

Namespace chia.dotnet.clvm

Classes

[CompileOptions](#)

Represents the options for compiling a CLVM program.

[Cons](#)

Represents a cons cell in a program.

[OperatorsType](#)

Represents a collection of operators used in the CLVM language.

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Represents a position in a source code file, specified by line and column numbers.

[Program](#)

Represents a CLVM program.

[ProgramOutput](#)

Represents the output of a CLVM program execution.

[RunOptions](#)

Represents the options for running a CLVM program.

Delegates

[Operator](#)

Represents a delegate for an operator function.

Class CompileOptions

Namespace: [chia.dotnet.clvm](#)

Assembly: chia-dotnet-clvm.dll

Represents the options for compiling a CLVM program.

```
public record CompileOptions : RunOptions, IEquatable<RunOptions>,
    IEquatable<CompileOptions>
```








Inheritance

[object](#)  ← [RunOptions](#) ← CompileOptions

Implements

[IEquatable](#)  <[RunOptions](#)>, [IEquatable](#)  <[CompileOptions](#)>

Inherited Members

[RunOptions.MaxCost](#), [RunOptions.Operators](#), [RunOptions.Strict](#), [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#) 

Properties

IncludeFilePaths

Gets or sets the include file paths used during compilation.

```
public IDictionary<string, IDictionary<string, string>> IncludeFilePaths { get; init; }
```

Property Value

[IDictionary](#)  <[string](#) , [IDictionary](#)  <[string](#) , [string](#)  >>

Represents the options for compiling a CLVM program.

Class Cons

Namespace: [chia.dotnet.clvm](#)

Assembly: chia-dotnet-clvm.dll

Represents a cons cell in a program.

```
public class Cons : Tuple<Program, Program>, IStructuralComparable, IStructuralEquatable,
    IComparable, ITuple
```

Inheritance

[object](#) ← [Tuple](#) <[Program](#), [Program](#)> ← Cons

Implements

[IStructuralComparable](#), [IStructuralEquatable](#), [IComparable](#), [ITuple](#)

Inherited Members

[Tuple<Program, Program>.Equals\(object\)](#), [Tuple<Program, Program>.GetHashCode\(\)](#),
[Tuple<Program, Program>.ToString\(\)](#), [Tuple<Program, Program>.Item1](#),
[Tuple<Program, Program>.Item2](#), [object.Equals\(object\)](#), [object.Equals\(object, object\)](#),
[object.GetHashCode\(\)](#), [object.GetType\(\)](#), [object.MemberwiseClone\(\)](#),
[object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Remarks

<https://en.wikipedia.org/wiki/Cons/>

Constructors

Cons(Program, Program)

Represents a cons cell in a program.

```
public Cons(Program item1, Program item2)
```

Parameters

item1 [Program](#)

Represents a cons cell in a program.

item2 [Program](#)

Represents a cons cell in a program.

Remarks

<https://en.wikipedia.org/wiki/Cons/> 

Delegate Operator

Namespace: [chia.dotnet.clvm](#)

Assembly: chia-dotnet-clvm.dll

Represents a delegate for an operator function.

```
public delegate ProgramOutput Operator(Program args)
```

Parameters

args [Program](#)

The arguments passed to the operator.

Returns

[ProgramOutput](#)

The output of the operator.

Class OperatorsType

Namespace: [chia.dotnet.clvm](#)

Assembly: chia-dotnet-clvm.dll

Represents a collection of operators used in the CLVM language.

```
public record OperatorsType : IEquatable<OperatorsType>
```








Inheritance

[object](#)  ← OperatorsType

Implements

[IEquatable](#)  <[OperatorsType](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#) 

Constructors

OperatorsType()

Initializes a new instance of the [OperatorsType](#) class.

```
public OperatorsType()
```

Properties

Apply

Gets or sets the apply operator symbol.

```
public string Apply { get; init; }
```

Property Value

[string](#)

Represents a collection of operators used in the CLVM language.

Operators

Gets or sets the dictionary of operators.

```
public IDictionary<string, Operator> Operators { get; init; }
```

Property Value

[IDictionary](#) <[string](#), [Operator](#)>

Represents a collection of operators used in the CLVM language.

Quote

Gets or sets the quote operator symbol.

```
public string Quote { get; init; }
```

Property Value

[string](#)

Represents a collection of operators used in the CLVM language.

Unknown

Gets or sets the unknown operator function.

```
public Func<Program, Program, ProgramOutput> Unknown { get; set; }
```

Property Value

[Func](#) <[Program](#), [Program](#), [ProgramOutput](#)>

Represents a collection of operators used in the CLVM language.

Class ParseError

Namespace: [chia.dotnet.clvm](#)

Assembly: chia-dotnet-clvm.dll

```
public class ParseError : Exception, ISerializable
```

Inheritance

[object](#) ← [Exception](#) ← ParseError

Implements

[ISerializable](#)

Inherited Members

[Exception.GetBaseException\(\)](#), [Exception.GetType\(\)](#), [Exception.ToString\(\)](#), [Exception.Data](#), [Exception.HelpLink](#), [Exception.HResult](#), [Exception.InnerException](#), [Exception.Message](#), [Exception.Source](#), [Exception.StackTrace](#), [Exception.TargetSite](#), [Exception.SerializeObjectState](#), [object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#)

Constructors

ParseError()

```
public ParseError()
```

ParseError(string)

```
public ParseError(string message)
```

Parameters

message [string](#)

ParseError(string, Exception)

```
public ParseError(string message, Exception inner)
```

Parameters

message [string](#)

inner [Exception](#)

Class Position

Namespace: [chia.dotnet.clvm](#)

Assembly: chia-dotnet-clvm.dll







Represents a position in a source code file, specified by line and column numbers.

```
public class Position
```

Inheritance

[object](#)  ← Position

Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#) 

Constructors

Position(string, int)

Initializes a new instance of the [Position](#) class with the specified source code and index.

```
public Position(string source, int index)
```

Parameters

source [string](#) 

The source code.

index [int](#) 

The index of the position in the source code.

Properties

Column

Gets the column number of the position.

```
public int Column { get; init; }
```

Property Value

[int](#)

Represents a position in a source code file, specified by line and column numbers.

Line

Gets the line number of the position.

```
public int Line { get; init; }
```

Property Value

[int](#)

Represents a position in a source code file, specified by line and column numbers.

Methods

ToString()

Returns a string that represents the current position in the format "line:column".

```
public override string ToString()
```

Returns

[string](#)

A string representation of the position.

Class Program

Namespace: [chia.dotnet.clvm](#)

Assembly: chia-dotnet-clvm.dll







Represents a CLVM program.

```
public class Program
```

Inheritance

[object](#)  ← Program

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) 

Constructors

Program(byte[])

```
public Program(byte[] value)
```

Parameters

value [byte](#)  []

Represents a CLVM program.

Program(Cons)

```
public Program(Cons value)
```

Parameters

value [Cons](#)

Represents a CLVM program.

Fields

False

Represents the False program.

```
public static readonly Program False
```

Field Value

[Program](#)

Represents a CLVM program.

Nil

Represents the Nil program.

```
public static readonly Program Nil
```

Field Value

[Program](#)

Represents a CLVM program.

True

Represents the True program.

```
public static readonly Program True
```

Field Value

[Program](#)

Represents a CLVM program.

Properties

Atom

```
public byte[] Atom { get; }
```

Property Value

[byte\[\]](#)

Represents a CLVM program.

Cons

```
public Cons Cons { get; }
```

Property Value

[Cons](#)

Represents a CLVM program.

First

```
public Program First { get; }
```

Property Value

[Program](#)

Represents a CLVM program.

IsAtom

```
public bool IsAtom { get; }
```

Property Value

[bool](#)

Represents a CLVM program.

IsCons

```
public bool IsCons { get; }
```

Property Value

[bool](#)

Represents a CLVM program.

IsNull

```
public bool IsNull { get; }
```

Property Value

[bool](#)

Represents a CLVM program.

Position

```
public Position? Position { get; }
```

Property Value

[Position](#)

Represents a CLVM program.

PositionSuffix

```
public string PositionSuffix { get; }
```

Property Value

[string](#)

Represents a CLVM program.

Rest

```
public Program Rest { get; }
```

Property Value

[Program](#)

Represents a CLVM program.

Value

```
public object Value { get; }
```

Property Value

[object](#)

Represents a CLVM program.

Methods

At(Position)

```
public Program At(Position position)
```

Parameters

position [Position](#)

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

Compile(CompileOptions?)

```
public ProgramOutput Compile(CompileOptions? options = null)
```

Parameters

options [CompileOptions](#)

Represents a CLVM program.

Returns

[ProgramOutput](#)

Represents a CLVM program.

Curry(IList<Program>)

```
public Program Curry(IList<Program> args)
```

Parameters

args [IList](#) <[Program](#)>

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

Define(Program)

```
public Program Define(Program program)
```

Parameters

program [Program](#)

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

DefineAll(ICollection<Program>)

```
public Program DefineAll(ICollection<Program> programs)
```

Parameters

programs [ICollection](#) <[Program](#)>

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

Deserialize(byte[])

```
public static Program Deserialize(byte[] bytes)
```

Parameters

bytes [byte\[\]](#)

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

DeserializeHex(string)

```
public static Program DeserializeHex(string hex)
```

Parameters

hex [string](#)

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

Equals(Program)

```
public bool Equals(Program value)
```

Parameters

value [Program](#)

Represents a CLVM program.

Returns

[bool](#)

Represents a CLVM program.

FromBigInt(BigInteger)

```
public static Program FromBigInt(BigInteger value)
```

Parameters

value [BigInteger](#)

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

FromBool(bool)

```
public static Program FromBool(bool value)
```

Parameters

value [bool](#)

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

FromBytes(byte[])

Creates a program from a byte array.

```
public static Program FromBytes(byte[] value)
```

Parameters

value [byte](#)[]

The byte array.

Returns

[Program](#)

The created program.

FromCons(Program, Program)

Creates a program from two cons cells.

```
public static Program FromCons(Program program1, Program program2)
```

Parameters

program1 [Program](#)

The first program.

program2 [Program](#)

The second program.

Returns

[Program](#)

The created program.

FromHex(string)

```
public static Program FromHex(string value)
```

Parameters

value [string](#)↗

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

FromInt(long)

```
public static Program FromInt(long value)
```

Parameters

value [long](#)↗

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

FromJacobianPoint(JacobianPoint)

```
public static Program FromJacobianPoint(JacobianPoint value)
```

Parameters

value [JacobianPoint](#)

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

FromList(IList<Program>)

```
public static Program FromList(IList<Program> value)
```

Parameters

value [IList](#) <[Program](#)>

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

FromList(Program[])

```
public static Program FromList(Program[] programs)
```

Parameters

programs [Program](#)[]

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

FromPrivateKey(PrivateKey)

```
public static Program FromPrivateKey(PrivateKey value)
```

Parameters

value PrivateKey

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

FromSource(string)

```
public static Program FromSource(string source)
```

Parameters

source [string](#)[↗]

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

FromText(string)

```
public static Program FromText(string value)
```

Parameters

value [string](#) 

Represents a CLVM program.

Returns

[Program](#)

Represents a CLVM program.

Hash()

```
public byte[] Hash()
```

Returns

[byte](#)  []

Represents a CLVM program.

HashHex()

```
public string HashHex()
```

Returns

[string](#) 

Represents a CLVM program.

Run(Program, RunOptions?)

```
public ProgramOutput Run(Program environment, RunOptions? options = null)
```

Parameters

environment [Program](#)

Represents a CLVM program.

options [RunOptions](#)

Represents a CLVM program.

Returns

[ProgramOutput](#)

Represents a CLVM program.

Serialize()

```
public byte[] Serialize()
```

Returns

[byte](#) 

Represents a CLVM program.

SerializeHex()

```
public string SerializeHex()
```

Returns

[string](#) 

Represents a CLVM program.

ToBigInt()

```
public BigInteger ToBigInt()
```

Returns

[BigInteger](#)

Represents a CLVM program.

ToBool()

```
public bool ToBool()
```

Returns

[bool](#)

Represents a CLVM program.

ToBytes()

```
public byte[] ToBytes()
```

Returns

[byte](#)[]

Represents a CLVM program.

ToHex()

```
public string ToHex()
```

Returns

[string](#)

Represents a CLVM program.

ToInt()

```
public long ToInt()
```

Returns

[long](#)

Represents a CLVM program.

ToJacobianPoint()

```
public JacobianPoint ToJacobianPoint()
```

Returns

JacobianPoint

Represents a CLVM program.

ToList(bool)

```
public IList<Program> ToList(bool strict = false)
```

Parameters

strict [bool](#)

Represents a CLVM program.

Returns

[IList](#) <[Program](#)>

Represents a CLVM program.

ToPrivateKey()

```
public PrivateKey ToPrivateKey()
```

Returns

PrivateKey

Represents a CLVM program.

ToSource(bool)

```
public string ToSource(bool showKeywords = true)
```

Parameters

showKeywords [bool](#) 

Represents a CLVM program.

Returns

[string](#) 

Represents a CLVM program.

ToString()

Returns a string that represents the current object.

```
public override string ToString()
```

Returns

[string](#) 

A string that represents the current object.

ToText()

```
public string ToText()
```

Returns

[string](#) 

Represents a CLVM program.

Uncurry()

```
public Tuple<Program, List<Program>>? Uncurry()
```

Returns

[Tuple](#)  [<Program, List](#)  [<Program>](#) [>](#) [>](#)

Represents a CLVM program.

Class ProgramOutput

Namespace: [chia.dotnet.clvm](#)

Assembly: chia-dotnet-clvm.dll

Represents the output of a CLVM program execution.

```
public record ProgramOutput : IEquatable<ProgramOutput>
```








Inheritance

[object](#)  ← ProgramOutput

Implements

[IEquatable](#)  <[ProgramOutput](#)>

Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  , [object.ToString\(\)](#) 

Properties

Cost

Gets or initializes the cost of executing the CLVM program.

```
public BigInteger Cost { get; init; }
```

Property Value

[BigInteger](#) 

Represents the output of a CLVM program execution.

Value

Gets or initializes the value produced by the CLVM program.


```
public Program Value { get; init; }
```

Property Value

[Program](#)

Represents the output of a CLVM program execution.

Class RunOptions

Namespace: [chia.dotnet.clvm](#)

Assembly: chia-dotnet-clvm.dll

Represents the options for running a CLVM program.

```
public record RunOptions : IEquatable<RunOptions>
```

Inheritance

[object](#) ← RunOptions

Implements

[IEquatable](#) <[RunOptions](#)>

Derived

[CompileOptions](#)

Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Properties

MaxCost

Gets or sets the maximum cost allowed for executing the program.

```
public BigInteger? MaxCost { get; init; }
```

Property Value

[BigInteger](#)?

Represents the options for running a CLVM program.

Operators

Gets or sets the type of operators to be used in the program.

```
public OperatorsType Operators { get; init; }
```

Property Value

[OperatorsType](#)

Represents the options for running a CLVM program.

Strict

Gets or sets a value indicating whether strict mode is enabled.

```
public bool Strict { get; init; }
```

Property Value

[bool](#)

Represents the options for running a CLVM program.