Brash Reference Manual

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November 11, 2022

Contents

1 Operator Precedence

The order in which operators are evaluated are determined by their precedence. Higher precedence operators are evaluated before lower precedence operators.

Table 1: Precedence - High to Low

Operator	Operator Name	Associativity
()	Group	None
!	Logical NOT	Right
-	Arithmetic Negation	Right
*	Multiplication	Left
/	Division	Left
%	Modulo	Left
+	Addition	Left
-	Subtraction	Left
&&	Logical AND	Left
||	Logical OR	Left
^^	Logical XOR	Left
<	Lesser	None
>	Greater	None
<=	Lesser-equal	None
>=	Greater-equal	None
==	Equality	None
!=	Inequality	None
=	Assignment	Right

2 Bytecode Details

2.1 Numbers

When encoding numbers into bytecode, they are encoded as 8-byte double-precision floating point numbers. Byte order is Big-Endian a.k.a. TCP/IP Network Order.

2.2 Strings

When encoding strings into bytecode, they are encoded as null-terminated strings.

2.3 Functions

When encoding a function definition into bytecode, functions are encoded as follows:

- One-byte Function Definition Opcode
- Encoded String of the function's name (See 2.2)
- Arity: one 8-bit unsigned integer
- If function arity is 0 the following sub-items are omitted, otherwise each sub-item repeats a number of times equal to arity
  - Encoded Type of n-th parameter
  - Encoded String of the n-th parameter's name (See 2.2)
- R-Arity (Return Arity): one 8-bit unsigned integer
- If function r-arity is 0 the following sub-item is omitted, otherwise the sub-item repeats a number of times equal to r-arity
  - Encoded Type of n-th returned item
- Function body: continue compilation as normal