## Java-Programm

*CompilitionUnit ::=*

*PackageDeclaration*$_{opt}$ *ImportDeclarations*$_{opt}$ *TypeDeclarations*

*PackageDeclaration ::=*

**package** *PackageIdentifier*

*ImportDeclaration ::=*

**import** *PackageIdentifier.TypeIdentifier*
| **import** *PackageIdentifier.**
| *ImportDeclaration ImportDeclaration*

*TypeDeclarations ::=*

*ClassDeclaration*
| *InterfaceDeclaration*
| *TypeDeclaration TypeDeclaration*

## Klassen

*ClassDeclaration ::=*

*ClassModifiers*$_{opt}$ **class** *Identifier* *Extension*$_{opt}$ *Implementations*$_{opt}$ **{** *ClassBodyDeclarations*$_{opt}$ **}**

*ClassModifiers ::=*

**public** | **protected** | **private**
| **abstract**
| **final**
| *ClassModifiers ClassModifiers*

*Extension ::=*

**extends** *BaseClass*

*Implementations ::=*

**implements** *Interfaces*

*ClassBodyDeclarations ::=*

*FieldDeclaration*
| *ConstructorDeclaration*
| *MethodDeclaration*
| *ClassDeclaration*
| *InterfaceDeclaration*
| *ClassBodyDeclarations ClassBodyDeclarations*

## Felder

*FieldDeclaration ::=*

*FieldModifiers*$_{opt}$ *VariableDeclaration*
| *FieldModifiers*$_{opt}$ *ArrayDeclaration*

*FieldModifiers ::=*

**public** | **protected** | **private**
| **static**

*VariableDeclaration ::=*

*Type VariableDeclarator*

*VariableDeclarator ::=*

*Identifier Initializer*$_{opt}$
| *VariableDeclarator* **,** *VariableDeclarator*

*Initializer ::=*

**=** *Expression*

## Arrays

*SimpleArrayDeclaration ::=*

*Type* **[ ]** *Identifier Instantiator*$_{opt}$

*Instantiator ::=*

**= { }** *ValueList*
| **= new** *Type* **[ ]** *Size*

## Methoden

*MethodDeclaration ::=*

*MethodHeader MethodBlock*

*MethodHeader ::=*

*MethodModifiers*$_{opt}$ *ResultType Identifier* **(** *FormalParameterList*$_{opt}$ **)** *Throws*$_{opt}$

*MethodModifiers ::=*

**public** | **protected** | **private**
| **abstract**
| **static**
| *MethodModifiers MethodModifiers*

*FormalParameterList ::=*

*Type Identifier*
| *Type* **...** *Identifier*
| *FormalParameterList* **,** *FormalParameterList*

*Throws ::=*

**throws** *ExceptionTypeList*

*MethodBlock ::=*

**{** *StatementsOrDeclarations*$_{opt}$ **}**

## Konstruktoren

*ConstructorDeclaration ::=*

*ConstructorHeader ConstructorBlock*

*ConstructorHeader ::=*

*ConstructorModifiers*$_{opt}$ *Identifier* **(** *FormalParameterList*$_{opt}$ **)**

*ConstructorModifiers ::=*

**public** | **protected** | **private**

*ConstructorBlock ::=*

**{** *ExcplicitConstructorInvocations*$_{opt}$ *StatementsOrDeclarations*$_{opt}$ **}**

*ExcplicitConstructorInvocations ::=*

**this** **(** *ArgumentList*$_{opt}$ **)**
| **super** **(** *ArgumentList*$_{opt}$ **)**

## Generika

*GenericClassDeclaration ::=*

*ClassModifiers*$_{opt}$ **class** *Identifier* **<** *TypeParameterList* **>** **{** *ClassBodyDeclarations*$_{opt}$ **}**

*TypeParameterList ::=*

*TypeParameter*
| *TypeParameterList* **,** *TypeParameterList*

*TypeParameter ::=*

*TypeVariable* *TypeBound*$_{opt}$

*GenericClassInstance ::=*

*GenericClassIdentifier* **<** *ActualTypeList* **>** *Variable*
| *GenericClassIdentifier* **<** *ActualTypeList* **>** *Variable* **=** **new** *GenericConstructor*

*GenericConstructor ::=*

*GenericClassIdentifier* **<** *ActualTypeList* **>** **(** *ActualParameterList*$_{opt}$ **)**
| *GenericClassIdentifier* **<>** **(** *ActualParameterList*$_{opt}$ **)**

*ActualTypeList ::=*

*ReferenceType*
| *ActualTypeList* *ActualTypeList*

*GenericMethodDeclaration ::=*

*MethodHeader* *MethodBlock*

*MethodHeader ::=*

*MethodModifiers*$_{opt}$ **<** *TypeParameterList* **>** *ResultType* *Identifier* **(** *FormalParameterList*$_{opt}$ **)**

*TypeParameterList ::=*

*TypeParameter*
| *TypeParameterList* **,** *TypeParameterList*

*TypeParameter ::=*

*TypeVariable* *TypeBound*$_{opt}$

## Schnittstellen

*InterfaceDeclaration ::=*

**public**$_{opt}$ **interface** *Identifier Extension*$_{opt}$ **{** *InterfaceBodyDeclarations*$_{opt}$ **}**

*Extension ::=*

**extends** *BaseInterfaces*

*InterfaceBodyDeclarations ::=*

*ConstantDeclaration*
| *MethodHeader*
| *InterfaceBodyDeclarations InterfaceBodyDeclarations*

## Ausnahmen

*TryStatement ::=*

*TryClause CatchClauses FinallyClause*$_{opt}$

*TryClause ::=*

**try** **{** *StatementsOrDeclarations*$_{opt}$ **}**

*CatchClauses ::=*

*CatchClause*
| *CatchClauses CatchClauses*

*CatchClause ::=*

**catch** **(** *ExceptionClass* **)** **{** *StatementsOrDeclarations*$_{opt}$ **}**

*FinallyClause ::=*

**finally** **{** *StatementsOrDeclarations*$_{opt}$ **}**

.

*ThrowStatement ::=*

**throw** *Expression*