

Abstract Classes	
AstNode	public AstNode(int pos)
Decl	public Decl(int pos, String name)
VarDecl	public VarDecl(int pos, Type type, String name)
MethodDecl	public MethodDecl(int pos, String n, VarDeclList ps, StatementList sl)
BreakTarget	public BreakTarget(int pos)
Label	public Label(int pos)
Type	public Type(int pos)
Statement	public Statement(int pos)
Exp	public Exp(int pos)
UnExp	public UnExp(int pos, Exp exp)
BinExp	public BinExp(int pos, Exp left, Exp right)
List Classes	
AstList	public AstList()
ClassDeclList	public ClassDeclList()
DeclList	public DeclList()
ExpList	public ExpList()
VarDeclList	public VarDeclList()
StatementList	public StatementList()
Program Declarations	
ClassDecl ⁺	Program
public Program(int pos, ClassDeclList c)	
ClassDecl	class ID extends ID (Field*) { Stmt* }
public ClassDecl(int pos, String name, String superName, DeclList DeclList)	
FormalDecl	t ID
public FormalDecl(int pos, Type type, String name)	
MethodDeclNonVoid	public t ID(Param*) { Stmt* return Exp ; }
public MethodDeclNonVoid(int pos, Type t, String n, VarDeclList ps, StatementList sl, Exp e)	
MethodDeclVoid	public void ID(Param*) { Stmt* }
public MethodDeclVoid(int pos, String name, VarDeclList ps, StatementList sl)	
InstVarDecl	t ID ;
public InstVarDecl(int pos, Type type, String name)	
LocalVarDecl	t ID = Exp ;
public LocalVarDecl(int pos, Type type, String name, Exp init)	

Types		
ArrayType	t []	public ArrayType(int pos, Type base)
boolean	BooleanType	public BooleanType(int pos)
id	IdentifierType	public IdentifierType(int pos, String name)
int	IntegerType	public IntegerType(int pos)
	NullType	public NullType(int pos)
void	VoidType	public VoidType(int pos)
Statements		
{ stmt }	Block	public Block(int pos, StatementList stmts)
t ID = e	LocalDeclStatement	public LocalDeclStatement(int pos, LocalVarDecl decl)
e = e ;	Assign	public Assign(int pos, Exp lhs, Exp rhs)
e.ID(param*)	CallStatement	public CallStatement(int pos, Call exp)
if (e) stmt else stmt	If	public If(int pos, Exp exp, Statement tr, Statement fl)
while (e) stmt	While	public While(int pos, Exp exp, Statement body)
switch (e) { stmt* }	Switch	public Switch(int pos, Exp exp, StatementList stmts)
default:	Default	public Default(int pos)
case e:	Case	public Case(int pos, Exp exp)
break;	Break	public Break(int pos)

Unary and Binary Expressions		
! e	Not	public Not(int pos, Exp e)
e.length	ArrayLength	public ArrayLength(int pos, Exp arrExp)
e && e	And	public And(int pos, Exp e1, Exp e2)
e e	Or	public Or(int pos, Exp e1, Exp e2)
e == e	Equals	public Equals(int pos, Exp e1, Exp e2)
e > e	GreaterThan	public GreaterThan(int pos, Exp e1, Exp e2)
e < e	LessThan	public LessThan(int pos, Exp e1, Exp e2)
e + e	Plus	public Plus(int pos, Exp e1, Exp e2)
e - e	Minus	public Minus(int pos, Exp e1, Exp e2)
e * e	Times	public Times(int pos, Exp e1, Exp e2)
e / e	Divide	public Divide(int pos, Exp e1, Exp e2)
e % e	Remainder	public Remainder(int pos, Exp e1, Exp e2)
Exp1		
true	True	public True(int pos)
false	False	public False(int pos)
null	Null	public Null(int pos)
super	Super	public Super(int pos)
this	This	public This(int pos)
id	IdentifierExp	public IdentifierExp(int pos, String id)
INTLIT	IntegerLiteral	public IntegerLiteral(int pos, int val)
STRINGLIT	StringLiteral	public StringLiteral(int pos, String str)
e[e]	ArrayLookup	public ArrayLookup(int pos, Exp e, Exp index)
e.id	InstVarAccess	public InstVarAccess(int pos, Exp e, String id)
e.id(e*)	Call	public Call(int pos, Exp e, String id, ExpList params)
(t)e	Cast	public Cast(int pos, Type t, Exp e)
e instanceof t	InstanceOf	public InstanceOf(int pos, Exp e, Type t)
new t[e]	NewArray	public NewArray(int pos, Type t, Exp e)
new id()	NewObject	public NewObject(int pos, IdentifierType t)