

31	27	26	25	24	20	19	15	14	12	11	7	6	0	
funct7				rs2		rs1		funct3		rd		opcode		R-type
imm[11:0]						rs1		funct3		rd		opcode		I-type
imm[11:5]				rs2		rs1		funct3		imm[4:0]		opcode		S-type

RV64I Base Instruction Set (in addition to RV32I)

imm[11:0]		rs1	110	rd	0000011	LWU	
imm[11:0]		rs1	011	rd	0000011	LD	
imm[11:5]		rs2	rs1	011	imm[4:0]	0100011	SD
000000	shamt	rs1	001	rd	0010011		SLLI
000000	shamt	rs1	101	rd	0010011		SRLI
010000	shamt	rs1	101	rd	0010011		SRAI
imm[11:0]		rs1	000	rd	0011011		ADDIW
0000000		shamt	rs1	001	rd	0011011	SLLIW
0000000		shamt	rs1	101	rd	0011011	SRLIW
0100000		shamt	rs1	101	rd	0011011	SRAIW
0000000		rs2	rs1	000	rd	0111011	ADDW
0100000		rs2	rs1	000	rd	0111011	SUBW
0000000		rs2	rs1	001	rd	0111011	SLLW
0000000		rs2	rs1	101	rd	0111011	SRLW
0100000		rs2	rs1	101	rd	0111011	SRAW

RV32M Standard Extension

0000001		rs2		rs1		000		rd		0110011		MUL	
0000001		rs2		rs1		001		rd		0110011		MULH	
0000001		rs2		rs1		010		rd		0110011		MULHSU	
0000001		rs2		rs1		011		rd		0110011		MULHU	
0000001		rs2		rs1		100		rd		0110011		DIV	
0000001		rs2		rs1		101		rd		0110011		DIVU	
0000001		rs2		rs1		110		rd		0110011		REM	
0000001		rs2		rs1		111		rd		0110011		REMU	

RV64M Standard Extension (in addition to RV32M)

0000001		rs2		rs1		000		rd		0111011		MULW	
0000001		rs2		rs1		100		rd		0111011		DIVW	
0000001		rs2		rs1		101		rd		0111011		DIVUW	
0000001		rs2		rs1		110		rd		0111011		REMW	
0000001		rs2		rs1		111		rd		0111011		REMUW	

RV32A Standard Extension

00010	aq	rl	00000	rs1		010		rd		0101111		LR.W	
00011	aq	rl	rs2	rs1		010		rd		0101111		SC.W	
00001	aq	rl	rs2	rs1		010		rd		0101111		AMOSWAP.W	
00000	aq	rl	rs2	rs1		010		rd		0101111		AMOADD.W	
00100	aq	rl	rs2	rs1		010		rd		0101111		AMOXOR.W	
01100	aq	rl	rs2	rs1		010		rd		0101111		AMOAND.W	
01000	aq	rl	rs2	rs1		010		rd		0101111		AMoor.W	
10000	aq	rl	rs2	rs1		010		rd		0101111		AMOMIN.W	
10100	aq	rl	rs2	rs1		010		rd		0101111		AMOMAX.W	
11000	aq	rl	rs2	rs1		010		rd		0101111		AMOMINU.W	
11100	aq	rl	rs2	rs1		010		rd		0101111		AMOMAXU.W	