

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		SB-type		
				imm[31:12]								rd		opcode		U-type
				imm[20 10:1 11 19:12]								rd		opcode		UJ-type

RV32I Base Instruction Set

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