COMP 273 Project

Team: The i273 CPU

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Language

LD $R1, ADDR	:	0010 ####
LD $R2, ADDR	:	0011 ####
STR $R1, ADDR	:	0100 ####
STR $R2, ADDR	:	0101 ####
ADD $R1, $R2 → $R1	:	0000 0000 (also acts as constant 0)
ADD $R1, $R2 → $R2	:	0001 XXXX
SUB $R1, $R2 → $R1	:	1100 XXXX
SUB $R2, $R1 → $R2	:	1101 XXXX
BEQ $R1, $R2, ADDR	:	0110 ####
BNQ $R1, $R2, ADDR	:	0111 ####
PRT $R1	:	1010 XXXX
PRT $R2	:	1011 XXXX
INP $R1	:	1110 XXXX
INP $R2	:	1111 XXXX
STOP	:	1000 XXXX

Loaded Program:

RAM	INSTR	BINARY	HEX
0000	ld $R1, RAM[1101]	0010 1101	0x2D
0001	inp $R2	1111 0000	0xF0
0010	add $R1, $R2	0000 0000	0x00
0011	str $R1, RAM[1101]	0100 1101	0x4D
0100	ld $R1, RAM[1110]	0010 1110	0x2E
0101	ld $R2, RAM[1111]	0011 1111	0x3F
0110	sub $R1, $R2	1100 0000	0xC0
0111	str $R1, RAM[1110]	0100 1110	0x4E
1000	ld $R2, RAM[1100]	0011 0010	0x32
1001	bnq RAM[0000]	0111 0000	0x70
1010	ld $R1, RAM[1101]	0010 1101	0x2D
1011	prt $R1	1010 0000	0xA0
1100	stop	1000 0000	0x80
1101	# accumulator/result	0000 0000	0x00
1110	# operand	XXXX XXXX	0xXX
1111	# constant 1	0000 0001	0x01