

Sr. No.	OP Code	OP No.	Operation Implemented	Instruction Type	Rs	Rt	Rd	Constant
1	000000	0	ADD	R-type	Address(OP1)	Address(OP2)	Address(Dest)	-----
2	000100	4	SUB	R-type	Address(OP1)	Address(OP2)	Address(Dest)	-----
3	011000	24	AND	R-type	Address(OP1)	Address(OP2)	Address(Dest)	-----
4	011110	30	OR	R-type	Address(OP1)	Address(OP2)	Address(Dest)	-----
5	010110	22	XOR	R-type	Address(OP1)	Address(OP2)	Address(Dest)	-----
6	010101	21	NOT	R-type	Address(OP1)	-----	Address(Dest)	-----
7	001000	8	SLA	R-type	Address(OP1)	Address(OP2)	Address(Dest)	-----
8	001010	10	SRA	R-type	Address(OP1)	Address(OP2)	Address(Dest)	-----
9	001011	11	SRL	R-type	Address(OP1)	Address(OP2)	Address(Dest)	-----
10	000001	1	ADDI	I-type	Address(OP1)	-----	Address(Dest)	Operand2
11	000101	5	SUBI	I-type	Address(OP1)	-----	Address(Dest)	Operand2
12	111000	56	ANDI	I-type	Address(OP1)	-----	Address(Dest)	Operand2
13	111110	62	ORI	I-type	Address(OP1)	-----	Address(Dest)	Operand2
14	110110	54	XORI	I-type	Address(OP1)	-----	Address(Dest)	Operand2
15	001100	12	SLAI	I-type	Address(OP1)	-----	Address(Dest)	Operand2
16	001110	14	SRAI	I-type	Address(OP1)	-----	Address(Dest)	Operand2
17	001111	15	SRLI	I-type	Address(OP1)	-----	Address(Dest)	Operand2
18	100000	32	LD	I-type	Address	-----	Address(Dest)	Offset
19	100001	33	ST	I-type	Address	-----	Address(Dest)	Offset
20	100010	34	LDSP	I-type	Address	-----	SP	Offset
21	100011	35	STSP	I-type	SP	-----	Address(Dest)	Offset
22	100100	36	BR	J-type	Address(OP1)	R0	-----	Offset
23	100101	37	BMI	J-type	Address(OP1)	R0	-----	Offset
24	100110	38	BPL	J-type	Address(OP1)	R0	-----	Offset
25	100111	39	BZ	J-type	Address(OP1)	R0	-----	Offset
26	101000	40	PUSH	-----	Address(OP1)	-----	-----	-----
27	101001	41	POP	-----	Address(OP1)	-----	-----	-----
28	101010	42	CALL	-----	-----	-----	-----	Constant
29	101011	43	RET	-----	-----	-----	-----	-----
30	101110	46	MOVE	-----	Address(OP1)	-----	Address(Dest)	-----
31	101100	44	HALT	-----	-----	-----	-----	-----
32	101101	45	NOP	-----	-----	-----	-----	-----

INSTRUCTION FORMAT

R-TYPE

OP-CODE	Rs	Rt	Rd	Constant
6 bit	5 bit	5 bit	5 bit	11 bit

I-TYPE

OP-CODE	Rs	Rd	Constant
6 bit	5 bit	5 bit	16 bit