

Control signals

Insttype	inst	jump	ResultSrc	MemWrite	ALUControl	ALUSrc	ImmSrc	RegWrite	lui	branch
R-Type	Add	00	00	0	000	0	-	1	0	000
R-Type	Sub	00	00	0	001	0	-	1	0	000
R-Type	And	00	00	0	010	0	-	1	0	000
R-Type	Or	00	00	0	011	0	=	1	0	000
R-Type	Slt	00	00	0	100	0	-	1	0	000
I-Type	lw	00	01	0	000	1	000	1	0	000
I-Type	Addi	00	00	0	000	1	000	1	0	000
I-Type	xori	00	00	0	101	1	000	1	0	000
I-Type	Ori	00	00	0	011	1	000	1	0	000
I-Type	Slti	00	00	0	100	1	000	1	0	000
I-Type	jalr	01	10	0	000	1	000	1	0	000
S-Type	SW	00	-	1	000	1	001	0	0	000
J-Type	Jal	10	10	0		-	100	1	0	000
B-Type	Beq	00	-	0	001	0	010	0	0	001
B-Type	Bnq	00		0	001	0	010	0	0	010
B-Type	Blt	00		0	001	0	010	0	0	011
B-Type	Bge	00		0	001	0	010	0	0	100
U-Type	Lui	00	11	0		-	011	1	1	000
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Standard decoded instructions

Inst type	Inst	Opcode	Func3	Func7
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R-Type	Add	0110011	000	0000000
R-Type	Sub	0110011	000	0100000
R-Type	And	0110011	111	0000000
R-Type	Or	0110011	110	0000000
R-Type	Slt	0110011	010	0000000
I-Type	lw	0000011	010	
I-Type	Addi	0010011	000	
I-Type	xori	0010011	100	
I-Type	Ori	0010011	110	
I-Type	Slti	0010011	010	
I-Type	jalr	1100111	000	
S-Type	SW	0100011	010	
J-Type	Jal	1101111		
B-Type	Beq	1100011	000	
B-Type	Bnq	1100011	001	
B-Type	Blt	1100011	100	
B-Type	Bge	1100011	101	
U-Type	Lui	0110111		

ورودی دیتا مموری و اینستراکشن مموری را تقسیم بر ۴ کرده ایم .