Op Codes

Machine Code	Assembly Command	Operation	Parameters
0000	_add_	add	num1, num2, output register
0001	_sub_	subtract	num1, num2, output register
0010	_grt_	greater than	num1, num2, output register
0011	_eql_	equals to	num1, num2, output register
0100	_jmp_	unconditional jump	lineNum
1111	_cjp_	conditional jump	lineNum, num1, num2, comparison operation
0101	_rst_	register set	register, ornum
0110	_rrd_	register read	register, output register
0111	_rcl_	clear registers	
1000	_and_	and	num1, num2, output register
1001	_bor_	or	num1, num2, output register
1010	_xor_	exclusive or	num1, num2, output register
1011	_not_	not	num, output register
1100	_rld_	register load	ram address, register
1101	_rms_	ram set	ram address, register
1110	_inv_	invert	num, output register

Bit Sizes:

- num: 4 bit (just another name for a register)
- ornum: 16 bit (this is a number that is directly inputted, not read from a register)
- lineNum: 16 bit
- line: 32 bit (an actual line of code)
- ram address: 8 bit

- register: 4 bit (input register)
- output register: 4 bit
- command: 4 bit
- comparison operation: 4 bit (this includes _eql_ and _grt_)

Syntax Examples:

- registers: rg1
- ram: rm1
- line number: ln1
- Op Code: _rst_ rg1 4269
- Machine Code: 0101 0001 0001000010101101 00000000 ← zero padding at the end
- operation param1 param2… paramn