

## ALU OPERATION'S

OP-Code	Operation	description
0000 0x0	ADD $A + B$	add
0001 0x1	ADC $A + B + C$	add with carry
0010 0x2	SUB $A - B$	subtraction
0011 0x3	SBC $A - B - C$	subtraction with carry
0100 0x4	INC $A + 1$	increment A by 1
0101 0x5	DEC $A - 1$	decrement A by 1
0110 0x6	AND $A \& B$	logical AND
0111 0x7	OR $A   B$	logical OR
1000 0x8	XOR $A \wedge B$	logical XOR
1001 0x9	NOT $\sim B$	Invert B
1010 0xa	NEG $\sim B + 1$	2's compliment of B
1011 0xb	SHL $B \ll 1$	logical left shift by 1
1100 0xc	LRS $B \ggg 1$	logical right shift by 1
1101 0xd	ARS $B \gg 1$	arithmetical right shift by 1
1110 0xe	ROL $(B \ll 1)   (B \gg (0xFF - 1))$	rotate bits left by 1
1111 0xf	ROR $(B \gg 1)   (B \ll (0xFF - 1))$	rotate bits right by 1

ALU\_Right = A

ALU\_Left = B