Primitive Types

⟨*singleQuote*⟩ ::= '

⟨*doubleQuote*⟩ ::= "

⟨*int*⟩ ::= [integer]

⟨*bool*⟩ ::= '`true`' | '`false`'

⟨*char*⟩ ::= ⟨*singleQuote*⟩[character]⟨*singleQuote*⟩

⟨*string*⟩ ::= ⟨*doubleQuote*⟩[character*]⟨*doubleQuote*⟩

⟨*null*⟩ ::= '`null`'

Algebraic Data Types and Type-Traits

⟨*adt*⟩ ::= '`type`' ⟨*ident*⟩ '`{`'[⟨*ident*⟩'`:`'⟨*type*⟩['`,`' ⟨*ident*⟩'`:`'⟨*type*⟩]*]'`}`'

⟨*trait*⟩ ::= '`trait`' '`{`'⟨*type*⟩['`,`' ⟨*type*⟩]*'`}`'

Arithmetic and Boolean Operators

⟨*arithOp*⟩ ::= '`+`' | '`-`' | '`*`' | '`/`' | '`%`'

⟨*boolOp*⟩ ::= '`<`' | '`>`' | '`<=`' | '`>=`' | '`!`' | '`!=`' | '`==`' | '`&&`' | '`||`'

⟨*op*⟩ ::= ⟨*arithOp*⟩ | ⟨*boolOp*⟩

Functions

⟨*arg*⟩ ::= ⟨*ident*⟩'`:`'⟨*type*⟩['`=`'⟨*atom*⟩]

⟨*prog*⟩ ::= ['`fn`' ⟨*ident*⟩['`[`'⟨*type*⟩['`,`' ⟨*type*⟩]*']`']'`(`'[⟨*arg*⟩ ['`,`' ⟨*arg*⟩]* ]'`)`'['`->`'⟨*type*⟩]'`=`'⟨*smp*⟩'`;`']*

Expressions

⟨*smp*⟩ ::= ⟨*utight*⟩[⟨*op*⟩⟨*utight*⟩]
| '`if`' '`(`'⟨*smp*⟩'`)`' ⟨*smp*⟩ ['`else`' ⟨*smp*⟩]
| '`List`' | '`Tuple`' | '`Array`' '`{`'[⟨*smp*⟩['`,`' ⟨*smp*⟩]*]'`}`'
| '`Dict`' '`{`'[⟨*smp*⟩'`:`'⟨*smp*⟩['`,`' ⟨*smp*⟩'`:`'⟨*smp*⟩]*]'`}`'
| ⟨*matchSwitch*⟩
| ⟨*trait*⟩
| ⟨*adt*⟩
| ⟨*prog*⟩
| ⟨*arg*⟩ '`=>`' ⟨*smp*⟩

⟨*exp*⟩ ::= ⟨*smp*⟩['`;`' ⟨*exp*⟩]
| '`val`' ⟨*ident*⟩['`:`'⟨*type*⟩] '`=`' ⟨*smp*⟩'`;`' ⟨*exp*⟩