

CPU所用部件及数据来源

	PC	NPC	IMEM	RegFile	ALU		Ext16	Ext5	Ext18	ADD		II		DMEM	
				Rd/Rt	A	B				A	B	A	B	Addr	Data
Add	NPC	PC	PC	ALU	Rs	Rt									
Addu	NPC	PC	PC	ALU	Rs	Rt									
Sub	NPC	PC	PC	ALU	Rs	Rt									
Subu	NPC	PC	PC	ALU	Rs	Rt									
And	NPC	PC	PC	ALU	Rs	Rt									
Or	NPC	PC	PC	ALU	Rs	Rt									
Xor	NPC	PC	PC	ALU	Rs	Rt									
Nor	NPC	PC	PC	ALU	Rs	Rt									
Slt	NPC	PC	PC	ALU	Rs	Rt									
Sltu	NPC	PC	PC	ALU	Rs	Rt									
Sll	NPC	PC	PC	ALU	Ext5	Rt		sa							
Srl	NPC	PC	PC	ALU	Ext5	Rt		sa							
Sra	NPC	PC	PC	ALU	Ext5	Rt		sa							
Sllv	NPC	PC	PC	ALU	Rs	Rt									
Srlv	NPC	PC	PC	ALU	Rs	Rt									
Srav	NPC	PC	PC	ALU	Rs	Rt									
Jr	Rs		PC												
Addi	NPC	PC	PC	ALU	Rs	Ext16	imm16								
Addiu	NPC	PC	PC	ALU	Rs	Ext16	imm16								
Andi	NPC	PC	PC	ALU	Rs	Ext16	imm16								
Ori	NPC	PC	PC	ALU	Rs	Ext16	imm16								
Xori	NPC	PC	PC	ALU	Rs	Ext16	imm16								
Lw	NPC	PC	PC	DMEM(Data)	Rs	Ext16	offset							ALU	
Sw	NPC	PC	PC		Rs	Ext16	offset							ALU	Rt
Beq	ADD	PC	PC		Rs	Rt			offset	NPC	Ext18				
Bne	ADD	PC	PC		Rs	Rt			offset	NPC	Ext18				
Slti	NPC	PC	PC	ALU	Rs	Ext16	imm16								
Sltiu	NPC	PC	PC	ALU	Rs	Ext16	imm16								
Lui	NPC	PC	PC	ALU	16	Ext16	imm16								
J	II	PC	PC									PC(31-28)	IMEM(25-0)		
Jal	II	PC	PC	PC								PC(31-28)	IMEM(25-0)		

	31..26	25..21	20..16	15..11	10..6	5..0
5..21	op	rs	rt	rd	sa	func
	op	rs	rt	immediate		
33..35	op	Index				
Add	000000	rs	rt	rd	0	100000
Addu	000000	rs	rt	rd	0	100001
Sub	000000	rs	rt	rd	0	100010
Subu	000000	rs	rt	rd	0	100011
And	000000	rs	rt	rd	0	100100
Or	000000	rs	rt	rd	0	100101
Xor	000000	rs	rt	rd	0	100110
Nor	000000	rs	rt	rd	0	100111
Slt	000000	rs	rt	rd	0	101010
Sltu	000000	rs	rt	rd	0	101011
Sll	000000	0	rt	rd	sa	000000
Srl	000000	0	rt	rd	sa	000010
Sra	000000	0	rt	rd	sa	000011
Sllv	000000	rs	rt	rd	0	000100
Srlv	000000	rs	rt	rd	0	000110
Srav	000000	rs	rt	rd	0	000111
Jr	000000	rs	0	0	0	001000
Addi	001000	rs	rt	immediate(- ~ +)		
Addiu	001001	rs	rt	immediate(- ~ +)		
Andi	001100	rs	rt	immediate(0 ~ +)		
Ori	001101	rs	rt	immediate(0 ~ +)		
Xori	001110	rs	rt	immediate(0 ~ +)		
Lw	100011	rs	rt	immediate(- ~ +)		
Sw	101011	rs	rt	immediate(- ~ +)		
Beq	000100	rs	rt	immediate(- ~ +)		
Bne	000101	rs	rt	immediate(- ~ +)		
Slti	001010	rs	rt	immediate(- ~ +)		
Sltiu	001011	rs	rt	immediate(- ~ +)		
Lui	001111	00000	rt	immediate(- ~ +)		
J	000010	address				
Jal	000011	address				

	z	wreg	regrt	jal	m2reg	shift	aluimm	sext	aluc[3:0]	wmem	pcs[1:0]
Add	x	1	0	0	0	0	0	x	0010	0	00
Addu	x	1	0	0	0	0	0	x	0000	0	00
Sub	x	1	0	0	0	0	0	x	0011	0	00
Subu	x	1	0	0	0	0	0	x	0001	0	00
And	x	1	0	0	0	0	0	x	0100	0	00
Or	x	1	0	0	0	0	0	x	0101	0	00
Xor	x	1	0	0	0	0	0	x	0110	0	00
Nor	x	1	0	0	0	0	0	x	0111	0	00
Slt	x	1	0	0	0	0	0	x	1011	0	00
Sltu	x	1	0	0	0	0	0	x	1010	0	00
Sll	x	1	0	0	0	1	0	x	111x	0	00
Srl	x	1	0	0	0	1	0	x	1101	0	00
Sra	x	1	0	0	0	1	0	x	1100	0	00
Sllv	x	1	0	0	0	0	0	x	111x	0	00
Srlv	x	1	0	0	0	0	0	x	1101	0	00
Srav	x	1	0	0	0	0	0	x	1100	0	00
Jr	x	0	x	x	x	x	x	x	xxxx	0	10
Addi	x	1	1	0	0	0	1	1	0010	0	00
Addiu	x	1	1	0	0	0	1	1	0000	0	00
Andi	x	1	1	0	0	0	1	0	0100	0	00
Ori	x	1	1	0	0	0	1	0	0101	0	00
Xori	x	1	1	0	0	0	1	0	0110	0	00
Lw	x	1	1	0	1	0	1	1	0010	0	00
Sw	x	0	x	x	x	0	1	1	0010	1	00
Beq	0	0	x	x	x	0	1	1	0010	0	00
Beq	1	0	x	x	x	0	1	1	0010	0	01
Bne	0	0	x	x	x	0	1	1	0010	0	01
Bne	1	0	x	x	x	0	1	1	0010	0	00
Slti	x	1	1	0	0	0	1	1	1011	0	00
Sltiu	x	1	1	0	0	0	1	1	1010	0	00
Lui	x	1	1	0	0	x	1	x	100x	0	00
J	x	0	x	x	x	x	x	x	xxxx	0	11
Jal	x	1	x	1	x	x	x	x	xxxx	0	11