

Name	Instruction Word				Action	Fetch		Decode	Execute		
	Opcode	Dest	Src	Tar							
ADD	0000	Rd	Rs	Rt	Rd = Rs + Rt	Mem_sel = PC 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			
LW	1001	Rd		Dir	Rd = Mem[Dir]			Mem_sel = Dir Rd_sel = MEM			
SW	1010	Rd		Dir	Mem[Dir] = Rd			Mem_sel = Dir Rs_addr_sel = Rd Rs_read = 1	Mem_write = 1		
BIZ	1011	Rd		Offset	PC = PC + 1 + Rs==0 ? Offset : 0			Rs_addr_sel = Rd Rs_read = 1	PC_load = Rs_zero		
BNZ	1100	Rd		Offset	PC = PC + 1 + Rs==0 ? 0 : Offset				PC_load = ~Rs_zero		
JAL	1101	Rd		Offset	Rd = PC + 1, PC = PC + 1 + Offset			Rd_sel = PC	Rd_write = 1		PC_load = 1
JMP	1110			Offset	PC = PC + 1 + Offset			PC_load = 1	PC_load = 1		
JR	1111		Rs		PC = Rs			Rs_read = 1 Offset_sel = load	PC_load = 1		