ALU Operations

Function	OPCODE	A	B	CIN	VOUT	COUT	OUT
not	00000	5432	9ACE	1	0	0	ABCD
	00000	BDBD	7777	0	0	0	4242
	00000	0000	AAAA	1	0	0	FFFF
	00000	1010	9876	0	0	0	EFEF
	00000	FFFF	5555	1	0	0	0000
xor	00011	AAAA	5555	1	0	0	FFFF
	00011	0000	0000	0	0	0	0000
	00011	8000	0001	1	0	0	8001
	00011	7777	8421	1	0	0	F356
	00011	C6C6	6C6C	0	0	0	AAAA
and	00101	0000	0000	1	0	0	0000
	00101	ABCD	5432	1	0	0	0000
	00101	FFFF	FFFF	0	0	0	FFFF
	00101	CDEF	3333	0	0	0	0123
	00101	1357	3579	1	0	0	1151
or	00111	FFFF	0000	0	0	0	FFFF
	00111	ECA8	1111	0	0	0	FDB9
	00111	5555	AAAA	1	0	0	FFFF
	00111	7531	8642	1	0	0	F773
	00111	0000	0000	0	0	0	0000
slt	01001	0200	0600	0	0	0	0001
	01001	0040	0050	1	0	0	0001
	01001	FFFF	FFFF	0	0	0	0000
	01001	FEAC	FEDC	0	0	0	0001
	01001	9000	8000	1	0	0	0000
sne	01010	0000	0000	1	0	0	0000
	01010	0088	0080	0	0	0	0001
	01010	000A	000E	1	0	0	0001
	01010	5555	5555	0	0	0	0000
	01010	FBFF	FFFF	1	0	0	0001
sgt	01011	0001	A000	0	0	0	0001
	01011	8000	0800	0	0	0	0000
	01011	0000	0000	1	0	0	0000
	01011	7777	7577	0	0	0	0001
	01011	FFEF	FFFF	1	0	0	0000
sle	01100	0001	FFFF	1	0	0	0000
	01100	8000	0010	0	0	0	0001
	01100	4321	8765	0	0	0	0000
	01100	EDCB	1234	0	0	0	0001

	01100	FFFF	FFFF	1	0	0	0001
sge	01110	0001	8000	1	0	0	0001
	01110	FFFF	FFFF	0	0	0	0001
	01110	0023	0123	0	0	0	0000
	01110	FFFF	0100	1	0	0	0000
	01110	7531	7530	1	0	0	0001
seq	01111	AAAA	AAAA	1	0	0	0001
	01111	2222	2022	1	0	0	0000
	01111	ACFF	ACBF	0	0	0	0000
	01111	0000	0000	0	0	0	0001
	01111	5555	5515	1	0	0	0000
subu	10000	1357	0000	1	0	1	1357
	10000	CDEF	3DEF	1	0	1	9000
	10000	8000	0001	1	0	1	7FFF
	10000	0000	0000	1	0	1	0000
	10000	FFFF	5555	1	0	1	AAAA
addu	10001	0000	0000	1	0	0	0001
	10001	8000	8000	1	1	1	0001
	10001	FFFF	7FFF	0	1	1	7FFE
	10001	7FED	0012	0	0	0	7FFF
	10001	0000	FFFF	1	1	1	0000
sub	10100	BCDE	BCDE	1	0	1	0000
	10100	2468	0000	1	0	1	2468
	10100	0000	0001	1	0	0	FFFF
	10100	7FFF	FFFF	1	1	0	8000
	10100	8000	0001	1	1	1	7FFF
add	10101	0000	0000	0	0	0	0000
	10101	0A05	050A	0	0	0	0F0F
	10101	FFFF	0000	1	0	1	0000
	10101	7000	1000	1	1	0	8001
	10101	8000	FFFF	0	1	1	7FFF
dec	10110	FFFF	1234	0	0	1	FFFE
	10110	0000	ABCD	1	0	0	FFFF
	10110	8000	0000	0	1	1	7FFF
	10110	1000	0111	1	0	1	0FFF
	10110	1234	8765	0	0	1	1233
inc	10111	0000	1000	0	0	0	0001
	10111	FFFF	ABCD	1	0	1	0000
	10111	7FFF	FFFF	0	1	0	8000
	10111	8000	0777	1	0	0	8001
	10111	4321	5678	0	0	0	4322
slr	11000	AAAA	0003	0	0	0	5555
	11000	6666	0005	1	0	0	CCCC
	11000	0000	000D	1	0	0	0000

Function		A	B	CIN	VOUT	COUT	OUT	
	11000	FFFF	0008	0	0	0	FFFF	
	11000	8421	0000	0	0	0	8421	
srr	11001	EEEE	0001	0	0	0	7777	
	11001	1248	0000	1	0	0	1248	
	11001	5555	0007	1	0	0	AAAA	
	11001	FFFF	0006	0	0	0	FFFF	
	11001	0000	0009	1	0	0	0000	
sll	11010	0001	000E	0	0	0	4000	
	11010	FFFF	000F	1	0	0	8000	
	11010	2184	0000	1	0	0	2184	
	11010	BCDE	0004	0	0	0	CDE0	
	11010	A5A5	0001	0	0	0	4B4A	
srl	11011	EEEE	000C	1	0	0	000E	
	11011	1000	000A	1	0	0	0004	
	11011	8888	0002	0	0	0	2222	
	11011	4812	0000	0	0	0	4812	
	11011	FFFF	000B	1	0	0	001F	
sla	11100	FFFF	000F	0	0	0	8000	
	11100	1248	0003	1	1	0	9240	
	11100	AAAA	0004	0	1	0	AAA0	
	11100	8000	000B	1	1	0	0000	
	11100	5000	0002	0	1	0	4000	
sra	11101	0001	0001	1	1	0	0000	
	11101	8000	000F	0	0	0	FFFF	
	11101	0000	0009	1	0	0	0000	
	11101	4218	0000	0	0	0	4218	
	11101	FFFF	0001	1	1	0	FFFF	

Arithmetic Operations (more examples)

Function	A	B	CIN	VOUT	COUT	OUT
subu	1357	0000	1	0	1	1357
	CDEF	3DEF	1	0	1	9000
	8000	0001	1	0	1	7FFF
	0000	0000	1	0	1	0000
	FFFF	5555	1	0	1	AAAA
addu	0000	0000	1	0	0	0001
	8000	8000	1	1	1	0001
	FFFF	7FFF	0	1	1	7FFE
	7FED	0012	0	0	0	7FFF
	0000	FFFF	1	1	1	0000
sub	BCDE	BCDE	1	0	1	0000
	2468	0000	1	0	1	2468

	0000	0001	1	0	0	FFFF
	7FFF	FFFF	1	1	0	8000
	8000	0001	1	1	1	7FFF
add	0000	0000	0	0	0	0000
	0A05	050A	0	0	0	0F0F
	FFFF	0000	1	0	1	0000
	7000	1000	1	1	0	8001
	8000	FFFF	0	1	1	7FFF
dec	FFFF	1234	0	0	1	FFFE
	0000	ABCD	1	0	0	FFFF
	8000	0000	0	1	1	7FFF
	1000	0111	1	0	1	0FFF
	1234	8765	0	0	1	1233
inc	0000	1000	0	0	0	0001
	FFFF	ABCD	1	0	1	0000
	7FFF	FFFF	0	1	0	8000
	8000	0777	1	0	0	8001
	4321	5678	0	0	0	4322