The Simplified Instructional Computer
(SIC)

Assembly Language Specification

Format

Every line in a SIC assembly program is either a comment (starts with # character), an assembly directive, or an instruction.

Directive Lines:

Symbol	directive	operand	optional comment
	directive	operand	optional comment

Instruction Lines:

Symbol	opcode		optional comment
Symbol	opcode	operand	optional comment
Symbol	opcode	operand, operand	optional comment
	opcode		optional comment
	opcode	operand	optional comment
	opcode	operand, operand	optional comment

Symbols

1. Symbols cannot be defined with a name which matches an assembler directive
2. Symbols must start with an alpha character [A-Z]
3. Symbols cannot be longer than six characters
4. Symbols cannot contain spaces, $, !, =, +, - , (,), or@

Caveats

Any line starting with a # is an entire line comment.

Directives

The SIC assembly language specification provides for several assembler directives. These directives are as follows:

Directive	Purpose
START	Specifies name and starting address or program, routine or library
END	Indicate the end of the program and (optionally) specifies the first executable instruction in the program
BYTE	Generate character or hexadecimal constant, occupying as many bytes as needed to represent the constant
WORD	Generate a one-word integer constant.
RESB	Reserve the indicated number of bytes for a data area.
RESW	Reserve the indicated number of words for a data area.
RESR	Reserve space for an external reference address or library location. 3 Bytes
EXPORTS	Export the symbol address in the object file for cross-file linking 3 Bytes

Revision History

09/01/2020 – Initial Release