| SAL instruction | Operation |
|---|---|
| put    x | (x) is written to the screen. |
| get    x | x ← value typed at the keyboard. |
| puts   string | (string) is written to the screen. string must be NULL terminated as those variables declared with a .asciiz directive. |
| getc   x | x ← the ascii character code of the value typed at the keyboard |
| putc   y | the character corresponding to the ascii the character code in (y) is written to the screen. |
| nop | no operation. |

## Operand Specification

x—must be a variable

y—may be variable or constant

z—may be variable or constant

string—a NULL terminated string, as those declared with the .asciiz directive

AMT—may be a variable or constant

( )—parentheses imply "the contents of"

## DIRECTIVES

.data
    What follows are declarations.

.text
    What follows are instructions.

label: .word value:num_elements
    A two's complement integer initially containing value is located at label. value is an optional field; if omitted, then the variable is initialized to zero. If num_elements is present, it specifies the number of words to be allocated, and initializes each one to value.