

Name	Instruction Word				Action	State										
	Opcode	Dest	Src	Tar		Start	Fetch		Decode	Execute			Done			
ADD	0000	Rd	Rs	Rt	Rd = Rs + Rt	Mem_sel = PC IR_sel = Mem Rs_sel = Rs Mem_read = 1	IR_load = 1	PC_inc = 1	Rd_sel = ALU	Rs_read = 1 Rt_read = 1	Rd_write = 1					
SUB	0001	Rd	Rs	Rt	Rd = Rs - Rt											
AND	0010	Rd	Rs	Rt	Rd = Rs & Rt											
OR	0011	Rd	Rs	Rt	Rd = Rs Rt											
XOR	0100	Rd	Rs	Rt	Rd = Rs ^ Rt											
NOT	0101	Rd	Rs		Rd = ~Rs				Rd_sel = ALU	Rs_read = 1						
SLA	0110	Rd	Rs		Rd = Rs << 1											
SRA	0111	Rd	Rs		Rd = Rs >> 1											
LI	1000	Rd	Imm		Rd = Imm						Rd_sel = IMM	Rd_write = 1				
LW	1001	Rd	Dir		Rd = Mem[Dir]						Mem_sel = Dir Rd_sel = MEM	Mem_read = 1	Rd_write = 1			
SW	1010	Rd	Dir		Mem[Dir] = Rd							Rs_read = 1	Mem_write = 1			
BIZ	1011	Rd	Offset		PC = PC + Rs==0 ? Offset : 1						Mem_sel = Dir Rs_sel = Rd	Rs_read = 1				PC_load = Rs_zero
BNZ	1100	Rd	Offset		PC = PC + Rs==0 ? 1 : Offset											
JAL	1101	Rd	Offset		Rd = PC + 1, PC = PC + Offset						Rd_sel = PC	Rd_write = 1	PC_load = 1			
JMP	1110		Offset		PC = PC + Offset							IR_load = 1	PC_load = 1			
JR	1111		Rs		PC = Rs						IR_sel = Rs	Rs_read = 1	IR_load = 1			PC_load = 1