jaz abstract machine instructions

Stack Manipulation

push c	Pushes c onto the stack
rvalue l	Pushes contents of data location l onto the stack
lvalue l	Pushes address of data location l onto the stack
pop	Throws away value on top of the stack
:=	Stack top is placed by the lvalue below it and both are popped
copy	Pushes a copy of the top value on stack

Control Flow

label l	Targets of jumps to l
goto l	Next instruction is taken from statement with label l
gofalse l	Pops the top value of the stack and jumps if it is zero
gotrue l	Pops the top value of the stack and jumps if if is nonzero
halt	Stops execution

Arithmetic Operators

+	Adds top two values on stack and places result on stack
−	Similar to +, but subtraction is performed
*	Similar to +, but multiplication is performed
/	Similar to +, but integer division is performed
div	Similar to +, but remainder of division is performed

Logical Operators

&	Logial AND the top two values on stack and places result on stack
!	Negates the top of the stack
|	Similar to &, but logical OR is performed

Relational Operators

<>	Returns 0 if top two values on stack are equal otherwise returns 1
<=	Similar to <>, but tests if top minus one is less or equal top
>=	Similar to <>, but tests if top minus one is greater or equal top
<	Similar to <=, but tests if top minus one is less than top
>	Similar to >=, but tests if top minus one is greater than top
=	Similar to <>, but tests if top minus one is equal to top of stack

Output

print	Writes top of the stack contents to output device
show	Writes a literal string to output device

Subprogram Control

begin	Marks the beginning of parameter passing and subroutine call
end	Marks the end of parameter passing and subroutine call
return	Returns from subroutine
call	Subroutine call