

- v0.0.1

1. Introduction

This specification defines the Trifle programming language and it's grammars.

1.1. Changes

As this is an alpha version of the Trifle specification, there are technically no changes made in this specification and it will be used as a base for future versions of the specification.

2. BNF Notation

This specification uses an augmented version of the BNF grammar notation.

2.1. <CharSet>

The Unicode charset. (Including UTF-8, UTF-16, and UTF-32)

3. Data Types

3.0. Null

The Null type represents an arbitrary or undefined value.

```
<null> ::= "null"
```

3.1. Boolean

Booleans are literal tokens that represent 1 or 0, true or false.

```
<boolean> ::= "true" | "false"
```

3.2. Number

The Number type represents a group of one or more digits.

```
<digit>  ::= { 0..9 }
<digits> ::= <digit> | <digits><digit>
```

3.2.1. Integer

An Integer has no floating point, which means it's just <digits>.

3.2.2. Float (Floating point integer)

The Float type has a floating point followed by another set of digits.

```
<decimal> ::= "."
<float>    ::= <digits><decimal><digits>
```

3.2.3. Grammar

The Number type could be represented by <number>.

```
<number> ::= <digits> | <float>
```

3.3. String

The String type is a sequence or group of one or more characters.

```
<quote1>    ::= "\"\"
<quote2>    ::= "'"

<charset1>  ::= <CharSet> - <quote1> | "\\\"
<charset2>  ::= <CharSet> - <quote2> | "\\'"

<chars1>    ::= <charset1> | <chars1><charset1>
<chars2>    ::= <charset2> | <chars2><charset2>

<empty1>    ::= <quote1><quote1>
<empty2>    ::= <quote2><quote2>

<string1>   ::= <empty1> | <quote1><chars1><quote1>
<string2>   ::= <empty2> | <quote2><chars2><quote2>

<string>    ::= <string1> | <string2>
```

For example, a string might look like:

```
"Hello, world!"
```

3.4. Object

An Object is a theoretical type that represents any value. If a value's type is defined explicitly as `object`, it will accept any value.