|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| OP CODE | NAME | Reg Dst | Reg Wrt | ALU S | B | J | Mem Wrt | Mem to Reg | Sign Ext | ALU OP |
| 000 000 | ADD | 1 | 1 | 0 | 0 | 0 | 0 | 0 | X | 000 |
| 000 001 | ADDI | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 000 |
| 000 000 | SUB | 1 | 1 | 0 | 0 | 0 | 0 | 0 | X | 001 |
| 000 000 | OR | 1 | 1 | 0 | 0 | 0 | 0 | 0 | X | 010 |
| 000 010 | ORI | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 010 |
| 000 000 | ADD | 1 | 1 | 0 | 0 | 0 | 0 | 0 | X | 100 |
| 000 100 | ADDI | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 100 |
| 001 000 | LW | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 000 |
| 010 000 | SW | X | 0 | 1 | 0 | 0 | 1 | X | 0 | 000 |
| 100 000 | BEW | X | 0 | 0 | 1 | 0 | 0 | X | 1 | 001 |
| 111 111 | J | X | 0 | X | 0 | 1 | 0 | X | X | XXX |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | OP CODE (R) | RS | RT | RD | SHAMT | FUNC |  | Assembly | Hexadecimal | |
|  | OP CODE (I) |  |  |  | | |  |  |  | |
| INST# | OP CODE (J) |  | | | | |  |  | |  |
| 0 | 000001 | 00000 | 00001 | 00000 | 00000 | 001 010 |  | addi $1, $0, 10 | 0x0401000A | |
| 1 | 000 001 | 00000 | 00010 | 00000 | 00001 | 100 100 |  | addi $2, $0, 100 | 0x04020064 | |
| 2 | 000 000 | 00001 | 00010 | 00011 | 00000 | 000 000 |  | add $3, $1, $2 | 0x00221800 | |
| 3 | 000 001 | 00000 | 00100 | 11111 | 11111 | 111 111 |  | addi $4, $0, -1 | 0x0404FFFF | |
| 4 | 000 000 | 00011 | 00100 | 00100 | 00000 | 000 001 |  | sub $4, $3, $4 | 0x00642001 | |
| 5 | 010 000 | 00101 | 00001 | 00000 | 00000 | 000 000 |  | sw $1, 0($5) | 0x40A10000 | |
| 6 | 010 000 | 00101 | 00010 | 00000 | 00000 | 000 001 |  | sw $2, 1($5) | 0x40A20001 | |
| 7 | 010 000 | 00101 | 00011 | 00000 | 00000 | 000 010 |  | sw $3, 2($5) | 0x40A30002 | |
| 8 | 010 000 | 00101 | 00100 | 00000 | 00000 | 000 011 |  | sw $4, 3($5) | 0x40A40003 | |
| 9 | 100 000 | 00001 | 00000 | 00000 | 00000 | 000 011 |  | beq $0, $1, 3 | 0x80200003 | |
| 10 | 000 0001 | 00001 | 00001 | 11111 | 11111 | 111 111 |  | addi $1, $1, -1 | 0x0421FFFF | |
| 11 | 010 000 | 00101 | 00001 | 00000 | 00000 | 000 000 |  | sw $1, 0($5) | 0x40A10000 | |
| 12 | 111 111 | 00000 | 00000 | 00000 | 00000 | 001 001 |  | j 9 | 0xFC000009 | |
| 13 | 000 000 | 00011 | 00010 | 00110 | 00000 | 000 010 |  | or $6, $3, $2 |  | |
| 14 | 000 010 | 00110 | 00110 | 00000 | 00000 | 111 111 |  | ori $6, $6, 63 |  | |
| 15 | 000 001 | 00000 | 00111 | 00000 | 00000 | 010 010 |  | addi $7, $0, 18 |  | |
| 16 | 000 000 | 00111 | 00110 | 01000 | 00000 | 000 100 |  | and $8, $ 7, $6 |  | |
| 17 |  |  |  |  |  |  |  |  |  | |
| 18 |  |  |  |  |  |  |  |  |  | |
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| 26 |  |  |  |  |  |  |  |  |  | |
| 27 |  |  |  |  |  |  |  |  |  | |