Command	Format Type	RF_WE	PCSrc	WhatToReg	D_MEM_BE	D_MEM_WEN	ALUSrc	ALUCode	WhatToOut	AUIPC	JUMP
LUI	U	1	0	2	x (set to 4'b1111)	0	x	x	0	0	0
AUIPC	U		x	3						1	
JAL	J		0	4 (PC+4)			x			0	1
JALR	I		1				1				
BEQ	B	0		x			0	4'b0100	1		
BNE	B							4'b0101			
BLT	B							4'b0110			
BGE	B							4'b0111			
BLTU	B							4'b1000			
BGEU	B							4'b1001			
LB	I	1		1	4'b0001		1	4'b0000	0		
LH	I				4'b0011						
LW	I				4'b1111						
LBU	I				4'b1001						
LHU	I				4'b1011						
SB	S	0		x	4'b0001	1			2		
SH	S				4'b0011						
SW	S				4'b1111						
ADDI	I	1	0	0	x (set to 4'b1111)	0	0	4'b0000	0	0	0
SLTI	I							4'b0110			
SLTIU	I							4'b1000			
XORI	I							4'b1111			
ORI	I							4'b0011			
ANDI	I							4'b0010			
SLLI	R						2	4'b1101			
SRLI	R							4'b1010			
SRAI	R							4'b1011			
ADD	R						0	4'b0000			
SUB	R							4'b0001			
SLL	R							4'b1101			
SLT	R							4'b0110			
SLTU	R						0	4'b1000			
XOR	R							4'b1111			
SRL	R							4'b1010			
SRA	R							4'b1011			
OR	R							4'b0011			
AND	R							4'b0010			

OP	operation	description
0000	A + B	32-bit addition
0001	A − B	32-bit subtraction
0010	A and B	32-bit and
0011	A or B	32-bit or
0100	A EQ B	Equal to?
0101	A NE B	Not equal to?
0110	A LT B	Lower than?
0111	A GE B	Greater than or equal to?
1000	A LTU B	Lower than? (Unsigned)
1001	A GEU B	Greater than or equal to?(Unsigned)
1010	A 〉〉 1	Logical right shift
1011	A 〉〉〉 1	Arithmetic right shift
1100	A[0]A[15:1]	Rotate right
1101	A 〈〈 1	Logical left shift
1110	A 〈〈〈 1	Arithmetic left shift
1111	A xor B	32-bit xor