Network Working Group
Request for Comments: 9379
Category: Experimental

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April 2026

RFC Esolang

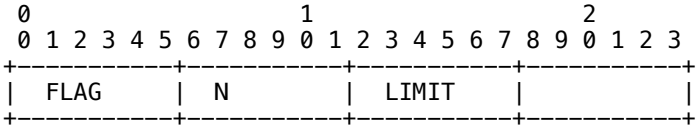
Abstract

RFC Esolang is a programming language for Specification-Driven Development (SDD), in which the specification document is the source code.

Execution relies on strict, literal adherence to the requirement levels defined in RFC 2119/8174.

1. Machine Model

Registers **MUST** be labels in a packet diagram. They hold unbounded integers and default to zero. Overflow is somebody else's problem.



2. Instruction Set

Conforming implementations only act on numbered subsection lines (N.M.) matching one of the patterns below. Everything else is a comment and **MUST** be ignored by the parser.

> <Reg> **MUST** be set to <Expr>.
> <Reg> **MUST** be transmitted.
> Program **SHOULD** proceed to Section <N.M>.
> Program **MUST** proceed to Section <N.M>.
> Program **MAY** terminate.

The machine maintains a reserved register named FLAG, initialized to zero. The "**SHOULD** proceed" instruction transfers control iff FLAG is nonzero. Comparison expressions evaluate to 1 when true and 0 when false. Expressions use conventional arithmetic syntax. The transmission channel is implementation-defined, but defaults to standard output.

A minimal, non-normative interpreter is available at URI: <https://seriot.ch/rfc/rfc.py>. Executing this document yields the powers of two.

3. The Powers of Two

3.1. N **MUST** be set to 1.
3.2. LIMIT **MUST** be set to 9379.
3.3. N **MUST** be transmitted.
3.4. FLAG **MUST** be set to LIMIT > N * 2.
3.5. Program **SHOULD** proceed to Section 3.7.
3.6. Program **MAY** terminate.
3.7. N **MUST** be set to N * 2.
3.8. Program **MUST** proceed to Section 3.3.

4. Security Considerations

Implementations **SHOULD** ensure that compliant behavior does not compromise system confidentiality, integrity, or availability. Any security issue is, by definition, a protocol deviation.

5. Interoperability Considerations

Pre-existing RFCs **MAY** parse as valid RFC Esolang programs, constituting the language standard library. Such behavior is historically accidental.