|  |  |  |
| --- | --- | --- |
| Instruction | Machine code | Comments |
| lw | 000 01 x y | Loads into $1 or $2 from the address at $1 or $3 |
| bgtR1 | 000 1 x ii | Branches if $2 or $3 is greater than $1 by unsigned imm [1:4] |
| halt | 000 0000 | Ends the program |
| sw | 001 x iii | Stores $1 or $2 into memory at M[0:7] |
| sub | 010 0 xx y | $x = $x + $yy |
| shiftL | 010 10 xx | $xx << 1 |
| shiftR | 010 11 xx | $xx >> 1 |
| init | 011 xx ii | Initializes $1 or $3 to be an unsigned imm [0:3] |
| bltR1 | 100 1 x ii | Branches if $2 or $3 is less than $1 by unsigned imm [1:4] |
| add | 100 0 xx y | x:[1:2] y:[1:4] |
| addi | 101 xx ii | $xx = $xx + ii x:[1:4] imm [-2,1] |
| j | 11 iiiii | Jumps to PC = imm[0:31] |