SERIAL NUMBER	INSTRUCTION	INSTRUCTION FORMAT	32 BIT INSTRUCTION CODE
1	lui a0, 0x2b	U-type: [imm[31:12]][rd][opcode] imm = 0x0002B rd = x10 opcode = 0x37	0x0002B073
2	addi sp, sp, -64	I-type: [imm[11:0]][rs1][funct3][rd][opcode] imm = -64 (0xFFD0) rs1 = x2 funct3 = 0x0 rd = x2 opcode = 0x13	0xFFD30313
3	sd ra, 56(sp)	S-type: [imm[11:5]][rs2][rs1][funct3][imm[4:0]][opcode] imm = 56 (0x38) rs2 = x1 rs1 = x2 funct3 = 0x2 opcode = 0x23	0x00E303B3
4	jal ra, 1059c <printf>	J-type: [imm[20]][imm[10:1]][imm[11]][imm[19:12]][rd][opcode] imm = 0x059c (offset) rd = x1 opcode = 0x6F	0x000FF06F
5	lw s3, 12(sp)	I-type: [imm[11:0]][rs1][funct3][rd][opcode] imm = 12 (0xC) rs1 = x2 funct3 = 0x2 rd = x19 opcode = 0x03	0x00030383
6	li s2, 0	I-type: [imm[11:0]][rs1][funct3][rd][opcode] imm = 0x0 rs1 = x0 funct3 = 0x0 rd = x18 opcode = 0x13	0x00030393
7	mv s1, s3	R-type: [funct7][rs2][rs1][funct3][rd][opcode] rs1 = x19 rs2 = x19 rd = x9 funct3 = 0x0 funct7 = 0x0 opcode = 0x33	R-type: [funct7][rs2][rs1][funct3][rd][opcode] rs1 = x19 rs2 = x19 rd = x9 funct3 = 0x0 funct7 = 0x0 opcode = 0x33

8	beqz s3, 1015c <main+0xac>	B-type: [imm[12]][rs2][rs1][funct3][imm[10:5]][imm[4:1]][imm[11]][opcode] imm = 0x0F4 rs1 = x19 rs2 = x0 funct3 = 0x0 opcode = 0x63	0x00048263
9	slliw s0, s2, 0x2	R-type: [funct7][rs2][rs1][funct3][rd][opcode] rs1 = x18 rs2 = x0 rd = x8 funct3 = 0x1 funct7 = 0x0 opcode = 0x33	0x00049283
10	addw s0, s0, s2	R-type: [funct7][rs2][rs1][funct3][rd][opcode] rs1 = x8 rs2 = x18 rd = x8 funct3 = 0x0 funct7 = 0x0 opcode = 0x33	0x00200033
11	sext.w s1, a0	R-type: [funct7][rs2][rs1][funct3][rd][opcode] rs1 = x10 rd = x9 funct3 = 0x0 funct7 = 0x0A opcode = 0x33	0x000A4926
12	bnez s1, 100f4 <main+0x44>	B-type: [imm[12]][rs2][rs1][funct3][imm[10:5]][imm[4:1]][imm[11]][opcode] imm = 0x0F4 rs1 = x9 rs2 = x0 funct3 = 0x1 opcode = 0x63	0x00048263
13	j 1013c <main+0x8c>	J-type: [imm[20]][imm[10:1]][imm[11]][imm[19:12]][rd][opcode] imm = 0x013C (offset) rd = x0 opcode = 0x6F	0x000FF06F
14	ld s2, 32(sp)	I-type: [imm[11:0]][rs1][funct3][rd][opcode] imm = 32 (0x20)	0x0002B383

		rs1 = x2 funct3 = 0x3 rd = x18 opcode = 0x03	
15	auipc gp, 0x1e	U-type: [imm[31:12]][rd][opcode] imm = 0x1E000 rd = x28 opcode = 0x37	0x0001E073