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
imm[12|10:5]				rs2		rs1		funct3		imm[4:1|11]		opcode		B-type
imm[31:12]										rd		opcode		U-type
imm[20|10:1|11|19:12]										rd		opcode		J-type

RV32I Base Instruction Set

imm[31:12]					rd	0110111	LUI
imm[31:12]					rd	○0010111 ●AUIPC	
imm[20|10:1|11|19:12]					rd	○1101111 ●JAL	
imm[11:0]			rs1	000	rd	●1100111 ●JALR	
imm[12|10:5]		rs2	rs1	000	imm[4:1|11]	●1100011 ●BEQ	
imm[12|10:5]		rs2	rs1	001	imm[4:1|11]	1100011	BNE
imm[12|10:5]		rs2	rs1	100	imm[4:1|11]	1100011	BLT
imm[12|10:5]		rs2	rs1	101	imm[4:1|11]	1100011	BGE
imm[12|10:5]		rs2	rs1	110	imm[4:1|11]	1100011	BLTU
imm[12|10:5]		rs2	rs1	111	imm[4:1|11]	1100011	BGEU
imm[11:0]			rs1	000	rd	0000011	LB
imm[11:0]			rs1	001	rd	0000011	LH
imm[11:0]			rs1	010	rd	●0000011 ●LW	
imm[11:0]			rs1	100	rd	0000011	LBU
imm[11:0]			rs1	101	rd	0000011	LHU
imm[11:5]		rs2	rs1	000	imm[4:0]	0100011	SB
imm[11:5]		rs2	rs1	001	imm[4:0]	0100011	SH
imm[11:5]		rs2	rs1	010	imm[4:0]	●0100011 ●SW	
imm[11:0]			rs1	000	rd	●0010011 ●ADDI	
imm[11:0]			rs1	010	rd	●0010011 ●SLTI	
imm[11:0]			rs1	011	rd	0010011	SLTIU
imm[11:0]			rs1	100	rd	0010011	XORI
imm[11:0]			rs1	110	rd	0010011	ORI
imm[11:0]			rs1	111	rd	0010011	ANDI
0000000		shamt	rs1	001	rd	●0010011 ●SLLI	
0000000		shamt	rs1	101	rd	●0010011 SRLI	
0100000		shamt	rs1	101	rd	●0010011 ●SRAI	
0000000		rs2	rs1	000	rd	●0110011 ●ADD	
0100000		rs2	rs1	000	rd	●0110011 ●SUB	
0000000		rs2	rs1	001	rd	0110011	SLL
0000000		rs2	rs1	010	rd	0110011	SLT
0000000		rs2	rs1	011	rd	0110011	SLTU
0000000		rs2	rs1	100	rd	0110011	XOR
0000000		rs2	rs1	101	rd	0110011	SRL
0100000		rs2	rs1	101	rd	0110011	SRA
0000000		rs2	rs1	110	rd	0110011	OR
0000000		rs2	rs1	111	rd	0110011	AND
fm	pred	succ	rs1	000	rd	0001111	FENCE
000000000000			00000	000	00000	1110011	ECALL
000000000001			00000	000	00000	1110011	EBREAK

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

RV32/RV64 *Zifencei* Standard Extension

imm[11:0]		rs1	001	rd	0001111		FENCE.I

RV32/RV64 *Zicsr* Standard Extension

csr	rs1	001	rd	1110011		CSRRW
csr	rs1	010	rd	1110011		CSRRS
csr	rs1	011	rd	1110011		CSRRC
csr	uimm	101	rd	1110011		CSRRWI
csr	uimm	110	rd	1110011		CSRRSI
csr	uimm	111	rd	1110011		CSRRCI

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