The System from Scratch Assembler Specification

Version 0.0.0

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The System from Scratch Assembler (or `sfsasm`) is a program.

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In addition to the instructions supported by the System from Scratch ISA, `sfsasm` supports several pseudo-instruction directives for manipulating memory contents within the program being assembled. Directives are similar in syntax to instructions, with a directive name followed by some operands. Each directive name begins with a `.` to distinguish them from actual instructions.

The `.align` directive inserts zero bytes starting from the current location in memory so the start of the next entry in memory will have an address which is a multiple of the operand to `.align`. The operand to `.align` can be an octal, hexadecimal, or positive decimal literal or the name of a define.

2.6 Comments

`sfsasm` supports single-line comments. In `sfsasm`, a single-line comment starts with `//` and ends with a new line. Comments can occur anywhere in the code and are ignored by the assembler.

```
Comments

// This is a single-line comment.

jmp my_label; // Comments are ignored by the assembler.

//
// Multi-line comments can be effectively created by
// joining together several single-line comments.
//
```

```
my_define = 1
my_other_define = my_define
.data my_other_define
my_define = 2
.data my_other_define
```