

Mar 25 2002 13:45

javasyntax.ml

Page 1

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(*****
      Minimini Java
*****
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Fichier :   javasyntax.ml

Par rapport a MiniJava:
- pas d'interfaces
- pas de methodes abstraites
- pas de tableaux
- pas d'exceptions

*****
Description :  syntaxe abstraite de Mini Java en Caml
*****

type 'a option = Nopt | Some of 'a;;
type  protection = Private | Protected | Public;;
type  status = InstStatus | ClassStatus;;

(* *****
 * Programme Java
 * ***** *)

type javaprogram = JavaProg of javaclassdecl list

(* *****
 * Declarations de classe
 * ***** *)

and javaclassdecl = {classname: string;
                    classfather: string option;
                    fielddecls: javafielddecl list;
                    methdecls: javamethdecl list}

(* *****
 * Declarations et definitions de methode
 * ***** *)

and javamethdecl = {methname: string;
                   methrestype: javatype;
                   methparams: (string * javatype) list;
                   methprotection: protection;
                   methstatus: status;
                   methbody: javastat}

(* *****
 * Declarations de champs et variables
 * ***** *)

and javafielddecl = {fieldname: string;
                    fieldtype: javatype;
                    fieldprotection: protection;
                    fieldstatus: status;
                    fieldinit: javaexp option}

and javavardecl = {varname: string;
                  vartype: javatype;
                  varinit: javaexp option}

(* *****
 * Declarations de base
 * ***** *)

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Mar 25 2002 13:45

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Page

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and javatype = JavaVoidType
              | JavaBoolType | JavaIntType
              | JavaIdType of javaident
              | JavaNullType

and javaident = string

(* *****
 * Expressions
 * ***** *)

and javaexp = JavaConstExp of javaconst
             | JavaThisExp
             | JavaVarExp of javaident
             | JavaNewClassExp of javaident
             | JavaMethCall of javaexp * string * (javaexp list)
             | JavaCall of string * (javaexp list)
             | JavaFieldExp of javaexp * string
             | JavaUnopExp of javaunop * javaexp
             | JavaBinopExp of javabinop * javaexp * javaexp
             | JavaAssign of javaexp * javaexp

and javaconst = JavaInt of int
               | JavaTrue
               | JavaFalse
               | JavaNull

and javaunop = JavaUMOINS | JavaNOT
and javabinop = JavaAND | JavaOR | JavaPLUS | JavaMOINS | JavaMULT | JavaDIV
              | JavaEGAL | JavaNE | JavaLT | JavaGT | JavaLE | JavaGE

(* *****
 * Blocks et instructions
 * ***** *)

and javastat = JavaBlock of (javavardecl list) * (javastat list)
              | JavaComput of javaexp
              | JavaIf of javaexp * javastat * javastat
              | JavaFor of javaexp * javaexp * javaexp * javastat
              | JavaReturn of javaexp option
              | JavaNop

;;

(* *****
 * DEBUG
 * ***** *)

let noline = ref 1;;

```