



WebAssembly Specification

Release 1.0

WebAssembly Community Group

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Introduction

Todo

All there is to say

Concepts

2.1 Overview

Todo

Describe

2.2 Conventions

Todo

Describe

Testing math: $C \vdash e^* : t^*$ defined for C by

$$\frac{C \vdash e^* : t_1^* \rightarrow t_2^*}{C \vdash \text{func } tf \text{ local } t^* e^*}$$

and bla.

2.3 Validation

Todo

Describe

2.4 Execution

Todo

Describe

2.5 Binary Format

Todo

Describe

Modules

3.1 Overview

Todo

Describe general structure of modules

3.2 Instantiation

Todo

Describe the semantics of module instantiation

3.3 Invocation

Todo

Describe the semantics of invoking exports

3.4 Type Section

Todo

Describe

3.5 Import Section

Todo

Describe

3.6 Function Section

Todo

Describe

3.7 Table Section

Todo

Describe

3.8 Memory Section

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3.9 Global Section

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3.10 Export Section

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3.11 Start Section

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3.12 Element Section

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3.13 Code Section

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3.14 Data Section

Todo

Describe

3.15 User Section

Todo

Describe

3.16 Summary: Abstract Grammar of Modules

Todo

Grammar summary

3.17 Summary: Validation of Modules

Todo

Summary of typing rules

3.18 Summary: Execution of Modules

3.18.1 Instantiation

Todo

Summary of instantiation rules

3.18.2 Invocation

Todo

Summary of invocation rules

3.19 Summary: Binary Encoding of Modules

Todo

Encoding summary

Instructions

4.1 Overview

Todo

Describe

4.2 Control Instructions

4.2.1 Block Instructions

4.2.2 Branch Instructions

4.2.3 Call Instructions

4.2.4 Miscellaneous Control Instructions

4.3 Variable Instructions

4.4 Parametric Instructions

4.5 Numeric Instructions

4.5.1 Numeric Instructions

4.5.2 Integer Test Instructions

4.5.3 Integer Comparison Instructions

4.5.4 Floating Point Comparison Instructions

4.5.5 Unary Integer Instructions

4.5.6 Unary Floating Point Instructions

4.5.7 Binary Integer Instructions

4.5.8 Binary Floating Point Instructions

4.5.9 Conversion Instructions

4.5.10 Reinterpretation Instructions

4.6 Memory Instructions

4.6.1 Load Instructions

4.6.2 Memory Instructions

4.6.3 Store Instructions

4.7 Instruction Sequences

Todo

Describe

4.8 Summary: Abstract Grammar of Instructions

Todo

Grammar summary

4.9 Summary: Validation of Instructions

Todo

Summary of typing rules

4.10 Summary: Execution of Instructions

Todo

Summary of reduction rules

4.11 Summary: Binary Encoding of Instructions

Todo

Encoding summary

Appendix: Formal Properties

Todo

Describe and sketch proof (progress, preservation, uniqueness)

Appendix: Validation Algorithm

Todo

Describe algorithm, state correctness properties (soundness, completeness)

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