doesn't have any parameters.*

Parameters:

<*R*> - the return type
caller - the caller instance (`null` if static method)
clsName - declaring class full name
methodName - method name

Returns:

- the return value of the invocation

Definition at line 96 of file Squander.java.

References [edu.mit.csail.sdg.squander.Squander.exe\(\)](#).

9.162.3.3 static <R> R edu.mit.csail.sdg.squander.Squander.exe (Object caller, Class<?>[] methodParamTypes, Object[] methodArgs) [static]

Executes the caller method's specification.

Use this method only to invoke Squander from within the method which you want to squander an implementation for.

Parameters:

- <R> - the return type
- caller* - the caller instance (null if static method)
- methodParamTypes* - method parameter types
- methodArgs* - invocation arguments

Returns:

- the return value of the invocation

Definition at line 78 of file Squander.java.

References edu.mit.csail.sdg.squander.Squander.exe(), edu.mit.csail.sdg.squander.Squander.getCallerClassName(), and edu.mit.csail.sdg.squander.Squander.getCallerMethod().

9.162.3.4 static <R> R edu.mit.csail.sdg.squander.Squander.exe (Object caller, Object... methodArgs) [static]

Executes the caller method's specification. Method parameter types are inferred from methodArgs. If there's any ambiguity about that, use Squander#exe(Object, Class[], Object[]).

Use this method only to invoke Squander from within the method which you want to squander an implementation for.

Parameters:

- <R> - the return type
- caller* - the caller instance (null if static method)
- methodArgs* - invocation arguments

Returns:

- the return value of the invocation

Definition at line 53 of file Squander.java.

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

9.162.3.5 static String edu.mit.csail.sdg.squander.Squander.getCallerClassName (Throwable t) [static, private]

Definition at line 152 of file Squander.java.

References edu.mit.csail.sdg.squander.Squander.getRightStackTraceElem().

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

**9.162.3.6 static String edu.mit.csail.sdg.squander.Squander.getCallerMethod (Throwable *t*)
[static, private]**

Definition at line 148 of file Squander.java.

References edu.mit.csail.sdg.squander.Squander.getRightStackTraceElem().

Referenced by edu.mit.csail.sdg.squander.Squander.exe().

**9.162.3.7 static ISquanderResult edu.mit.csail.sdg.squander.Squander.getLastResult ()
[static]**

Returns the result of the last [Squander](#) execution.

Definition at line 142 of file Squander.java.

References edu.mit.csail.sdg.squander.engine.ISquander.getLastResult(), and
edu.mit.csail.sdg.squander.Squander.lastSqImpl.

**9.162.3.8 static StackTraceElement edu.mit.csail.sdg.squander.Squander.getRightStackTraceElem
(Throwable *t*) [static, private]**

Definition at line 156 of file Squander.java.

Referenced by edu.mit.csail.sdg.squander.Squander.getCallerClassName(), and
edu.mit.csail.sdg.squander.Squander.getCallerMethod().

9.162.4 Member Data Documentation

9.162.4.1 ISquander edu.mit.csail.sdg.squander.Squander.lastSqImpl [static, private]

Definition at line 31 of file Squander.java.

Referenced by edu.mit.csail.sdg.squander.Squander.exe(), and edu.mit.csail.sdg.squander.Squander.getLastResult().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/[Squander.java](#)

9.163 edu.mit.csail.sdg.squander.util.test.TestTools Class Reference

Static Public Member Functions

- static void [assertArraysEqualNoOrdering](#) (Object[] expected, Object[] actual)
- static void [assertArraysEqualNoOrdering](#) (int[] expected, int[] actual)
- static void [assertArrayContains](#) (Object[] array, Object obj)
- static void [assertArrayContains](#) (int[] array, int obj)

9.163.1 Detailed Description

Definition at line 14 of file TestUtils.java.

9.163.2 Member Function Documentation

9.163.2.1 static void edu.mit.csail.sdg.squander.util.test.TestTools.assertArrayContains (int[] array, int obj) [static]

Definition at line 49 of file TestUtils.java.

9.163.2.2 static void edu.mit.csail.sdg.squander.util.test.TestTools.assertArrayContains (Object[] array, Object obj) [static]

Definition at line 40 of file TestUtils.java.

Referenced by [edu.mit.csail.sdg.squander.util.test.TestTools.assertArraysEqualNoOrdering\(\)](#).

9.163.2.3 static void edu.mit.csail.sdg.squander.util.test.TestTools.assertArraysEqualNoOrdering (int[] expected, int[] actual) [static]

Definition at line 28 of file TestUtils.java.

References [edu.mit.csail.sdg.squander.util.test.TestTools.assertArrayContains\(\)](#).

9.163.2.4 static void edu.mit.csail.sdg.squander.util.test.TestTools.assertArraysEqualNoOrdering (Object[] expected, Object[] actual) [static]

Definition at line 16 of file TestUtils.java.

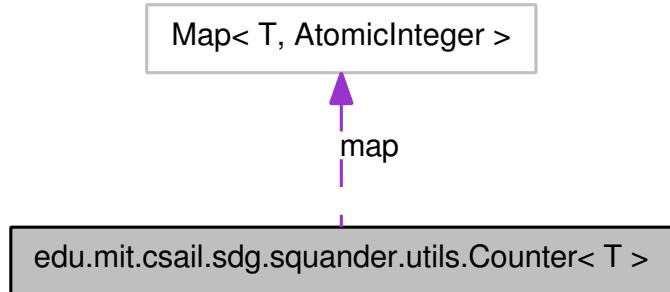
References [edu.mit.csail.sdg.squander.util.test.TestTools.assertArrayContains\(\)](#).

The documentation for this class was generated from the following file:

- tests/edu/mit/csail/sdg/squander/util/test/[TestUtils.java](#)

9.164 edu.mit.csail.sdg.squander.utils.Counter< T > Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.utils.Counter< T >:



Public Member Functions

- [Counter \(\)](#)
- int [getCount \(final T key\)](#)
- int [incrementAndGet \(final T key\)](#)

Private Attributes

- final Map< T, AtomicInteger > [map](#) = new HashMap< T, AtomicInteger >()

9.164.1 Detailed Description

Definition at line 11 of file Counter.java.

9.164.2 Constructor & Destructor Documentation

9.164.2.1 edu.mit.csail.sdg.squander.utils.Counter< T >.Counter ()

Definition at line 15 of file Counter.java.

9.164.3 Member Function Documentation

9.164.3.1 int edu.mit.csail.sdg.squander.utils.Counter< T >.getCount (final T key)

Definition at line 19 of file Counter.java.

9.164.3.2 int edu.mit.csail.sdg.squander.utils.Counter< T >.incrementAndGet (final T key)

Definition at line 28 of file Counter.java.

9.164.4 Member Data Documentation

9.164.4.1 final Map<T,AtomicInteger> edu.mit.csail.sdg.squander.utils.Counter< T >.map = new HashMap<T,AtomicInteger>() [private]

Definition at line 13 of file Counter.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/utils/[Counter.java](#)

9.165 edu.mit.csail.sdg.squander.utils.Predicate< T > Interface Reference

Inherited by edu.mit.csail.sdg.squander.utils.Predicate< T >.FalsePred< T >, and edu.mit.csail.sdg.squander.utils.Predicate< T >.TruePred< T >.

Classes

- class **FalsePred< T >**
- class **TruePred< T >**

Public Member Functions

- boolean [exe \(T t\)](#)

9.165.1 Detailed Description

Definition at line 7 of file Predicate.java.

9.165.2 Member Function Documentation

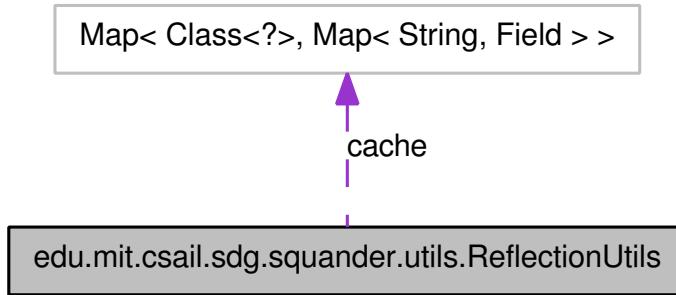
9.165.2.1 boolean edu.mit.csail.sdg.squander.utils.Predicate< T >.exe (T t)

The documentation for this interface was generated from the following file:

- [src/edu/mit/csail/sdg/squander/utils/Predicate.java](#)

9.166 edu.mit.csail.sdg.squander.utils.ReflectionUtils Class Reference

Collaboration diagram for edu.mit.csail.sdg.squander.utils.ReflectionUtils:



Static Public Member Functions

- static Field [getFieldWithAccess](#) (Object obj, String fieldName)
- static Field [getFieldWithAccess](#) (Class<?> cls, String fieldName)
- static Field [getField](#) (Class<?> cls, String fieldName)
- static< R > R [getFieldValue](#) (Object obj, Field field)
- static< R > R [getFieldValue](#) (Object obj, String fieldName)
- static void [setFieldValue](#) (Object obj, String field, Object value)
- static void [setFieldValue](#) (Object obj, Field field, Object value)
- static Field[] [getAllFields](#) (Class<?> clz)
- static Field[] [getAllNonStaticFields](#) (Class<?> clz)
- static Field[] [getDeclaredNonStaticFields](#) (Class<?> clz)
- static Method [getMethod](#) (Class<?extends Object> clz, String methodName, Class<?>[] methodArgs) throws NoSuchMethodException
- static Method [findMethod](#) (Class<?> clz, String methodName, Class<?>[] methodParams) throws NoSuchMethodException
- static Class<?> [box](#) (Class<?> c)
- static Object [invoke](#) (Object obj, String method, Class<?>[] params, Object[] args)
- static Object [invoke_ex](#) (Object obj, String method, Class<?>[] params, Object[] args) throws NoSuchMethodException, IllegalAccessException, InvocationTargetException
- static Object [createObjectDefaultConstructor](#) (Class<?> clz)
- static Object [createNewArray](#) (Class<?> componentType, int len)
- static< T, K > T [newInstance](#) (Class< T > clz, Class< K > argType, K arg)
- static< T > T [newInstance](#) (Class< T > clz, Object[] args)
- static< T > T [newInstance](#) (Class< T > clz, Class<?>[] argTypes, Object[] args)
- static< T, K, V > T [newInstance](#) (Class< T > clz, Class< K > arg1Type, Class< V > arg2Type, K arg1, V arg2)
- static Method [getAnnotatedMethod](#) (Class<?> owner, Class<?extends Annotation> annotation)
- static Method[] [getAnnotatedMethods](#) (Class<?> owner, Class<?extends Annotation> annotation)
- static boolean [isPrimitive](#) (Class<?> type)
- static Class [lca](#) (Class clz1, Class clz2)
- static String [sig](#) (Method method)
- static Collection< Class<?> > [getImmParents](#) (Class<?> clz)
- static Collection< Type > [getImmGenericParents](#) (Class<?> cls)
- static String [toString](#) (Object obj)

Static Package Attributes

- static Map< Class<?>, Map< String, Field > > **cache** = new HashMap<Class<?>, Map<String, Field>>()

Static Private Member Functions

- static void **getAllFieldsRecursive** (Class<?> *clz*, List< Field > *fldLst*)
- static boolean **paramsMatch** (Class<?> *declared*, Class<?> *actual*)
- static void **printObj** (Object *obj*, StringBuilder *sb*, String *indent*, IdentityHashSet< Object > *visited*)

Static Private Attributes

- static final String **tab** = " "

9.166.1 Detailed Description

Author:

Aleksandar Milicevic <aca.milicevic@gmail.com>

Definition at line 29 of file ReflectionUtils.java.

9.166.2 Member Function Documentation

9.166.2.1 static Class<?> edu.mit.csail.sdg.squander.utils.ReflectionUtils.box (Class<?> *c*) [static]

Definition at line 225 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.paramsMatch().

9.166.2.2 static Object edu.mit.csail.sdg.squander.utils.ReflectionUtils.createNewArray (Class<?> *componentType*, int *len*) [static]

Definition at line 301 of file ReflectionUtils.java.

9.166.2.3 static Object edu.mit.csail.sdg.squander.utils.ReflectionUtils.createObjectDefaultConstructor (Class<?> *clz*) [static]

Creates object of the class *clz* using default constructor

If there is any problem during object construction, a RuntimeException is thrown

Parameters:

clz -the class of object

Returns:

- created object

Definition at line 288 of file ReflectionUtils.java.

9.166.2.4 static Method edu.mit.csail.sdg.squander.utils.ReflectionUtils.findMethod (Class<?> *clz*, String *methodName*, Class<?>[] *methodParams*) throws NoSuchMethodException [static]

Definition at line 197 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.paramsMatch().

9.166.2.5 static Field [] edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFields (Class<?> *clz*) [static]

Definition at line 138 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFieldsRecursive().

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.printObj().

9.166.2.6 static void edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFieldsRecursive (Class<?> *clz*, List< Field > *fldLst*) [static, private]

Definition at line 123 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFields(), and edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllNonStaticFields().

9.166.2.7 static Field [] edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllNonStaticFields (Class<?> *clz*) [static]

Definition at line 147 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFieldsRecursive().

9.166.2.8 static Method edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAnnotatedMethod (Class<?> *owner*, Class<?extends Annotation> *annotation*) [static]

Finds method in class owner that contains given annotation. There must be at most one annotation of the given type in the class. If there are more methods that contain same annotation, RuntimeException is thrown. In this case, it would good to use [getAnnotatedMethods\(Class, Class\)](#) method

Parameters:

owner

annotation

Returns:

See also:

[getAnnotatedMethods\(Class, Class\)](#)

Definition at line 354 of file ReflectionUtils.java.

9.166.2.9 static Method [] edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAnnotatedMethods (Class<?> owner, Class<?extends Annotation> annotation) [static]

Definition at line 368 of file ReflectionUtils.java.

**9.166.2.10 static Field []
edu.mit.csail.sdg.squander.utils.ReflectionUtils.getDeclaredNonStaticFields (Class<?> cls) [static]**

Definition at line 162 of file ReflectionUtils.java.

9.166.2.11 static Field edu.mit.csail.sdg.squander.utils.ReflectionUtils.getField (Class<?> cls, String fieldName) [static]

Gets field from class cls, either declared in cls or in one of its superclasses

Parameters:

cls - declaring class of the field

fieldName - name of the field

Returns:

requested field

Definition at line 51 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.cache.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue(),
edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldWithAccess(), and
edu.mit.csail.sdg.squander.utils.ReflectionUtils.setFieldValue().

9.166.2.12 static <R> R edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue (Object obj, String fieldName) [static]

Definition at line 102 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getField(), and
edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue().

9.166.2.13 static <R> R edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue (Object obj, Field field) [static]

Definition at line 86 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue(), and
edu.mit.csail.sdg.squander.utils.ReflectionUtils.printObj().

9.166.2.14 static Field edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldWithAccess (Class<?> cls, String fieldName) [static]

Definition at line 37 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getField().

9.166.2.15 static Field edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldWithAccess (Object *obj*, String *fieldName*) [static]

Definition at line 33 of file ReflectionUtils.java.

9.166.2.16 static Collection<Type> edu.mit.csail.sdg.squander.utils.ReflectionUtils.getImmGenericParents (Class<?> *cls*) [static]

Definition at line 434 of file ReflectionUtils.java.

9.166.2.17 static Collection<Class<?>> edu.mit.csail.sdg.squander.utils.ReflectionUtils.getImmParents (Class<?> *clz*) [static]

Definition at line 425 of file ReflectionUtils.java.

9.166.2.18 static Method edu.mit.csail.sdg.squander.utils.ReflectionUtils.getMethod (Class<?extends Object> *clz*, String *methodName*, Class<?>[] *methodArgs*) throws NoSuchMethodException [static]

Gets method from class *clz* or any of its superclasses. If no method can be found *NoSuchMethodException* is raised.

Parameters:

clz - declaring class of the method
methodName - name of the method
methodArgs - method arguments

Returns:

requested method

Exceptions:

NoSuchMethodException

Definition at line 186 of file ReflectionUtils.java.

9.166.2.19 static Object edu.mit.csail.sdg.squander.utils.ReflectionUtils.invoke (Object *obj*, String *method*, Class<?>[] *params*, Object[] *args*) [static]

Invokes method of a given obj and set of parameters

Parameters:

obj - Object for which the method is going to be executed. Special if obj is of type java.lang.Class, method is executed as static method of class given as obj parameter

method - name of the object

params - actual parameters for the method

Returns:

- result of the method execution

If there is any problem with method invocation, a RuntimeException is thrown

Definition at line 255 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.invoke_ex().

9.166.2.20 static Object edu.mit.csail.sdg.squander.utils.ReflectionUtils.invoke_ex (Object *obj*, String *method*, Class<?>[] *params*, Object[] *args*) throws NoSuchMethodException, IllegalAccessException, InvocationTargetException [static]

Definition at line 263 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.invoke().

9.166.2.21 static boolean edu.mit.csail.sdg.squander.utils.ReflectionUtils.isPrimitive (Class<?> *type*) [static]

Definition at line 379 of file ReflectionUtils.java.

9.166.2.22 static Class edu.mit.csail.sdg.squander.utils.ReflectionUtils.lca (Class *clz1*, Class *clz2*) [static]

Lowest common ancestor of two classes in the type lattice.

Definition at line 392 of file ReflectionUtils.java.

9.166.2.23 static <T,K,V> T edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance (Class< T > *clz*, Class< K > *arg1Type*, Class< V > *arg2Type*, K *arg1*, V *arg2*) [static]

Definition at line 332 of file ReflectionUtils.java.

9.166.2.24 static <T> T edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance (Class< T > *clz*, Class<?>[] *argTypes*, Object[] *args*) [static]

Definition at line 322 of file ReflectionUtils.java.

9.166.2.25 static <T> T edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance (Class< T > *clz*, Object[] *args*) [static]

Definition at line 315 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance().

9.166.2.26 static <T,K> T edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance (Class< T > *clz*, Class< K > *argType*, K *arg*) [static]

Definition at line 305 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.newInstance().

9.166.2.27 static boolean edu.mit.csail.sdg.squander.utils.ReflectionUtils.paramsMatch (Class<?> *declared*, Class<?> *actual*) [static, private]

Definition at line 219 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.box().

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.findMethod().

9.166.2.28 static void edu.mit.csail.sdg.squander.utils.ReflectionUtils.printObj (Object *obj*, StringBuilder *sb*, String *indent*, IdentityHashSet< Object > *visited*) [static, private]

Definition at line 452 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getAllFields(),
edu.mit.csail.sdg.squander.utils.ReflectionUtils.getFieldValue(), and edu.mit.csail.sdg.squander.utils.ReflectionUtils.tab.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.toString().

9.166.2.29 static void edu.mit.csail.sdg.squander.utils.ReflectionUtils.setFieldValue (Object *obj*, Field *field*, Object *value*) [static]

Definition at line 110 of file ReflectionUtils.java.

9.166.2.30 static void edu.mit.csail.sdg.squander.utils.ReflectionUtils.setFieldValue (Object *obj*, String *field*, Object *value*) [static]

Definition at line 106 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.getField().

9.166.2.31 static String edu.mit.csail.sdg.squander.utils.ReflectionUtils.sig (Method *method*) [static]

Returns method signature as string

Definition at line 415 of file ReflectionUtils.java.

9.166.2.32 static String edu.mit.csail.sdg.squander.utils.ReflectionUtils.toString (Object *obj*) [static]

Definition at line 445 of file ReflectionUtils.java.

References edu.mit.csail.sdg.squander.utils.ReflectionUtils.printObj().

9.166.3 Member Data Documentation

9.166.3.1 Map<Class<?>, Map<String, Field> >
edu.mit.csail.sdg.squander.utils.ReflectionUtils.cache = new
HashMap<Class<?>, Map<String, Field>>() [static, package]

Definition at line 31 of file ReflectionUtils.java.

Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.getField().

9.166.3.2 final String edu.mit.csail.sdg.squander.utils.ReflectionUtils.tab = " " [static, private]

Definition at line 443 of file ReflectionUtils.java.

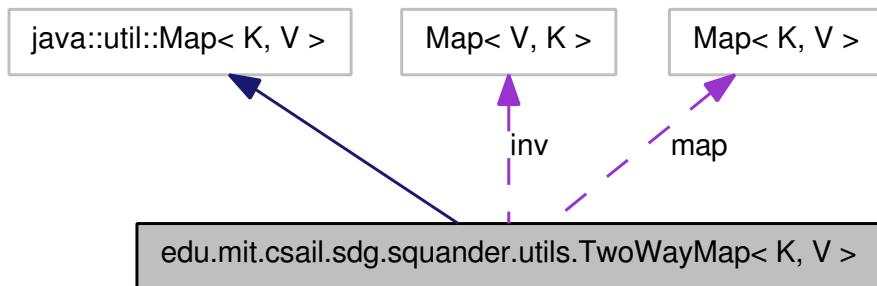
Referenced by edu.mit.csail.sdg.squander.utils.ReflectionUtils.printObj().

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/utils/[ReflectionUtils.java](#)

9.167 edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V > Class Reference

Inherits java::util::Map< K, V >.Collaboration diagram for edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >:



Public Member Functions

- void [clear \(\)](#)
- boolean [containsKey \(Object key\)](#)
- boolean [containsValue \(Object value\)](#)
- Set< java.util.Map.Entry< K, V > > [entrySet \(\)](#)
- boolean [equals \(Object o\)](#)
- V [get \(Object key\)](#)
- K [getKeyForValue \(V value\)](#)
- int [hashCode \(\)](#)
- boolean [isEmpty \(\)](#)
- Set< K > [keySet \(\)](#)
- V [put \(K key, V value\)](#)
- void [putAll \(Map<?extends K,?extends V > m\)](#)
- V [remove \(Object key\)](#)
- int [size \(\)](#)
- Collection< V > [values \(\)](#)

Private Attributes

- Map< K, V > [map](#) = new LinkedHashMap< K, V >()
- Map< V, K > [inv](#) = new LinkedHashMap< V, K >()

9.167.1 Detailed Description

Definition at line 12 of file TwoWayMap.java.

9.167.2 Member Function Documentation

9.167.2.1 void edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.clear 0

Definition at line 16 of file TwoWayMap.java.

9.167.2.2 boolean edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.containsKey (Object key)

Definition at line 21 of file TwoWayMap.java.

9.167.2.3 boolean edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.containsValue (Object value)

Definition at line 25 of file TwoWayMap.java.

9.167.2.4 Set<java.util.Map.Entry<K, V>> edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.entrySet ()

Definition at line 29 of file TwoWayMap.java.

9.167.2.5 boolean edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.equals (Object o)

Definition at line 33 of file TwoWayMap.java.

9.167.2.6 V edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.get (Object key)

Definition at line 37 of file TwoWayMap.java.

9.167.2.7 K edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.getKeyForValue (V value)

Definition at line 41 of file TwoWayMap.java.

9.167.2.8 int edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.hashCode ()

Definition at line 45 of file TwoWayMap.java.

9.167.2.9 boolean edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.isEmpty ()

Definition at line 49 of file TwoWayMap.java.

9.167.2.10 Set<K> edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.keySet ()

Definition at line 53 of file TwoWayMap.java.

9.167.2.11 V edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.put (K key, V value)

Definition at line 57 of file TwoWayMap.java.

9.167.2.12 void edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.putAll (Map<?extends K,?extends V > m)

Definition at line 63 of file TwoWayMap.java.

9.167.2.13 V edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.remove (Object key)

Definition at line 69 of file TwoWayMap.java.

9.167.2.14 int edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.size ()

Definition at line 76 of file TwoWayMap.java.

9.167.2.15 Collection<V> edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.values ()

Definition at line 80 of file TwoWayMap.java.

9.167.3 Member Data Documentation

**9.167.3.1 Map<V, K> edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.inv = new
LinkedHashMap<V, K>() [private]**

Definition at line 14 of file TwoWayMap.java.

**9.167.3.2 Map<K, V> edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >.map = new
LinkedHashMap<K, V>() [private]**

Definition at line 13 of file TwoWayMap.java.

The documentation for this class was generated from the following file:

- src/edu/mit/csail/sdg/squander/utils/[TwoWayMap.java](#)

9.168 edu.mit.csail.sdg.squander.utils.Utils Class Reference

Static Public Member Functions

- static boolean [isPrimitive](#) (Class<?> cls)
- static InstanceDomain [findDomain](#) (final Class<?> cls, final ForgeProgram program)
- static GlobalVariable [findGlobalVar](#) (String varName, ForgeProgram program)
- static InstanceLiteral [findLiteral](#) (final String litName, final ForgeProgram program)
- static ForgeDomain [getArrayDomain](#) (ForgeVariable g)
- static String [getArrayType](#) (final ForgeVariable var)
- static Class<?> [classForName](#) (final String clsName) throws ClassNotFoundException
- static Annotation[] [getMethodAnnotations](#) (String className, String methodName, Class<?>[] parameterTypes)
- static boolean [boolValue](#) (ForgeConstant fConst)
- static int [intValue](#) (ForgeConstant fConst)
- static String [getMethodParamName](#) (Method method, int i)
- static void [writeToFile](#) (String text, String fileName)

9.168.1 Detailed Description

Various static utility methods

Author:

Aleksandar Milicevic (aleks@csail.mit.edu)

Definition at line 34 of file Utils.java.

9.168.2 Member Function Documentation

9.168.2.1 static boolean edu.mit.csail.sdg.squander.utils.Utils.boolValue (ForgeConstant *fConst*) [static]

Definition at line 215 of file Utils.java.

9.168.2.2 static Class<?> edu.mit.csail.sdg.squander.utils.Utils.classForName (final String *clsName*) throws ClassNotFoundException [static]

Definition at line 142 of file Utils.java.

9.168.2.3 static InstanceDomain edu.mit.csail.sdg.squander.utils.Utils.findDomain (final Class<?> *cls*, final ForgeProgram *program*) [static]

Linearly searches through all instance domain in order to find one with the given name.

NOTE: there should probably exist a better (and more efficient) way to do this.

Definition at line 56 of file Utils.java.

9.168.2.4 static GlobalVariable edu.mit.csail.sdg.squander.utils.Utils.findGlobalVar (String varName, ForgeProgram program) [static]

Linearly searches through all global variables in order to find one with the given name.

NOTE: there should probably exist a better (and more efficient) way to do this.

Definition at line 80 of file Utils.java.

9.168.2.5 static InstanceLiteral edu.mit.csail.sdg.squander.utils.Utils.findLiteral (final String litName, final ForgeProgram program) [static]

Linearly searches through all instance literals in order to find one with the given name.

NOTE: there should probably exist a better (and more efficient) way to do this.

Definition at line 96 of file Utils.java.

9.168.2.6 static ForgeDomain edu.mit.csail.sdg.squander.utils.Utils.getArrayDomain (ForgeVariable g) [static]

Checks whether the given global variable is array and if it is returns its array domain, otherwise returns null.

Definition at line 110 of file Utils.java.

9.168.2.7 static String edu.mit.csail.sdg.squander.utils.Utils.getArrayType (final ForgeVariable var) [static]

Definition at line 127 of file Utils.java.

9.168.2.8 static Annotation [] edu.mit.csail.sdg.squander.utils.Utils.getMethodAnnotations (String className, String methodName, Class<?>[] parameterTypes) [static]

Finds the method in the given class with the given name and parameter types Returns all annotations on the given method

Definition at line 187 of file Utils.java.

9.168.2.9 static String edu.mit.csail.sdg.squander.utils.Utils.getMethodParamName (Method method, int i) [static]

Definition at line 227 of file Utils.java.

9.168.2.10 static int edu.mit.csail.sdg.squander.utils.Utils.intValue (ForgeConstant fConst) [static]

Definition at line 222 of file Utils.java.

**9.168.2.11 static boolean edu.mit.csail.sdg.squander.utils.Utils.isPrimitive (Class<?> *cls*)
[static]**

Returns true if `cls.isPrimitive()` is true, or if `cls` is equal to either `Integer.class` or `Boolean.class`.
Definition at line 40 of file `Utils.java`.

**9.168.2.12 static void edu.mit.csail.sdg.squander.utils.Utils.writeToFile (String *text*, String
fileName) [static]**

Definition at line 237 of file `Utils.java`.

The documentation for this class was generated from the following file:

- `src/edu/mit/csail/sdg/squander/utils/Utils.java`

Chapter 10

File Documentation

10.1 examples/edu/mit/csail/sdg/squander/examples/bst/BalancedBST.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BalancedBST](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.2 examples/edu/mit/csail/sdg/squander/examples/bst/BST_-noParent.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BST_noParent](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noParent.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.3 examples/edu/mit/csail/sdg/squander/examples/bst/BST_-noSpecFld.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFld.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.4 examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoard.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.chess.ChessBoard](#)
- class [edu.mit.csail.sdg.squander.examples.chess.ChessBoard.Cell](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.chess](#)

10.5 examples/edu/mit/csail/sdg/squander/examples/chess/ChessBoardMan.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.chess.ChessBoardMan](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.chess](#)

10.6 examples/edu/mit/csail/sdg/squander/examples/equiv/Node.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.equiv.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.equiv](#)

10.7 examples/edu/mit/csail/sdg/squander/examples/graph/Graph.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph.Graph](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph.Node](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph.Edge](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph](#)

10.8 examples/edu/mit/csail/sdg/squander/examples/graph2/Graph.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph2.Graph](#)
- class [edu.mit.csail.sdg.squander.examples.graph2.Graph.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph2](#)

10.9 examples/edu/mit/csail/sdg/squander/examples/partitioning/Graph.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.partitioning.Graph](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.partitioning](#)

10.10 examples/edu/mit/csail/sdg/squander/examples/graph/Graph_-_2.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph.Graph_2](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph_2.Node](#)
- class [edu.mit.csail.sdg.squander.examples.graph.Graph_2.Edge](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph](#)

10.11 examples/edu/mit/csail/sdg/squander/examples/graph/HamiltonianMan.java File Reference809

10.11 examples/edu/mit/csail/sdg/squander/examples/graph/HamiltonianMan.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph.HamiltonianMan](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph](#)

10.12 examples/edu/mit/csail/sdg/squander/examples/javacol/Collections.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.Collections](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.13 examples/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsEx.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.Str](#)
- class [edu.mit.csail.sdg.squander.examples.javacol.TypeParamsEx](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.14 examples/edu/mit/csail/sdg/squander/examples/list/func/Cons.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func.Cons](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func](#)

10.15 examples/edu/mit/csail/sdg/squander/examples/list/func2/Cons.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func2.Cons](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func2](#)

10.16 examples/edu/mit/csail/sdg/squander/examples/list/func/IntList.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func.IntList](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func](#)

10.17 examples/edu/mit/csail/sdg/squander/examples/list/func2/IntList.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func2.IntList](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func2](#)

10.18 examples/edu/mit/csail/sdg/squander/examples/list/func2/Nil.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func2.Nil](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func2](#)

10.19 examples/edu/mit/csail/sdg/squander/examples/list/LinkedList.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.LinkedList](#)
- class [edu.mit.csail.sdg.squander.examples.list.LinkedList.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list](#)

10.20 examples/edu/mit/csail/sdg/squander/examples/list/LinkedList_-ind.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.LinkedList_ind](#)
- class [edu.mit.csail.sdg.squander.examples.list.LinkedList_ind.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list](#)

10.21 examples/edu/mit/csail/sdg/squander/examples/mock/AddressBook.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.examples.mock.AddressBook](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.22 examples/edu/mit/csail/sdg/squander/examples/mock/EmailMessage.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.EmailMessage](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.23 examples/edu/mit/csail/sdg/squander/examples/mock/MockAddressBook.java File Reference

10.23 examples/edu/mit/csail/sdg/squander/examples/mock/MockAddressBook.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.MockAddressBook](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.24 examples/edu/mit/csail/sdg/squander/examples/mock/SquanderAddressBook

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook](#)
- class [edu.mit.csail.sdg.squander.examples.mock.SquanderAddressBook.Entry](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.25 examples/edu/mit/csail/sdg/squander/examples/numbers/Arithmetic.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.Arithmetic](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.26 examples/edu/mit/csail/sdg/squander/examples/numbers/DeclarativeSqRoot File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.DeclarativeSqRoot](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.27 examples/edu/mit/csail/sdg/squander/examples/numbers/ImperativeSqRoot File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.ImperativeSqRoot](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.28 examples/edu/mit/csail/sdg/squander/examples/numbers/ISqRoot.java

File Reference

Classes

- interface [edu.mit.csail.sdg.squander.examples.numbers.ISqRoot](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.29 examples/edu/mit/csail/sdg/squander/examples/numbers/MixedSqRoot.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.MixedSqRoot](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.30 examples/edu/mit/csail/sdg/squander/examples/partitioning/Domain.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.partitioning.Domain](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.partitioning](#)

10.31 examples/edu/mit/csail/sdg/squander/examples/partitioning/Literal.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.partitioning.Literal](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.partitioning](#)

10.32 examples/edu/mit/csail/sdg/squander/examples/partitioning/Partition.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.partitioning.Partition](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.partitioning](#)

10.33 examples/edu/mit/csail/sdg/squander/examples/rbt/RedBlackTree.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree](#)
- class [edu.mit.csail.sdg.squander.examples.rbt.RedBlackTree.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.rbt](#)

10.34 examples/edu/mit/csail/sdg/squander/examples/setpoly/BstIntSet.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet](#)
- class [edu.mit.csail.sdg.squander.examples.setpoly.BstIntSet.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.setpoly](#)

10.35 examples/edu/mit/csail/sdg/squander/examples/setpoly/IntSet.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.setpoly.IntSet](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.setpoly](#)

10.36 examples/edu/mit/csail/sdg/squander/examples/setpoly/SetIntSet.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.setpoly.SetIntSet](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.setpoly](#)

10.37 examples/edu/mit/csail/sdg/squander/examples/sort/Sort.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sort.Sort](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sort](#)

10.38 examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.Cell](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1.CellGroup](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.39 examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku2.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku2.CellGroup](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.40 examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku3.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku3](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.41 examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku4.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4](#)
- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku4.Num](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.42 examples/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku5.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku5](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.43 spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileLexer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileLexer.DFA6](#)

Packages

- package [edu.mit.csail.sdg.squander.specfile.parser](#)

10.44 spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParser.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.Node](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.NodeAdaptor](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.specfile_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.type_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.mod_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.cls_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.specfield_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.funcfield_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.invariant_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.params_return](#)
- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParser.strings_return](#)

Packages

- package [edu.mit.csail.sdg.squander.specfile.parser](#)

[10.45 spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParserException.java](#) File Reference

10.45 spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileParserException.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileParserException](#)

Packages

- package [edu.mit.csail.sdg.squander.specfile.parser](#)

10.46 spec/edu/mit/csail/sdg/squander/specfile/parser/SpecFileVisitor.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.specfile.parser.SpecFileVisitor< N >](#)

Packages

- package [edu.mit.csail.sdg.squander.specfile.parser](#)

10.47 src/edu/mit/csail/sdg/annotations/FuncField.java File Reference

Classes

- interface [edu.mit.csail.sdg.annotations.FuncField](#)

Packages

- package [edu.mit.csail.sdg.annotations](#)

10.48 src/edu/mit/csail/sdg/squander/absstate/AbstractState.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.absstate.AbstractState](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

10.49 src/edu/mit/csail/sdg/squander/absstate/FieldValue.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.absstate.FieldValue](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

10.50 src/edu/mit/csail/sdg/squander/absstate/ObjAbsState.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.absstate.ObjAbsState](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

10.51 src/edu/mit/csail/sdg/squander/absstate/ObjTuple.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.absstate.ObjTuple](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

10.52 src/edu/mit/csail/sdg/squander/absstate/ObjTupleSet.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.absstate.ObjTupleSet](#)

Packages

- package [edu.mit.csail.sdg.squander.absstate](#)

10.53 src/edu/mit/csail/sdg/squander/annotations/Fresh.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.annotations.Fresh](#)

Packages

- package [edu.mit.csail.sdg.squander.annotations](#)

10.54 src/edu/mit/csail/sdg/squander/annotations/FreshObjects.java

File Reference

Classes

- interface [edu.mit.csail.sdg.squander.annotations.FreshObjects](#)

Packages

- package [edu.mit.csail.sdg.squander.annotations](#)

10.55 src/edu/mit/csail/sdg/squander/annotations/Options.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.annotations.Options](#)

Packages

- package [edu.mit.csail.sdg.squander.annotations](#)

10.56 src/edu/mit/csail/sdg/squander/engine/ForgeConverter.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.ForgeConverter](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.57 src/edu/mit/csail/sdg/squander/engine/ForgeEval.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.ForgeEval](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.58 src/edu/mit/csail/sdg/squander/engine/Heap.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.Heap](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.59 src/edu/mit/csail/sdg/squander/engine/Heap2Bounds.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.Heap2Bounds](#)
- class [edu.mit.csail.sdg.squander.engine.Heap2Bounds.Pair](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.60 src/edu/mit/csail/sdg/squander/engine/ISquander.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.engine.ISquander](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.61 src/edu/mit/csail/sdg/squander/engine/ISquanderResult.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.engine.ISquanderResult](#)
- interface [edu.mit.csail.sdg.squander.engine.ISquanderResult.IEvaluator](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.62 src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkod2Impl.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkod2Impl.FldRelElem](#)

Packages

- package [edu.mit.csail.sdg.squander.engine.kk](#)

10.63 src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodImpl.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.DiscoverHigherOrderQuant](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.KodkodEval](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodImpl.Tr2KK.StackElem](#)

Packages

- package [edu.mit.csail.sdg.squander.engine.kk](#)

10.64 src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPart2Impl.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPart2Impl](#)

Packages

- package [edu.mit.csail.sdg.squander.engine.kk](#)

10.65 src/edu/mit/csail/sdg/squander/engine/kk/SquanderKodkodPartImpl.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.KodkodIntEval](#)
- class [edu.mit.csail.sdg.squander.engine.kk.SquanderKodkodPartImpl.Atom](#)

Packages

- package [edu.mit.csail.sdg.squander.engine.kk](#)

10.66 src/edu/mit/csail/sdg/squander/engine/SquanderEval.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.SquanderEval](#)
- interface [edu.mit.csail.sdg.squander.engine.SquanderEval.BinFunc< R, T >](#)
- class [edu.mit.csail.sdg.squander.engine.SquanderEval.StackElem](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.67 src/edu/mit/csail/sdg/squander/engine/SquanderEval2.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.SquanderEval2](#)
- interface [edu.mit.csail.sdg.squander.engine.SquanderEval2.BinFunc< R, T >](#)
- class [edu.mit.csail.sdg.squander.engine.SquanderEval2.StackElem](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.68 src/edu/mit/csail/sdg/squander/engine/SquanderImpl.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.SquanderImpl](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.69 src/edu/mit/csail/sdg/squander/engine/SquanderReporter.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.SquanderReporter](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.70 src/edu/mit/csail/sdg/squander/engine/SquanderResult.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.engine.SquanderResult](#)

Packages

- package [edu.mit.csail.sdg.squander.engine](#)

10.71 src/edu/mit/csail/sdg/squander/forge_examples/BinarySearchTree.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.forge_examples.BinarySearchTree](#)

Packages

- package [edu.mit.csail.sdg.squander.forge_examples](#)

10.72 examples/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTree.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree](#)
- class [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTree.Node](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.73 src/edu/mit/csail/sdg/squander/forge_examples/TopologicalSort.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.forge_examples.TopologicalSort](#)

Packages

- package [edu.mit.csail.sdg.squander.forge_examples](#)

10.74 src/edu/mit/csail/sdg/squander/log/Log.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.log.Log](#)

Packages

- package [edu.mit.csail.sdg.squander.log](#)

10.75 src/edu/mit/csail/sdg/squander/options/ConfigLoader.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.options.ConfigLoader](#)

Packages

- package [edu.mit.csail.sdg.squander.options](#)

10.76 src/edu/mit/csail/sdg/squander/options/GlobalOptions.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.options.GlobalOptions](#)

Packages

- package [edu.mit.csail.sdg.squander.options](#)

10.77 src/edu/mit/csail/sdg/squander/parser/JFSLLexer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.parser.JFSLLexer](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA18](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLLexer.DFA26](#)

Packages

- package [edu.mit.csail.sdg.squander.parser](#)

10.78 src/edu/mit/csail/sdg/squander/parser/JFSLParser.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.parser.JFSLParser](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.Node](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.NodeAdaptor](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.clause_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.specField_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.modifies_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.compilationUnit_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.packageName_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.importDeclaration_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeDeclaration_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeParameters_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeParameters2_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeBodyDeclaration_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.methodParameters_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.specCase_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.declaration_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.declarationMult_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.frame_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.storeRef_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.storePrimary_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.storeSelectors_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.storeWildCard_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.keywordLiteral_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.literal_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.integerLiteral_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.primitiveType_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeName_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.typeDisambigous_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.type_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.parExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.expressionList_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.arguments_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.expression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.quantifiedExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.logicalExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.logicalOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalOrExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.conditionalAndExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.inclusiveOrExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.exclusiveOrExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.andExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.bitAndOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.equalityExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.equalityOp_return](#)

- class [edu.mit.csail.sdg.squander.parser.JFSLParser.instanceOfExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.relationalExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.inOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.relationalOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setUnaryExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.shiftExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.shiftOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.additiveExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.additiveOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.sizeExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.multiplicativeExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.multOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setAdditiveExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setAdditiveOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.overrideExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.intersectionExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.composeExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.unaryExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.unaryExpressionNotPlusMinus_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.castExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.decls_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.relationalUnaryExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.joinExpression_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.common_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.primary_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.selector_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.specUnaryOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setDeclOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setUnaryOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.setQuantOp_return](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA38](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA42](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA69](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA78](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA77](#)
- class [edu.mit.csail.sdg.squander.parser.JFSLParser.DFA79](#)

Packages

- package [edu.mit.csail.sdg.squander.parser](#)

10.79 src/edu/mit/csail/sdg/squander/parser/JFSLParserException.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.parser.JFSLParserException](#)

Packages

- package [edu.mit.csail.sdg.squander.parser](#)

10.80 src/edu/mit/csail/sdg/squander/serializer/AbstractHeap.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.AbstractHeap](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.81 src/edu/mit/csail/sdg/squander/serializer/AbstractHeapListener.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.AbstractHeapListener](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.82 src/edu/mit/csail/sdg/squander/serializer/ConsoleHeap.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.ConsoleHeap](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.83 src/edu/mit/csail/sdg/squander/serializer/HeapListener.java

File Reference

Classes

- interface [edu.mit.csail.sdg.squander.serializer.HeapListener](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.84 src/edu/mit/csail/sdg/squander/serializer/IHeap.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.serializer.IHeap](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.85 src/edu/mit/csail/sdg/squander/serializer/Serializer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.Serializer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer](#)

10.86 src/edu/mit/csail/sdg/squander/serializer/special/ArraySer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.ArraySer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.87 src/edu/mit/csail/sdg/squander/serializer/special/DefaultObjSer.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.DefaultObjSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.88 src/edu/mit/csail/sdg/squander/serializer/special/IObjSer.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.serializer.special.IObjSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.89 src/edu/mit/csail/sdg/squander/serializer/special/ListSer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.ListSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.90 src/edu/mit/csail/sdg/squander/serializer/special/MapSer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.MapSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.91 src/edu/mit/csail/sdg/squander/serializer/special/ObjSerFactory.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.ObjSerFactory](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.92 src/edu/mit/csail/sdg/squander/serializer/special/SetSer.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.SetSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.93 src/edu/mit/csail/sdg/squander/serializer/special/StringSer.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.serializer.special.StringSer](#)

Packages

- package [edu.mit.csail.sdg.squander.serializer.special](#)

10.94 src/edu/mit/csail/sdg/squander/spec/ArityMismatchException.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.ArityMismatchException](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.95 src/edu/mit/csail/sdg/squander/spec/ClassSpec.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.ClassSpec](#)
- class [edu.mit.csail.sdg.squander.spec.ClassSpec.Invariant](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.96 src/edu/mit/csail/sdg/squander/spec/CompositeSpecProvider.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.CompositeSpecProvider](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.97 src/edu/mit/csail/sdg/squander/spec/constant/ConstRel.java File Reference

Packages

- package `edu.mit.csail.sdg.squander.spec.constant`

Enumerations

10.98 src/edu/mit/csail/sdg/squander/spec/constant/ConstRel2Bound.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.constant.ConstRel2Bound](#)

Packages

- package [edu.mit.csail.sdg.squander.spec.constant](#)

10.99 src/edu/mit/csail/sdg/squander/spec/constant/ConstRels.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.constant.ConstRels](#)

Packages

- package [edu.mit.csail.sdg.squander.spec.constant](#)

10.100 src/edu/mit/csail/sdg/squander/spec/constant/ConstRelVisitor.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.spec.constant.ConstRelVisitor< E >](#)

Packages

- package [edu.mit.csail.sdg.squander.spec.constant](#)

10.101 src/edu/mit/csail/sdg/squander/spec/ForgeEnv.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.spec.ForgeEnv](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.102 src/edu/mit/csail/sdg/squander/spec/ForgeScene.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.ForgeScene](#)
- class [edu.mit.csail.sdg.squander.spec.ForgeScene.ArrayVars](#)
- class [edu.mit.csail.sdg.squander.spec.ForgeScene.MyEnv](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.103 src/edu/mit/csail/sdg/squander/spec/Frame.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Frame](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.104 src/edu/mit/csail/sdg/squander/spec/FrameInference.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.FrameInference](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.105 src/edu/mit/csail/sdg/squander/spec/IncompatibleTypesException.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.IncompatibleTypesException](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.106 src/edu/mit/csail/sdg/squander/spec/ISpecProvider.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.spec.ISpecProvider](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.107 src/edu/mit/csail/sdg/squander/spec/JavaScene.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.JavaScene](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.108 src/edu/mit/csail/sdg/squander/spec/JField.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.JField](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.109 src/edu/mit/csail/sdg/squander/spec/JMethod.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.JMethod](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.110 src/edu/mit/csail/sdg/squander/spec/JType.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.spec.JType](#)
- class [edu.mit.csail.sdg.squander.spec.JType.Factory](#)
- class [edu.mit.csail.sdg.squander.spec.JType.AbstractJType](#)
- class [edu.mit.csail.sdg.squander.spec.JType.Unary](#)
- class [edu.mit.csail.sdg.squander.spec.JType.Tuple](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.111 src/edu/mit/csail/sdg/squander/spec/MethodSpec.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.MethodSpec](#)
- class [edu.mit.csail.sdg.squander.spec.MethodSpec.CaseSource](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.112 src/edu/mit/csail/sdg/squander/spec/MyExprEvaluator.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.MyExprEvaluator](#)
- interface [edu.mit.csail.sdg.squander.spec.MyExprEvaluator.BinFunc< R, T >](#)
- class [edu.mit.csail.sdg.squander.spec.MyExprEvaluator.StackElem](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.113 src/edu/mit/csail/sdg/squander/spec/NameSpace.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.NameSpace](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.114 src/edu/mit/csail/sdg/squander/spec/Null.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Null](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.115 src/edu/mit/csail/sdg/squander/spec/ReflectiveSpecProvider.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.ReflectiveSpecProvider](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.116 src/edu/mit/csail/sdg/squander/spec/Source.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Source](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.117 src/edu/mit/csail/sdg/squander/spec/Spec.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Spec](#)
- class [edu.mit.csail.sdg.squander.spec.Spec.SpecCase](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.118 src/edu/mit/csail/sdg/squander/spec/SpecFileSpecProvider.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider](#)
- class [edu.mit.csail.sdg.squander.spec.SpecFileSpecProvider.MyVisitor](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.119 src/edu/mit/csail/sdg/squander/spec/SqFunc.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.SqFunc](#)
- interface [edu.mit.csail.sdg.squander.spec.SqFunc.Binary< R, A1, A2 >](#)
- class [edu.mit.csail.sdg.squander.spec.SqFunc.Func](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.120 src/edu/mit/csail/sdg/squander/spec/Tr.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Tr](#)
- class [edu.mit.csail.sdg.squander.spec.Tr.SpecFieldTranslator](#)
- class [edu.mit.csail.sdg.squander.spec.Tr.SpecFieldBoundTranslator](#)
- class [edu.mit.csail.sdg.squander.spec.Tr.FrameConstructor](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.121 src/edu/mit/csail/sdg/squander/spec/TypeChecker.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.TypeChecker](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.122 src/edu/mit/csail/sdg/squander/spec/TypeCheckException.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.TypeCheckException](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.123 src/edu/mit/csail/sdg/squander/spec/Visitor.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.spec.Visitor< N, M >](#)

Packages

- package [edu.mit.csail.sdg.squander.spec](#)

10.124 src/edu/mit/csail/sdg/squander/Squander.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.Squander](#)

Packages

- package [edu.mit.csail.sdg.squander](#)

10.125 src/edu/mit/csail/sdg/squander/utils/Counter.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.utils.Counter< T >](#)

Packages

- package [edu.mit.csail.sdg.squander.utils](#)

10.126 src/edu/mit/csail/sdg/squander/utils/Predicate.java File Reference

Classes

- interface [edu.mit.csail.sdg.squander.utils.Predicate< T >](#)
- class [edu.mit.csail.sdg.squander.utils.Predicate< T >.TruePred< T >](#)
- class [edu.mit.csail.sdg.squander.utils.Predicate< T >.FalsePred< T >](#)

Packages

- package [edu.mit.csail.sdg.squander.utils](#)

10.127 src/edu/mit/csail/sdg/squander/utils/ReflectionUtils.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.utils.ReflectionUtils](#)

Packages

- package [edu.mit.csail.sdg.squander.utils](#)

10.128 src/edu/mit/csail/sdg/squander/utils/TwoWayMap.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.utils.TwoWayMap< K, V >](#)

Packages

- package [edu.mit.csail.sdg.squander.utils](#)

10.129 src/edu/mit/csail/sdg/squander/utils/Utils.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.utils.Utils](#)

Packages

- package [edu.mit.csail.sdg.squander.utils](#)

10.130 examples/edu/mit/csail/sdg/squander/examples/func/Utils.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.func.Utils](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.func](#)

10.131 tests/edu/mit/csail/sdg/squander/examples/bst/BinarySearchTreeTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BinarySearchTreeTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.132 tests/edu/mit/csail/sdg/squander/examples/bst/BST_- noParentTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BST_noParentTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.133 tests/edu/mit/csail/sdg/squander/examples/bst/BST_-noSpecFldTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.bst.BST_noSpecFldTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.bst](#)

10.134 tests/edu/mit/csail/sdg/squander/examples/graph/GraphTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph.GraphTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph](#)

10.135 tests/edu/mit/csail/sdg/squander/examples/graph2/GraphTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.graph2.GraphTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.graph2](#)

10.136 tests/edu/mit/csail/sdg/squander/examples/javacol/ListTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.ListTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.137 tests/edu/mit/csail/sdg/squander/examples/list/func2/ListTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.func2.ListTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list.func2](#)

10.138 tests/edu/mit/csail/sdg/squander/examples/javacol/MapTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.MapTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.139 tests/edu/mit/csail/sdg/squander/examples/javacol/SetTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.SetTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.140 tests/edu/mit/csail/sdg/squander/examples/javacol/TypeParamsTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.javacol.TypeParamsTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.javacol](#)

10.141 tests/edu/mit/csail/sdg/squander/examples/list/LinkedListTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.list.LinkedListTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.list](#)

10.142 tests/edu/mit/csail/sdg/squander/examples/mock/MockAddressBookTest.java File Reference

10.142 tests/edu/mit/csail/sdg/squander/examples/mock/MockAddressBookTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.MockAddressBookTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.143 tests/edu/mit/csail/sdg/squander/examples/mock/TestAddressBook.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.TestAddressBook](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.144 tests/edu/mit/csail/sdg/squander/examples/mock/TestSquanderAddressBook.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.mock.TestSquanderAddressBook](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.mock](#)

10.145 tests/edu/mit/csail/sdg/squander/examples/numbers/ArithmeticTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.ArithmeticTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.146 tests/edu/mit/csail/sdg/squander/examples/numbers/SqRootTest.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.numbers.SqRootTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.numbers](#)

10.147 tests/edu/mit/csail/sdg/squander/examples/sort/SortTest.java

File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sort.SortTest](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sort](#)

10.148 tests/edu/mit/csail/sdg/squander/examples/sudoku/Sudoku1Test.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.examples.sudoku.Sudoku1Test](#)

Packages

- package [edu.mit.csail.sdg.squander.examples.sudoku](#)

10.149 tests/edu/mit/csail/sdg/squander/regressions/Tests.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.regressions.Tests](#)

Packages

- package [edu.mit.csail.sdg.squander.regressions](#)

10.150 tests/edu/mit/csail/sdg/squander/util/test/TestUtils.java File Reference

Classes

- class [edu.mit.csail.sdg.squander.util.test.TestUtils](#)

Packages

- package [edu.mit.csail.sdg.squander.util.test](#)

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