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i.

E = 5

U = 8

A = 2

D = 16

ii.

The encoded field is the state number.

iii.

The encoded field is the state number in binary.

iv.

00 = adds one to the next state if in states: 0, 1, 2, 4, 6, 8, 14, 15, 17

01 = checks the value of the opcode in state: 1

10 = resets the states back to state 0 in state: 3, 5, 7, 9, 10, 11, 12, 13, 16, 18, 19

11 = halts the FSM in state: 20

v.

state	E	JAL	ALUout write	BE	BN	NOR	SUB	ALU2
0	00000							1
1	00001		1			1		
2	00010		1					
3	00011							
4	00100		1				1	
5	00101							
6	00110		1		1			
7	00111							
8	01000		1		1	1		
9	01001							
10	01010							
11	01011							
12	01100		1	1				
13	01101		1		1			
14	01110		1				1	
15	01111							
16	10000							
17	10001		1				1	
18	10010							
19	10011	1						
20	10100							